## Maryland Population Research Center

 WORKNG PAPERDeclining Help in a Declining Economy: Trends in US Informal Volunteering: 2003-2013


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# DECLINING HELP IN A DECLINING ECONOMY: TRENDS IN US INFORMAL VOLUNTEERING: 2003-2013 

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#### Abstract

National monitoring of volunteering in America has been provided by various national survey firms, which simply ask respondents "stylized" general questions about their formal volunteering (through formal organizations), that is the care and help they had provided in the previous year or month. An alternative and perhaps more comprehensive survey measurement of volunteering activity is via the use of national time diaries, in which survey respondents report on all their daily activity across the full 24 hours of the previous day. Since 2003, this daily monitoring of national time use has been replicated and expanded with the arrival of the US government's American TimeUse Survey (ATUS), now conducted continuously and annually by the US Bureau of the Census for the Bureau of Labor Statistics (BLS). For the first time, these ATUS diaries now pay close attention to identifying and recording the myriad forms of informal volunteering (e.g., helping neighbors move or providing emergency health care) that often occur spontaneously and unexpectedly in daily life, as well as formal volunteering through organizations. Moreover, these diary accounts provide concrete evidence for the assumption that Americans spend more time in informal care than in formal care.

Analysis of these 2003-2013 ATUS activities further reveals an unexpected decline in such informal care, in contrast to the rather consistent evidence of minimal change in most other daily activities (including formal volunteering) over the recent decade. Despite the historic 2007 recession, for example, time spent on paid work declined by only about an hour per week. There was also about an hour's decrease in various forms of domestic work-as in previous decades mainly among women. Unlike previous time-diary studies that decline in domestic work specifically included more than a $30 \%$ decline in informal help to neighbors and members of other households, a key indicator of the country's social safety net. This was in marked contrast to the near constant time spent in formal volunteering time across the decade, and about an hour's increase in sleep and in TV viewing. The differing demographic predictors of formal and informal volunteering in these ATUS data are also discussed, along with consistent steady trends found in a separate BLS survey using simple estimate questions of formal volunteering.


"The health of a democratic society may be measured by the quality of functions performed by private citizens."

\author{

- Alexis de Tocqueville, Democracy in America
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## BACKGROUND:

Tracking trends in American volunteering activity remains an elusive enterprise, since few nationally-representative volunteer organizations keep consistent or detailed records of the time or effort their members engage in doing volunteer work. Therefore, national monitoring of volunteering has been provided by various national survey firms (like Gallup or academic surveys, like NORC), which simply ask respondents single general questions about the formal volunteering they have provided in the last year or month. [e.g., Abraham, Helms and Presser (2009); Baer, Curtis, and Grabb (2001); Bureau of Labor Statistics (2013); Corporation for National and Community Service (2006); Hager, Brudney and Toppe (2007); Hayghe (1991); Independent Sector (2001); Putnam (2000); Smith (1974); Smith (2000); Smith (2011) Statistics Canada. 2009 White (2006); Wilson (2000); Wilson and Musick (2003).]

Moreover, these different surveys use different questions about the nature and types of such volunteering, and so they often generate marked differences in the levels or extent of volunteer participation (Putnam 2000; Abraham, Helms and Presser 2009; Robinson and Smith 2012). Further, few of these survey questions are designed to cover "informal volunteering", that is care and help provided individually and in numerous guises, rather than formal volunteering done through an organization dedicated to providing such assistance, like the Red Cross, PTAs or church groups. This type of volunteering was not explicitly included in Putnam's review, although he did identify and measure several other forms of informal social life like playing cards, visiting relatives and attending dinner parties.

An alternative survey measurement that encompasses both formal and informal volunteering (as well as other forms of social life) is provided by full time-diary data. National US time-diary studies have been conducted in roughly every decade since 1965 to document changes in the structure and quality of American daily life in "real time", using standardized time-diary procedures (as outlined in Appendix A). This national time series of diary studies began with academic survey firms, first at the University of Michigan in 1965 and 1975 (Juster 1982) and then at the University of Maryland in the 1980s and 1990s (Robinson and Godbey 1999), again using strict probability sampling methods to ensure comparability with US Census population demographic trends. These earlier diary data had documented long-run improvements in daily life in the $20^{\text {th }}$ century, such as declines in women's housework, gains in parental time in child care and overall increases in the public's free time. Parallel gains in volunteering might have been expected in the quality-of- life (QOL) implications for times spent in other daily activities, particularly with the overall growth of the economy and advances in new home technologies. At the same time, these hopes could have been undercut in the early
millennial years by the great economic recession of 2007, which meant that even more people became in need of volunteer assistance.

Since 2003, this time-diary series has been replicated and expanded with the arrival of the American Time-Use Survey (ATUS), now conducted annually by the US Bureau of the Census for the Bureau of Labor Statistics (BLS). Like earlier national diary studies, the ATUS also collects retrospective data on how Americans spent their time across the previous 24 hours, but now with much larger samples and a more elaborate coding scheme, one that capture more than 30 different types of informal care (as well as 30 differing categories of formal care). These ATUS detailed activity codes are shown in Appendix B.

As in the earlier academic diary surveys, national ATUS respondents continued to report large amounts of both paid work and unpaid (domestic) work, with women reporting about a third of their work as paid work and two-thirds as domestic work, somewhat the reverse paid/unpaid work ratio of 3:2 ratio for men.

Included in the 2003-13 ATUS accounts of domestic work was the 1-2 hours a week given to helping others informally, such as by providing health care or transportation individually, assistance that is most difficult to capture with even multiple survey questions. Moreover, in these diaries, respondents described such activity in their own words (rather than simply agreeing they had engaged in this socially desirable form of behavior). For that reason, the decline in such activity is particularly significant or troubling.

## METHODOLOGY:

Time-diary Studies: Unlike earlier measures of work, family and free time figures based on single worker, estimate questions on their work hours ( e.g., "How many hours did you work last week?"), or simple estimates of their hours spend volunteering, more detailed and comprehensive figures can be derived from time diaries. The great value of these diary accounts is that respondents report on all their daily activities and in their own words, and not just their work or volunteering. Moreover, these diary reports must add up to exactly 24 hours, maintaining the important "zero-sum" of time, in that increases in one activity like work or sleep, must be "zero-ed out" by decreases in other activities. Using these sequential diaries of all their daily activities, respondents are thus less prone to encounter problems of memory loss, self-projection or double counting of time than when they make activity time estimates. This is especially the case when the diary period only refers to a single day, and one that should be most vivid in their memory.

Time-Diary Methodology: The time diary is a micro-behavioral technique for collecting self-reports of an individual's daily behavior in an open-ended fashion on an activity-by-activity basis. Individual respondents keep or report these activity accounts for a short, manageable period, such as a day - usually across the full 24 hours of a single day. In that way, the technique capitalizes on the most attractive measurement properties of the time variable, namely:

* All 24 hours of daily activity are potentially recorded, including activities in the early morning hours, when few respondents are awake.
* The 1,440 minutes of the day are equally distributed across respondents, thereby preserving the "zero sum" property of time that allows various trade-offs between activities to be examined; that is, if time on one activity increases, it must be zeroed out by decreases in some other activity.
* $\quad$ Respondents are allowed to use a time frame and an accounting variable that is highly familiar and understandable to them and accessible to the way they probably store their daily events in memory.

The open-ended nature of activity reporting means that these activity reports are automatically geared to detecting new and unanticipated activities (for example, in past decades, new activity codes had to be developed to accommodate aerobic exercises, use of e-mail, iPods and other new communications technologies). Further elementary details and examples of the diary method are provided again in Appendix A.

Earlier Diary Surveys in the United States As noted above, there have been roughly decade-interval (1965, 1975, 1985, 1992-1995, 1998-2001) national time-diary surveys by academic survey firms from which to make trend comparisons with the current American Time-Use Survey (ATUS). These have been archived with explanations and examples of their use to draw time-series trend conclusions at the American Heritage Time-Use Surveys (AHTUS) at the University of Oxford (http://www.timeuse.org/). These diary surveys employed strict national probability methods in which all residents (of the $90+\%$ of US residents with telephone access) in the country had an equal chance of selection, and interviews were completed with at least half of such individuals to ensure their representativeness of the general US population. Data were weighted by post-stratification to be further representative of the gender, age, marital status, employment status, parental status and income composition of the country.

The 2003-2013 ATUS employed telephone interviews with previous CPS respondents, using "yesterday" diaries based on the recall of what respondents did on the previous day. These different methods of diary interviewing (telephone, personal and mail) have been shown to produce equivalent results to those done earlier (e.g., Robinson and Godbey 1999), and especially great care was expended to ensure the representativeness of the latest ATUS sample (as documented in Abraham, Maitland and Bianchi 2006).

The ongoing ATUS has now collected daily diaries from more than 140,000 daily diaries continuously across each year since 2003, using a Census Bureau sample derived from its Current Population Survey (CPS), and with a much more detailed set of activity categories described at http://www.bls.gov./tus/ and as archived at https://www.atusdata.org/atus/. A detailed comparison of the methods and results of these US time-series data and their treatment as a continuous time series since 1965 (as archived at the University of Oxford) can be found in Fisher et al. (2007). Parallel data
from more than 25 other countries can be found at http://www.timeuse.org/.

## RESULTS:

## 2003-13 DECADE DIFFERENCES IN TIME USE:

Table 1 provides a broad year-by-year account of the US public's overall time uses between 2003 and 2013 for the entire ATUS sample aged 15 and older. These data have been extrapolated from the official time accounts reported in Table 1 of BLS press releases for each year (https://www.atusdata.org/atus/) of that annual report. The hour-per-day figures there were translated into weekly terms by multiplying each entry by the 7 days of the week. The BLS activities have also been rearranged by activity category in Table 1, from productive (paid and domestic work hours) at the top, through personal care in the middle, and with mainly free-time figures at the bottom (and separately showing the roughly hour per week of unreported or missing activity time).

## (TABLE 1 HERE)

Table 1 first shows that these overall time differences in ATUS across the 200313 period tend to be rather modest, with some 1-2 hour per week ATUS declines in both paid work and in domestic work. These declines in domestic work included time for core housework and for shopping for various goods and services -- but also declines for both men and women in informal help and care to neighbors and other non-household adults and children (as outlined in the top A part of Appendix B). At the same time, there was no such decline in time for formal volunteering through organizations, shown in the bottom part of Table 1.

Table 1 first shows that these overall 2003-13 ATUS diary differences, for Americans aged 15 and older across the decade, tended to be rather modest, with 1-2 hour per week declines in both paid work and in domestic work. Based on these singleday diaries, these declines in domestic work were split across various forms of housework and for shopping for various goods and services; but the larger declines were found for help and care to neighbors and other non-household adults and children.

Offsetting these paid and domestic work declines of roughly 1 hour per week were increases in sleep (but not other personal care) and in watching TV, as well as in other various free-time activities. There is was also the roughly one hour increase in unreported activity at the bottom of Table 1.

These diaries thus identify this help given to non-household members across the overall sample amounted to declines of only about 0.6 hours (or 35 minutes) a week. But across the decade, that was a decline of more than a third of the overall decline spent in such time helping neighbors and members of other households. At the same time, in the activities further down in Table 1 (as well as graphically in Figure 1), there was virtually no decline in the time devoted to formal volunteering through organizations (nor in separate calculations in the time helping members of one's own household).

## (FIGURE 1 HERE)

Gender Differences: Table 2 breaks out the Table 1 figures separately for men and women in the overall sample for selected years. They show roughly the same pattern of activity changes hold for each gender, including the declines in informal care, in contrast to the steady figures for formal volunteer help via formal organizations. They also show women consistently devote more time to informal help than men.

## (TABLE 2 HERE)

Differences in the 18-64 Age Active Population: Tables 1 and 2 focus on the total population and thus they include two very different groups of 1 ) the 15-17 high school age group, as well as 2 ) those in the usually retired population aged 65 and older. Table 3 thus focuses on the more active adult population aged 18-64. In brief, Table 3 continues to show much the same pattern of changes noted in Tables 1 and 2, including the declines in informal care to neighbors and non-family members and the steadier times in formal volunteering across the decade.

## (TABLE 3 HERE)

Regression-Adjusted Differences: There have been many changes in the demographic composition (age, family structure, employment, etc.) of the population since 2003, and it is possible that many of the differences in Tables 1-3 could be due to these demographic factors and not to differences in activity per se. For that reason, the ATUS data were subjected to a multiple regression program to control for the demographic factors of age, marital status, children, employment, education and family income. The multiple regression program Multiple Classification Analysis (MCA) was developed for survey data like the ATUS by survey methodologists Andrews et al. (1972) to provide such adjustments for informal volunteering in Table 4 and for formal volunteering in Table 5. MCA has the further advantage of showing the differences in time use before and after adjustment for each of these predictors of time use. Moreover, it does so for individual categories (age 25-34, college graduates, etc.) of each predictor. The time numbers in Table 4 then are for the four combined years 2003-04; 2005-07; 2008-10 and 2011-13, with its steady decline since 2003 holding after MCA adjustment.

## (TABLE 4 HERE)

Table 4 also shows women are significantly more active in informal care than men, as are parents with fewer children. Higher times are also reported by those in the pre-retirement ages of 45 to 64, and lower times past retirement. College graduates tend to report being less active than those with less than a college degree (again age and income controlled), but the patterns by education, income, employment and race tend to be less regular and insignificant.

Table 5 shows the parallel breakouts for formal volunteering, with its clearly different pattern of associations, starting with its rather steady overall levels since 2003,
in contrast to the decrease in Table 4. Women are again more active in formal volunteering than men, as are those past the retirement age of 65 . The college-educated, employed, and married respondents are notably more active, but differences by race and income are less regular or insignificant.

## (TABLE 5 HERE)

Volunteer Survey Estimate Data: The BLS also has been monitoring formal volunteering rates since 2003 in its separate annual surveys devoted solely to estimate questions (BLS 2014). Figure 2 shows that the finding of steady annual rates in Table 5 (with a slight decline in recent years) holds for this annual estimate survey as well.
(FIGURE 2 HERE)
SUMMARY AND CONCLUSIONS:
Analysis of the comprehensive 2003-2013 ATUS study of volunteer activities with more than 140,000 respondents reveals a rather consistent decline in informal care in helping neighbors and members of other households across a period of minimal change in most other daily activities. This $30 \%$ decline in help to members of other households, a basic indicator of the country's social safety net, was found across the population aged 15 and older, as well among the employed segment of the population, and held after other demographic predictors of volunteering (like age, gender or education) were taken into account.

This decline in informal care also occurred across a decade in which ATUS diary time spent in help via formal volunteering showed no decline (much as found in broader estimate surveys since the 1970s (Robinson and Smith 1972). The decline also occurred in a decade in which there were small but significant increases in sleep, television and IT use. Table 4 shows that there are fewer demographic predictors of informal volunteering, with women spending more hours in both types of care than men, and the employed reporting less volunteering than those not in the labor force. The educated are more active formally, but less so informally. Age, income, marital status and race differences are more complex or insignificant.

These single-day diary data preclude establishing any relationship between formal and informal volunteering, but there is one using longer-term single-question survey measures.

TABLE 1. 2003-2013 ATUS HOURS PER WEEK ON DIFFERENT ACTIVITIES, AGES 15+

| YEAR | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{n}=$ | 20,720 | 13,973 | 13,038 | 12,943 | 12,248 | 12,723 | 13,133 | 13,260 | 12,479 | 12,443 | 11,385 |  |
| PAID WORK | 25.9 | 25.6 | 25.9 | 26.2 | 26.7 | 26.1 | 24.7 | 24.5 | 25.0 | 24.7 | 24.2 | -1.6 |
| WORK | 23.3 | 23.3 | 23.5 | 23.8 | 24.3 | 23.6 | 22.2 | 22.0 | 22.4 | 22.3 | 22.0 | -1.3 |
| COMMUTE | 2.5 | 2.3 | 2.4 | 2.4 | 2.4 | 2.5 | 2.5 | 2.5 | 2.6 | 2.4 | 2.3 | -0.3 |
| EDUCATION | 3.3 | 3.4 | 3.0 | 3.4 | 3.0 | 3.3 | 3.3 | 3.3 | 3.3 | 3.5 | 3.3 | +0.0 |
| CLASSES | 2.0 | 2.1 | 1.8 | 2.1 | 1.8 | 1.9 | 1.8 | 1.9 | 1.9 | 2.0 | 1.8 | -0.2 |
| HOMEWORK | 0.9 | 1.0 | 1.0 | 1.0 | 0.9 | 1.1 | 1.1 | 1.1 | 1.1 | 1.2 | 1.3 | +0.3 |
| OTHER | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | -0.1 |
| FAMILY | 24.4 | 24.3 | 23.8 | 23.4 | 23.5 | 22.8 | 23.1 | 22.8 | 22.5 | 22.1 | 22.7 | -1.6 |
| HOUSEWORK | 4.3 | 4.1 | 4.3 | 4.3 | 4.5 | 4.1 | 4.2 | 4.0 | 4.1 | 4.2 | 4.0 | -0.3 |
| COOK | 3.7 | 3.6 | 3.6 | 3.7 | 3.6 | 3.7 | 3.8 | 3.9 | 3.9 | 3.7 | 4.0 | +0.3 |
| LAWN, ETC. | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.3 | 1.4 | 1.5 | 1.3 | 1.3 | 1.3 | -0.1 |
| MANAGE | 0.9 | 1.0 | 1.0 | 0.9 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | -0.0 |
| OTHER HW | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.1 | -0.2 |
| SHOPPING | 2.8 | 2.8 | 2.9 | 2.8 | 2.8 | 2.7 | 2.6 | 2.6 | 2.6 | 2.5 | 2.6 | -0.2 |
| SERVICES | 2.9 | 2.9 | 2.7 | 2.8 | 2.7 | 2.7 | 2.7 | 2.6 | 2.5 | 2.6 | 2.6 | -0.2 |
| HH CHILD CARE | 3.0 | 3.0 | 3.0 | 2.9 | 2.9 | 2.9 | 3.0 | 2.8 | 2.8 | 2.8 | 2.9 | -0.1 |
| HH ADULT CARE | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 | 0.8 | 0.8 | 0.8 | -0.1 |
| NON-HH CARE | 2.0 | 1.9 | 1.6 | 1.5 | 1.4 | 1.6 | 1.5 | 1.5 | 1.5 | 1.3 | 1.4 | -0.6 |
| OTHER | 0.3 | 0.3 | 0.3 | 0.1 | 0.3 | 0.0 | 0.2 | 0.2 | 0.3 | 0.1 | 0.2 | -0.1 |
| PERSONAL CARE | 73.8 | 74.0 | 74.7 | 74.5 | 74.0 | 74.3 | 74.7 | 75.0 | 75.1 | 75.1 | 75.4 | +1.6 |
| SLEEP | 60.0 | 59.8 | 60.4 | 60.4 | 60.0 | 60.2 | 60.7 | 60.7 | 61.0 | 61.1 | 61.2 | +1.2 |
| EAT | 8.4 | 8.7 | 8.7 | 8.6 | 8.6 | 8.6 | 8.6 | 8.7 | 8.7 | 8.7 | 8.6 | +0.2 |
| GROOM | 5.4 | 5.5 | 5.6 | 5.5 | 5.3 | 5.5 | 5.4 | 5.6 | 5.4 | 5.3 | 5.6 | +0.2 |
| FREE TIME | 39.3 | 39.7 | 39.3 | 39.0 | 39.5 | 40.1 | 40.4 | 39.9 | 40.0 | 40.9 | 40.1 | +0.8 |
| RELIGION | 1.0 | 0.8 | 0.9 | 0.8 | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.0 | 1.0 | +0.0 |
| CLUB,ORG | 1.0 | 1.0 | 1.0 | 0.9 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 0.9 | 1.0 | +0.0 |
| SOCIALIZE | 5.5 | 5.3 | 5.2 | 5.3 | 5.1 | 5.0 | 4.9 | 4.9 | 4.9 | 5.2 | 5.0 | -0.4 |
| TELEPHONE | 1.3 | 1.3 | 1.2 | 1.3 | 1.3 | 1.5 | 1.4 | 1.2 | 1.1 | 1.1 | 1.0 | -0.3 |
| FITNESS | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.1 | 2.2 | 2.1 | 2.1 | 2.2 | 2.1 | +0.1 |
| TV | 18.1 | 18.5 | 18.0 | 18.0 | 18.4 | 19.4 | 19.8 | 19.1 | 19.3 | 19.8 | 19.4 | +1.3 |
| OTHER FREE | 10.5 | 10.7 | 10.9 | 10.7 | 10.4 | 10.1 | 10.2 | 10.4 | 10.5 | 10.6 | 10.6 | +0.1 |
| OTHER | 1.3 | 1.0 | 1.2 | 1.5 | 1.4 | 1.4 | 1.7 | 2.4 | 2.1 | 1.7 | 2.2 | +0.9 |
| TOTAL | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 | 168 |  |

TABLE 2. 2003-2013 ATUS GENDER DIFFERENCES AGES 15+ IN HOURS PER WEEK ON DIFFERENT ACTIVITIES

|  | MEN |  |  |  |  |  | WOMEN |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EAR | 2003 | 2006 | 2009 | 2012 | 2013 | Change | 2003 | 2006 | 2009 | 2012 | 2013 | Change |
| $=$ | 9052 | 5516 | 5642 | 5536 | 5082 |  | 11,668 | 7427 | 7491 | 6907 | 6303 |  |
| PAID WORK | 31.9 | 31.7 | 29.8 | 29.2 | 29.4 | -2.5 | 20.2 | 21.1 | 19.9 | 20.6 | 19.4 | -0.8 |
| WORK | 28.6 | 28.7 | 26.7 | 26.2 | 26.6 | -2.0 | 18.4 | 19.2 | 18.1 | 18.7 | 17.6 | -0.7 |
| COMMUTE | 3.3 | 3.0 | 3.1 | 3.0 | 2.8 | -0.5 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | -0.1 |
| EDUCATION | 3.1 | 3.1 | 3.0 | 3.7 | 3.3 | +0.2 | 3.4 | 3.7 | 3.5 | 3.3 | 3.3 | -0.1 |
| CLASSES | 2.0 | 2.0 | 1.8 | 2.1 | 1.9 | -0.1 | 2.0 | 2.2 | 1.9 | 1.8 | 1.7 | -0.3 |
| HOMEWORK | 0.8 | 0.9 | 1.0 | 1.2 | 1.2 | +0.4 | 1.1 | 1.2 | 1.2 | 1.1 | 1.3 | +0.3 |
| OTHER | 0.3 | 0.2 | 0.2 | 0.4 | 0.3 | -0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | -0.1 |
| FAMILY | 18.3 | 17.4 | 17.7 | 16.8 | 17.4 | -0.9 | 30.0 | 29.0 | 28.2 | 27.0 | 27.7 | -2.3 |
| HOUSEWORK | 1.6 | 1.7 | 1.8 | 1.9 | 1.8 | +0.2 | 6.8 | 6.6 | 6.4 | 6.3 | 6.1 | -0.7 |
| COOK | 1.8 | 2.0 | 2.0 | 2.0 | 2.3 | +0.5 | 5.5 | 5.3 | 5.4 | 5.3 | 5.6 | +0.1 |
| LAWN, ETC. | 1.8 | 1.8 | 1.9 | 1.7 | 1.8 | -0.1 | 1.0 | 1.0 | 0.9 | 0.9 | 0.8 | -0.1 |
| MANAGE | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | -0.0 | 1.1 | 1.0 | 1.1 | 1.0 | 1.1 | +0.0 |
| OTHER HW | 2.1 | 2.0 | 1.9 | 1.8 | 1.9 | -0.1 | 2.4 | 2.4 | 2.2 | 2.2 | 2.2 | -0.2 |
| SHOPPING | 2.2 | 2.0 | 2.1 | 1.9 | 2.0 | -0.2 | 3.4 | 3.6 | 3.2 | 3.0 | 3.1 | -0.2 |
| SERVICES | 2.6 | 2.5 | 2.4 | 2.3 | 2.4 | -0.2 | 3.2 | 3.2 | 3.0 | 2.9 | 2.9 | -0.3 |
| HH CHILD CARE | 1.7 | 1.7 | 2.0 | 1.9 | 1.9 | +0.2 | 4.1 | 4.0 | 4.0 | 3.7 | 3.8 | -0.3 |
| HH ADULT CARE | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | -0.1 | 1.2 | 1.0 | 0.9 | 0.9 | 1.1 | -0.1 |
| NON-HH CARE | 1.8 | 1.3 | 1.4 | 1.1 | 1.2 | -0.6 | 2.1 | 1.7 | 1.5 | 1.4 | 1.5 | -0.6 |
| OTHER | 1.3 | 0.9 | 0.8 | 0.8 | 0.8 | -0.5 | -0.7 | -0.7 | -0.3 | -0.5 | -0.5 | +0.2 |
| PERSONAL CARE | 72.6 | 73.3 | 73.6 | 73.6 | 74.0 | +1.4 | 75.0 | 75.6 | 75.8 | 76.6 | 76.7 | +1.7 |
| SLEEP | 59.3 | 59.9 | 60.3 | 60.2 | 60.6 | +1.2 | 60.5 | 60.8 | 61.1 | 62.0 | 61.7 | +1.2 |
| EAT | 8.7 | 8.8 | 8.8 | 9.1 | 8.8 | +0.2 | 8.2 | 8.5 | 8.4 | 8.4 | 8.4 | +0.1 |
| GROOM | 4.6 | 4.5 | 4.5 | 4.3 | 4.6 | +0.0 | 6.2 | 6.3 | 6.3 | 6.2 | 6.6 | +0.4 |
| FREE TIME | 40.9 | 41.1 | 42.3 | 43.1 | 41.9 | +1.1 | 37.9 | 37.0 | 38.8 | 38.8 | 38.4 | +0.5 |
| RELIGION | 0.8 | 0.7 | 0.9 | 0.8 | 0.8 | +0.0 | 1.1 | 0.9 | 1.2 | 1.3 | 1.2 | +0.0 |
| CLUB,ORG | 0.9 | 0.9 | 1.1 | 0.8 | 0.9 | +0.0 | 1.0 | 0.9 | 1.0 | 1.0 | 1.0 | +0.0 |
| SOCIALIZE | 5.1 | 5.0 | 4.4 | 5.0 | 4.6 | -0.5 | 5.8 | 5.6 | 5.4 | 5.4 | 5.4 | -0.3 |
| TELEPHONE | 0.9 | 0.8 | 1.0 | 0.8 | 0.7 | -0.2 | 1.7 | 1.8 | 1.8 | 1.4 | 1.4 | -0.3 |
| FITNESS | 2.7 | 2.7 | 2.9 | 2.9 | 2.8 | +0.1 | 1.4 | 1.3 | 1.5 | 1.7 | 1.4 | -0.0 |
| TV | 19.3 | 19.6 | 21.7 | 21.5 | 20.9 | +1.6 | 16.9 | 16.5 | 17.9 | 18.3 | 18.0 | +1.1 |
| OTHER FREE | 11.1 | 11.4 | 10.5 | 11.3 | 11.2 | +0.1 | 10.0 | 10.0 | 10.0 | 9.9 | 10.0 | -0.0 |
| OTHER | 1.2 | 1.4 | 1.6 | 1.6 | 1.9 | +0.7 | 1.4 | 1.5 | 1.8 | 1.7 | 2.4 | +1.0 |
| TOTAL | 168 | 168 | 168 | 168 | 168 |  | 168 | 168 | 168 | 168 | 168 |  |

TABLE 3. 2003-2013 ATUS GENDER DIFFERENCES AGES 18-64 IN HOURS PER WEEK ON DIFFERENT

| ACTIVITIES |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MEN |  |  |  |  | $\begin{gathered} \text { WOME } \\ \mathrm{N} \end{gathered}$ |  |  |  |  |
| YEAR | $\begin{aligned} & 2003- \\ & 2004 \end{aligned}$ | $\begin{aligned} & 2005- \\ & 2007 \end{aligned}$ | $\begin{aligned} & 2008- \\ & 2010 \end{aligned}$ | $\begin{aligned} & 2011 \\ & 2013 \end{aligned}$ | Chang e | $\begin{aligned} & 2003- \\ & 2004 \end{aligned}$ | $\begin{aligned} & 2005- \\ & 2007 \end{aligned}$ | $\begin{aligned} & 2008- \\ & 2010 \end{aligned}$ | $\begin{aligned} & 2011 \\ & 2013 \end{aligned}$ | Chang e |
| $\mathrm{n}=$ | $\begin{gathered} 11,99 \\ 9 \end{gathered}$ | $\begin{gathered} 13,01 \\ 5 \end{gathered}$ | $\begin{gathered} 13,53 \\ 8 \end{gathered}$ | $\begin{gathered} 12,51 \\ 0 \end{gathered}$ |  | 15,142 | $\begin{gathered} 16,68 \\ 7 \end{gathered}$ | $\begin{gathered} 16,75 \\ 4 \end{gathered}$ | $\begin{gathered} 15,10 \\ 5 \end{gathered}$ |  |
| PAID WORK | 37.3 | 37.5 | 36.0 | 35.4 | -1.9 | 25.3 | 26.4 | 25.4 | 25.1 | -0.2 |
| WORK | 33.7 | 34.0 | 32.3 | 31.9 | -1.8 | 23.1 | 24.1 | 23.1 | 22.7 | -0.4 |
| COMMUTE | 3.6 | 3.5 | 3.7 | 3.5 | -0.1 | 2.2 | 2.2 | 2.3 | 2.4 | +0.2 |
| EDUCATION | 2.0 | 1.8 | 1.8 | 2.3 | +0.3 | 2.3 | 2.2 | 2.4 | 2.2 | -0.1 |
| CLASSES | 1.0 | 0.8 | 0.8 | 1.0 | -0.0 | 1.1 | 1.0 | 0.9 | 0.8 | -0.2 |
| HOMEWORK | 0.7 | 0.8 | 0.8 | 1.1 | +0.3 | 1.0 | 1.0 | 1.2 | 1.1 | +0.1 |
| OTHER | 0.2 | 0.1 | 0.2 | 0.3 | +0.0 | 0.3 | 0.2 | 0.3 | 0.2 | -0.0 |
| FAMILY | 18.3 | 17.9 | 17.8 | 17.1 | -1.1 | 31.3 | 30.3 | 29.1 | 28.3 | -3.1 |
| HOUSEWORK | 1.6 | 1.8 | 1.8 | 1.9 | +0.3 | 6.6 | 6.7 | 6.2 | 6.1 | -0.4 |
| COOK | 1.8 | 2.0 | 2.2 | 2.2 | +0.4 | 5.4 | 5.2 | 5.3 | 5.5 | +0.1 |
| LAWN, ETC. | 1.6 | 1.8 | 1.7 | 1.4 | -0.2 | 0.9 | 0.8 | 0.7 | 0.7 | -0.2 |
| MANAGE | 0.7 | 0.8 | 0.7 | 0.7 | -0.1 | 1.1 | 1.0 | 1.0 | 0.9 | -0.2 |
| OTHER HW | 2.0 | 1.9 | 1.9 | 1.9 | -0.1 | 2.5 | 2.5 | 2.4 | 2.2 | -0.3 |
| SHOPPING | 2.2 | 2.1 | 2.0 | 2.0 | -0.2 | 3.6 | 3.6 | 3.3 | 3.1 | -0.5 |
| SERVICES | 2.4 | 2.3 | 2.2 | 2.2 | -0.2 | 3.3 | 3.2 | 3.0 | 2.8 | -0.5 |
| HH CHILD CARE | 2.2 | 2.1 | 2.3 | 2.3 | +0.1 | 5.2 | 5.1 | 4.9 | 4.8 | -0.4 |
| HH ADULT CARE | 0.7 | 0.6 | 0.6 | 0.7 | -0.0 | 1.3 | 1.2 | 1.1 | 1.1 | -0.2 |
| NON-HH CARE | 1.7 | 1.3 | 1.3 | 1.2 | -0.6 | 2.2 | 1.7 | 1.7 | 1.5 | -0.7 |
| OTHER | 1.4 | 1.2 | 1.0 | 0.8 | -0.6 | -0.7 | -0.7 | -0.7 | -0.5 | +0.2 |
| PERSONAL CARE | 71.6 | 72.1 | 72.4 | 72.6 | +1.0 | 73.9 | 74.3 | 74.6 | 75.8 | +1.9 |
| SLEEP | 58.4 | 58.7 | 59.2 | 59.5 | +1.1 | 59.6 | 60.0 | 60.2 | 61.3 | +1.7 |
| EAT | 8.6 | 8.8 | 8.7 | 8.7 | +0.0 | 8.0 | 8.2 | 8.1 | 8.2 | +0.1 |
| GROOM | 4.6 | 4.6 | 4.6 | 4.4 | -0.1 | 6.2 | 6.2 | 6.3 | 6.3 | +0.0 |
| FREE TIME | 37.9 | 37.5 | 38.4 | 38.7 | +0.9 | 34.1 | 33.5 | 34.7 | 34.7 | +0.6 |
| RELIGION | 0.7 | 0.7 | 0.8 | 0.8 | +0.0 | 0.9 | 1.0 | 1.1 | 1.0 | +0.1 |
| CLUB,ORG | 0.8 | 0.9 | 0.9 | 0.7 | -0.1 | 1.0 | 1.0 | 1.0 | 1.0 | -0.1 |
| SOCIALIZE | 5.0 | 4.8 | 4.5 | 4.6 | -0.3 | 5.6 | 5.4 | 5.2 | 5.3 | -0.4 |
| TELEPHONE | 0.8 | 0.7 | 0.8 | 0.7 | -0.1 | 1.5 | 1.4 | 1.5 | 1.2 | -0.3 |
| FITNESS | 2.5 | 2.5 | 2.5 | 2.5 | +0.1 | 1.3 | 1.3 | 1.3 | 1.5 | +0.2 |
| TV | 18.4 | 18.2 | 19.6 | 19.4 | +1.0 | 15.1 | 15.0 | 16.2 | 16.2 | +1.1 |
| IT | 1.1 | 1.2 | 1.2 | 1.6 | +0.5 | 0.8 | 0.8 | 1.1 | 1.3 | +0.5 |
| AUDIO | 0.5 | 0.5 | 0.5 | 0.4 | -0.1 | 0.2 | 0.2 | 0.2 | 0.2 | -0.0 |
| READ | 1.6 | 1.6 | 1.3 | 1.3 | -0.4 | 2.2 | 2.2 | 2.0 | 1.9 | -0.2 |
| GAMES | 1.3 | 1.4 | 1.6 | 1.8 | +0.5 | 0.7 | 0.7 | 0.9 | 0.8 | +0.1 |
| HOBBIES | 0.3 | 0.2 | 0.2 | 0.2 | -0.0 | 0.2 | 0.2 | 0.2 | 0.2 | -0.0 |
| RELAX | 2.0 | 2.0 | 1.7 | 2.0 | -0.0 | 1.8 | 1.7 | 1.6 | 1.7 | -0.1 |
| OTHER FREE | 2.8 | 2.9 | 2.8 | 2.6 | -0.2 | 2.7 | 2.7 | 2.4 | 2.5 | -0.3 |
| OTHER | 0.9 | 1.2 | 1.6 | 1.8 | +0.8 | 1.1 | 1.3 | 1.9 | 2.0 | +0.9 |
| TOTAL | 168 | 168 | 168 | 168 |  | 168 | 168 | 168 | 168 |  |

Table 4: MCA-adjusted Differences in Informal Care

|  | $\mathrm{n}=$ | Unadjusted | Adjusted |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| YEAR |  |  |  |  |  |
| 3 2003-04 | 34693 | 2.28 | 2.12 |  |  |
| 6 2005-07 | 38229 | -. 43 | -. 21 |  |  |
| 9 2008-10 | 39116 | -. 52 | -. 54 |  |  |
| 13 2011-13 | 36307 | -1.16 | -1.23 |  |  |
| Eta |  |  | . 04 | . 04 | p<. 001 |
| SEX |  |  |  |  |  |
| 1 Male | 64765 | -. 75 | -. 64 |  |  |
| 2 Female | 83580 | . 58 | . 49 |  |  |
| Eta |  |  | . 01 | . 01 | p<. 01 |
| AGE |  |  |  |  |  |
| 0 15-17 | 6782 | -2.58 | . 99 |  |  |
| 1 18-24 | 9649 | -. 67 | . 48 |  |  |
| 2 25-34 | 24407 | -2.52 | . 21 |  |  |
| 3 35-44 | 31278 | -2.65 | -. 06 |  |  |
| 4 45-54 | 27667 | 1.06 | 1.12 |  |  |
| 5 55-64 | 21749 | 4.73 | 2.17 |  |  |
| 6 65-74 | 14666 | 4.25 | -. 07 |  |  |
| 7 75+ | 12147 | -2.14 | -7.55 |  |  |
| Eta |  |  | . 06 | . 05 | $\mathrm{p}<.001$ |
| RACE |  |  |  |  |  |
| 1 White | 120581 | . 14 | . 26 |  |  |
| 3 Black | 19857 | -. 10 | -1.30 |  |  |
| 4 Native | 1067 | 2.28 | 2.08 |  |  |
| 5 Asian | 4879 | -3.99 | -1.88 |  |  |
| 7 Other | 1551 | 1.26 | . 66 |  |  |
| Eta |  |  | . 02 | . 01 | NS |
| MARITAL |  |  |  |  |  |
| 1 Married | 73584 | -. 77 | . 20 |  |  |
| 3 Widowed | 12978 | 1.77 | 1.10 |  |  |
| 4 Divorced | 19782 | 3.17 | 1.40 |  |  |
| 6 Never married | 35809 | -1.07 | -1.77 |  |  |
| Eta |  |  | . 03 | . 02 | NS |
| EMPLOYMENT |  |  |  |  |  |
| 1 Employed | 88945 | -1.38 | -1.35 |  |  |
| 2 Laid off | 4012 | 1.65 | 1.62 |  |  |
| 3 Disabled | 782 | 8.35 | 8.05 |  |  |
| 4 Looking | 6674 | 4.21 | 5.12 |  |  |
| 5 Not employed | 47932 | 1.71 | 1.52 |  |  |
| Eta |  |  | . 04 | . 04 | $p<.001$ |
| EDUCATION |  |  |  |  |  |
| 1 LT HS | 25455 | -. 57 | -. 49 |  |  |
| 2 HS | 43344 | 1.95 | 1.41 |  |  |
| 3 Some college | 32668 | 1.02 | . 83 |  |  |
| 4 College grad | 22879 | -2.30 | -1.57 |  |  |
| 5 Some grad school | 3625 | -2.21 | -2.06 |  |  |
| 6 Grad school | 12554 | -1.36 | -. 96 |  |  |
| 7 Post grad | 7820 | -3.30 | -2.59 |  |  |
| Eta |  |  | . 04 | . 03 | p<. 01 |
| INCOME |  |  |  |  |  |
| 1 Lowest | 25826 | 1.21 | -. 05 |  |  |
| 2 Low middle | 16497 | 1.24 | . 42 |  |  |
| 3 Middle | 16223 | . 71 | . 16 |  |  |
| 4 Mid high | 23803 | . 16 | . 06 |  |  |
| 5 Higher | 32388 | -. 96 | -. 21 |  |  |
| 6 Highest | 19910 | -2.90 | -. 59 |  |  |
| $9 \mathrm{~N} / \mathrm{A}$ | 13698 | 1.60 | . 65 |  |  |
| Eta |  |  | . 03 | . 01 | NS |
| CHILDREN |  |  |  |  |  |
| 0 | 78851 | 2.95 | 3.00 |  |  |
| 1 | 43916 | -2.40 | -2.64 |  |  |
| 2 | 19253 | -4.63 | -4.36 |  |  |
| 3 | 5988 | -6.05 | -5.79 |  |  |
| 4 | 337 | -5.96 | -6.58 |  |  |
| Eta |  |  | . 07 | . 07 | $p<.001$ |

NS NOT SIGNIFICANT <. 01 Significant at . 05 <Significant at . 001 level

Table 5: MCA-adjusted Differences in Formal Volunteering


FIGURE 1. DIARY TRENDS IN WEEKLY INFORMAL AND FORMAL VOLUNTEERING.


## FIGURE 2. ANNUAL PERCENT REPORTING FORMAL VOLUNTEERING IN THE UNITED STATES.



## Responses to BLS (Bureau of Labor Statistics) 2002-13 Volunteer question


#### Abstract

"This month, we are interested in volunteer activities, that is, activities for which people are not paid, except perhaps expenses. We only want you to include volunteer activities that you did through or for an organization, even if you only did them once in a while. Since September 1st of last year, have [you/NAME] done any volunteer activities through or for an organization? IF NO: Sometimes people don't think of activities they do infrequently or activities they do for children's schools, or youth organizations as volunteer activities. Since September 1st of last year, have [you/NAME] done any of these types of volunteer activities?" Respondents were considered volunteers if they answered "yes" to either of these questions. (Respondents who replied affirmatively were then asked for the number of organizations for which volunteer work was done, and the numbers of weeks and hours per week worked for each organization (or, if the respondent said the hours per week varied, the number of hours for the last month.


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## OPTIONAL:

APPENDIX A: Further Details on Time-Diary Studies with an Example
In each of the U.S. time-diary studies, a standard series of questions has been used by sequentially "walking" respondents through a 24 -hour period. Question wording from the 1998 academic diary study is shown in Figure 1. Starting at a standard point in the diary day (usually midnight or 4 AM of the diary day), the randomly-chosen respondent is asked "What were you doing?" (Q1). Responses to this query are commonly known as "primary" activities because they are thought to be the most salient or determining activity for respondents at the time. (In 1998 but not in ATUS, respondents were also asked, "Did you do anything else?" (Q4) at the same time.)

More specific details of the diary procedures used in the ATUS, along with its detailed activity coding scheme can be found at https://www.atusdata.org/atus/. The complete set of US 1965-2013 diary data have been harmonized and standardized to allow proper year-to-year time-series analysis in the AHTUS files compiled at the University of Oxford Centre for Time Use Research (CTUR) www.timeuse.org, which also lists references to more than 40 scholarly articles using these US data to document social trends.

Respondents also report the location of each (primary) activity (Q2A) and identify the other people present during the activity (Q5). Figure 2 shows the diary entries for one respondent in this study, an employed married woman aged 43 with two children under age 18, who completed her diary in late June. As the recounting of her day began at midnight, she was working for the subsequent 20 minutes (until 12:20am). She then drove home, which took 40 minutes, where she watched half an hour of TV (while also engaged in cleaning up her home), followed by 45 minutes of dishwashing. She went to sleep at 2:15 am and got up at 7:45 am, whereupon she drank coffee and then got her 16-year-old son out of bed.

She ate lunch at noon, and subsequently did another hour and a half of house cleaning and dusting, and watched another half hour of TV. That was followed by an hour of bill paying and another hour of TV viewing. She then took a half hour each for showering and for dressing, prior to an hour's dinner with her husband and children. At that point (6:30 PM), she drove back to work, where she worked again until midnight.

Totaling up her day, she put in 6.5 hours of paid work and 6.3 hours of housework. Getting her children up took another 0.8 hour. She spent only 5.5 hours sleeping, 1.5 hours eating and an hour grooming. She watched 2.5 hours of TV, which was her only free time during the day. She was on the road for 1.2 hours and at her workplace for 6.5 hours, and she spent the remaining 16.3 hours of the day at home, mostly with her children when she was not alone.

## Figure 1. Interview Questions.

Next, I would like to ask you about the things you did yesterday. I want to know only the specific things you did yesterday, not the things you usually do. Let's start at midnight [fill day of week before diary day], that is, the night before last.

Q1) What were you doing [fill in day of week before diary day] at midnight?
***If person reported traveling, ask question Q2B
Q2A) Where were you?
Q2B) How were you traveling?
Q3) What time did you finish?
Q4) At any time while you were (REPEAT ACTIVITY) did you do anything else? (like talking, reading, watching TV, listening to the radio, eating, or caring for children)

Q5) While you were (REPEAT ACTIVITY) who was with you?
Q6) What did you do next?

Source: CATI Transcript, 1998-99 Family Interaction, Social Capital, and Trends in Time Use Study.

## Figure 2. Sample of Completed Time Diary

Married woman, aged 43, with two children < age 18 (diary completed on a Thursday in June)

| What did you do? | Time <br> Began | Time <br> Ended | Where With <br> Were Whom? | Doing Anything <br> Else? |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  | You: |  |


| Working | Midnight 12:20 |  | Work | Coworker(s) No |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Traveling home from | $12: 20$ | $1: 00$ | Car |  | Listening to the <br> radio |
| work |  |  |  |  |  |

Source: 2000 National Survey of Parents.

The task of keeping the diary may create some recall difficulties, but is fundamentally different from the task of making long-term time estimates. The diary keeper's task is to recall one day's activities in sequence, which should be similar to the way the day was structured chronologically for the respondent and to the way most people store their day in memory. This is far preferable and shorter than reading from some list of activities whose meanings vary from one respondent to another, and it allows respondents to simply describe their day's activities in their own words.

The diary technique also presents respondents with a task that gives them little opportunity to distort activities in order to present themselves in a particular light. They are given few clues about a study's interest in one activity or another, because the diary is simply intended as a complete record of any and all activity on that day. Some respondents may wish to portray themselves as hard workers or light television viewers, but in order to do so they must also fabricate the activities that precede and follow the one they want to misreport. Further, it is only a one-day account, and on any given day respondents probably realize that they may work less or watch television more than usual. Moreover, respondents are not pressured to report an activity if they cannot recall it or do not wish to report it. Moreover, all periods across the day must be accounted for, in order that the diary account does total to all 1,440 minutes of the day (across the 24 hours).

Activity Coding: The largely open-ended diary reports are coded using a basic activity coding scheme like that developed for the 1965 Multinational Time Budget Research Project (by Szalai 1972). As shown in outline form in Figure 3, the Szalai code first divides activities into non free-time activities (codes 00-54,59) and free-time activities (codes 55-58, 60-99); non free-time activities are further subdivided into paid work (including commuting, which is usually referred to as "contracted time" in the timediary literature), into three categories of family care (housework, childcare, and obtaining goods and services, or unpaid work that is often referred to as "committed time" in the literature), the three basic aspects of personal care (sleeping, eating, and grooming), and educational activities. The remaining free-time activities are coded under the five general headings of 1 ) information seeking (including the Internet); 2) organizational activity; 3) entertainment and socializing; 4) recreation; and 5) communications. The main value of the open-ended diary approach is that activities can be recorded or recombined, depending on the analyst's unique assumptions or purposes.

Activity categories are typically coded in minutes per day and then converted into hours per week after ensuring that all days of the week were equally represented. In other words, the sampling units are person-days rather than persons, since the latter were only interviewed about a single day's activities. The diary data in these studies were weighted by demographic variables to match the March Current Population Survey characteristics on gender, age, education, employment status and the like and to provide equal representation of all seven days of the week.

The Szalai code has several attractive features. First, it has been tested, found to be reliable, and has been used in several countries around the world. Second, and because of this, extensive prior national normative data are available for comparison purposes.

Third, it can be easily adapted to include new code categories of interest to researchers who are looking into different scientific questions from various disciplines. The location coding can be aggregated to estimate time spent in travel, outdoors, or at home, all important parameters for analyzing time-use trends.

Moreover, the ten main headings can also be conveniently split into the four "super categories" identified by Aas (1979):

1) Paid work (codes 01-09)
2) Unpaid work (10-19,20-29,30-39)
3) Personal care (40-49)
4) Free time (codes 60-69,70-79,80-89,90-99)

Under nine of these ten main headings in Table 1, there is a second _9 code to capture the travel associated with each category, so that it can be added together to total all travel during the day. It can also be added to the activity group (shopping, socializing) to give a fuller measure of the total time spent for that purpose.

When aggregated, then, activity-diary data have been used to provide generalizable national estimates of the full range of alternative daily activities in a society, from contracted paid work time for an employer, to the committed time for unpaid housework and family caregiving, to personal care for body and mind, and to all the types of activities that take place in free time. The multiple uses and perspectives afforded by time-diary data have led to a recent proliferation of research and literature in this field. Comparable national time-diary data have been collected in more than 40 countries over the last two decades, including virtually all Eastern and Western European countries. In the US, the first national diary study was conducted in 1965, and it has then been replicated every decade in 1975, 1985, 1995, and 1998-2001. Since 2003, the American Time-Use Survey (ATUS) has been collecting diary data continuously by US Census Bureau for the Bureau of Labor Statistics (BLS) - with samples of more than 12,000 respondents per year leading to an overall sample base of more than 140,000 respondents since 2003. The ATUS has expanded the list of activity categories to more than 400 , and that full list can be located on the front page of the website https://www.atusdata.org/atus/.

## FIGURE 3: THE SZALAI 1965 TWO-DIGIT ACTIVITY CODE

00-49 Nonfree Time
00-09 Paid Work
00 (Not Used)
01 Main Job
02 Unemployment
03 (Not Used)
04 (Not Used)
05 Second Job
06 Eating at work
07 Before/after work
08 Breaks
09 Travel/to-from work
10-19 Household Work
10 Food Preparation
11 Meal Cleanup
12 Cleaning House
13 Outdoor Cleaning
14 Clothes Care
15 Car repair
16 Other Repairs
17 Plant care, gardening
18 Pet care
19 Other Household
20-29 Child Care
20 Baby care
21 Child care
22 Helping/teaching
23 Talking/reading
24 Indoor playing
25 Outdoor playing
26 Medical care-child
27 Other child care
28 (Not used)
29 Travel/child care
30-39 Obtaining Goods/Services
30 Everyday (food) shopping
31 Durable/house shop
32 Personal services
33 Medical appointments
34 Govt/financial services
35 Repair services
36 (Not Used)
37 Other services
38 Errands
39 Travel/goods and services
40-49 Personal Needs and Care
40 Washing, hygiene, etc.
41 Medical care
42 Help and care to others
43 Meals at home
44 Meals out
45 Night sleep
46 Naps/day sleep
47 Dressing/grooming etc.
48 Private, no report (sex)
49 Travel/Personal care

50-99 Free Time (53, 55-58 only; +60-99)
50-59 Education
50 Students classes
51 Other classes
52 Homework
53 Internet (WWW) use
54 Library use
55 Other education
56 Email /IM
57 Computer games
58 Other computer use
59 Travel/education
60-69 Organizational
60 Professional/Union
61 Special interest
62 Political/civic
63 Volunteer helping
64 Religious groups
65 Religious practice
66 Fraternal
67 Child/youth/family
68 Other organizations
69 Travel/organizational
70-79 Entertainment/social
70 Sports events
71 Entertainment
72 Movies (not videos)
73 Theater
74 Museums
75 Visiting
76 Parties
77 Bars/lounges
78 Telephone/Cell phone
79 Travel/social
80-89 Recreation
80 Active Sports
81 Outdoor
82 Walking/hiking
83 Hobbies
84 Domestic crafts
85 Art
86 Music/drama/dance
87 Games
88 Other recreation
89 Travel/recreation
90-99 Communications
90 Radio
91 TV + videos
92 Records/tapes
93 Read Books
94 Read Magazines/etc
95 Reading newspaper
96 Conversations (face-to-face)
97 Writing letters
98 Think/relax
99 Travel/communication

## APPENDIX B: ATUS CODES FOR <br> A) CODE 04 INFORMAL VOLUNTEERING AND B) CODE 15 FORMAL VOLUNTEERING (CLUBS ORGS)

## A) INFORMAL VOLUNTEERING

Caring for and Helping Non-Household Members (040000)
Caring for and Helping Non-Household Children (040100)
Physical care for non-household children (040101)
Reading to or with non-household children (040102)
Playing with non-household children, not sports (040103)
Arts and crafts with non-household children (040104)
Playing sports with non-household children (040105)
Talking with or listening to non-household children (040106)
Helping or teaching non-household children (not related to education)
(2003) (040107)

Organization and planning for non-household children (040108)
Looking after non-household children (as a primary activity) (040109)
Attending non-household children's events (040110)
Waiting for or with non-household children (040111)
Dropping off or picking up non-household children (040112)
Caring for and helping non-household children, n.e.c. (040199)
Activities Related to Non-Household Children's Education (040200)
Homework (non-household children) (040202)
Meetings and school conferences (non-household children) (040203)
Home schooling of non-household children (040203)
Waiting associated with non-household children's education (040204)
Activities related to non-household child's education, n.e.c. (040299)
Activities Related to Non-Household Children's Health (0403000)
Providing medical care to non-household children (040301)
Obtaining medical care for non-household children (040302)
Waiting associated with non-household children's health (040403)
Activities related to non-household child's health, n.e.c. (040399)
Caring for and Helping Non-Household Adults (040400)
Physical care for non-household adults (040401)
Looking after non-household adults (as a primary activity) (040402)
Providing medical care to non-household adults (040403)
Obtaining medical care for non-household adults (040404)
Waiting associated with caring for non-household adults (040405)
Caring for and helping non-household adults, n.e.c. (040499)
Helping Non-Household Adults (040500)
Housework, cooking, and shopping assistance for non-household adults (040501)
House and lawn maintenance and repair assistance for non-household adults (040502)

Animal and pet care assistance for non-household adults (040503)

Vehicle and appliance maintenance or repair assistance for non-household adults (040504)

Financial management assistance for non-household adults (040505)
Household management and paperwork assistance for non-household adults (040506)

Picking up or dropping off non-household adults (040508)
Waiting associated with helping non-household adults (040508)
Helping non-household adults, n.e.c. (040508)
Caring for and Helping Non-Household Members, n.e.c. (049900)
Caring for and helping non-household members, n.e.c. (049999)

## B) FORMAL VOLUNTEERING

Volunteer Activities (150000)
Administrative and Support Activities (150100)
Computer use (150102)
Organizing and preparing (150102)
Reading (150103)
Telephone calls (except hotline counseling) (150104)
Writing (150105)
Fundraising (150106)
Administrative and support activities, n.e.c. (150199)
Social Services and Care Activities (except medical) (150202)
Food preparation, presentation, clean-up (150201)
Collecting and delivering clothing and other goods (150202)
Providing care (150203)
Teaching, leading, counseling, mentoring (150204)
Social service and care activities, n.e.c. (150299)
Indoor and Outdoor Maintenance, Building, and Clean-Up activities (150300)
Building houses, wildlife sites, and other structures (150301)
Indoor and outdoor maintenance, repair, and clean-up (150302)
Indoor and outdoor maintenance, building, and clean-up activities, n.e.c. (150399)
Participating in Performances and Cultural Activities (150400)
Performing (150401)
Serving at volunteer events and cultural activities (150402)
Participating in performance and cultural activities, n.e.c. (150499)
Attending Meetings, Conferences, and Training (150500)
Attending meetings, conferences, and training (150501)
Attending meetings, conferences, and training (150599)
Public Health and Safety Activities (150600)
Public health activities (150601)
Public safety activities (150602)
Public health and safety activities, n.e.c. (150699)
Waiting Associated with Volunteer Activities (150700)
Waiting associated with volunteer activities (2004+) (150701)

Waiting associated with volunteer activities, n.e.c. (150799)
Security Procedures Related to Volunteer Activities (150800)
Security procedures related to volunteer activities (2007+) (150801)
Security procedures related to volunteer activities, n.e.c. (2007+) (150899)
Volunteer Activities, n.e.c. (159900)
Volunteer activities, n.e.c. (159999)

