CENTRE FOR
TIME USE RESEARCH

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OXFORD

MULTINATIONAL TIME USE STUDY

USER'S GUIDE AND DOCUMENTATION

Version 9

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Important:

This User Guide and Documentation pertains to Release 7 of dataset and replaces Releases 6 (December 2013), 5 (October 2012), 4 (October 2011), 3 (March 2009), 2 (May2005) and 1 (March 2003). Errors have been corrected, new surveys have been added, and the old files have been reformatted.

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Table of contents

CENTRE FOR
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Disclaimer

Although we aimed at the highest level of accuracy when preparing this document, errors are possible. Users of the MTUS dataset do so at their own risk. Note also that the User's Guide and individual survey documentation thoroughly document the recoding of the harmonised variables for the Release 6 version of the harmonised episode, aggregate and core files. In addition to adding new data, the MTUS team undertake periodic reviews and upgrades of all surveys included in this dataset.

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INTRODUCTION

This *User's Guide and Documentation* is the companion document to the MTUS dataset. Information on other time use surveys not included in the harmonised dataset are included on the Centre for Time Use Research web site. This User Guide is publicly available. Access to the data is however restricted and requires authorization. This User Guide and Documentation pertains to Release 6 of the Harmonised Episode, Aggregate and Simply datasets, and replaces Release 5 (October 2012).

The User's Guide describes the structure of the MTUS dataset and discusses issues of comparability across surveys.

The current version of this User's Guide covers the following surveys:

- Australia 1974, 1987, 1992, 1997, 2006
- Austria 1992
- Canada 1971-72, 1981, 1986, 1992, 1998
- Denmark 1964, 1987, 2001
- Finland 1979, 1987/88, 1999
- France 1966, 1974, 1985, 1998, 2009-10
- Germany 1965, 1991-92, 2001
- Israel 1991-92
- Italy 1979, 1989, 2003
- The Netherlands 1975, 1980, 1985, 1990, 1995, 2000, 2005
- Norway 1971, 1981, 1990/91, 2000
- Republic of Korea 2009
- Slovenia 1965, 2000
- Spain (national) 2002-03, 2009-10, Basque Country in Spain 1992-93, 1997-98, 2002-03, 2008-09
- South Africa 2000
- Sweden 1990/91, 2000
- UK 1961, 1974-75, 1983, 1987, 1995, 2000-01, 2005
- USA 1965-66, 1975-76, 1985, 1992-94, 1994-95, 1998-01, 2003-12

This User's Guide describes the surveys and the various harmonised variables. It also discusses the weighting of time use survey as well as the methods of analysis of time use data. **Survey-specific information regarding the coding of harmonised variables appear separately in**

the README documents and transformation files for each individual survey. These are available by clicking on the year of the surveys in the row for each country included in the on-line documentation.

The MTUS team also has produced a separate *Coding Procedure Document* which covers the information in this document of greatest use to people harmonising the MTUS files, as well as supplementary information relating to the conversion process. This document is available on-line.

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CHAPTER 1: OVERVIEW OF THE MTUS

1.1 Introduction

The origins of the Multinational Time Use Study (MTUS) go back to the 1970s following an initiative of Professor Jonathan Gershuny. The idea was to create a cross-nationally harmonised set of time use surveys composed of comparably recoded variables. A detailed discussion of the historical development of the MTUS appears in Chapter 2.

The MTUS archive, located at the Centre for Time Use Research in the Department of Sociology at the University of Oxford includes:

- **Original files and documentation**: Episode and aggregate files, not generally available for distribution except be arrangement with the data provider. In some cases, CTUR only holds an interim version of the original data or only the MTUS version of the data.
- **Harmonised core file (HCF)**: A harmonised aggregate file with all surveys from all countries except those surveys collected by the Australian Bureau of Statistics, Statistics Finland and Statistics Sweden. In this file, each row represents a 24-hour observation (diary). This file covers summary time in a simplified range of 25 time use activity categories. This dataset draws first from surveys harmonised to the current MTUS standards. We also have replaced data that was available only in the older versions of the MTUS, though surveys that have yet to be upgraded from the old to the new version of the MTUS have less complete information in this format. Full details of the conversion process are explained in the MTUS coding procedures document. Appendix 3 details variable coding issues related to files yet to be upgraded from older versions.
- **Harmonised aggregate files (HAF)**: Two harmonised aggregate files (one for adult diarists aged 18+ and a separate file for diarists aged less than 18) for a smaller sub-set of the surveys. Like the core file, these files cover summary time in a wider range of 69 activity categories, total time with a spouse or partner for diarists in couples, and a wider range of survey, household and person-level variables. Each row represents a 24-hour diary.
- **Harmonised episode file (HEF)**: Two harmonised episode files (one for adult diarists aged 18+ and a separate file for diarists aged less

than 18) for the smaller subset of the surveys included in the Harmonised aggregate files. These files include identifier variables, sex, age, and diary details: main activity, coded in the 69 category frame and an older 41 category code frame; secondary activity in the 69 category frame, location, mode of transport whether diarists used the internet or computers during the episode, and who else was present. In these files, rows represent a change in any element of the diary report.

- **Restricted files** for Australia, Finland and Sweden, are released separately and **require additional permission to access.**
- **Supplementary files** with region and ethnicity variables for a small selection of the surveys, additional variables for the UK, and special documentation for using the diaries from children, as well as a special collection of surveys from the USA (the American Heritage Time Use Study – AHTUS) also are available on the MTUS and CTUR websites.

Three variables have only harmonised column names, but original survey categories: EDUCA, INCORIG and EMPINCLM. The labels for the categories for each individual survey are included in the readme files for each survey. These variables enable users to construct their own customised variables. **NOTE THAT EDUCA, INCORIG and EMPINCLM ARE NOT SUITED TO CROSS-NATIONAL ANALYSIS UNTIL AFTER THE USER MAKES TRANSFORMATIONS REQUIRED FOR EACH ANALYTIC PURPOSE.**

We split the megafiles into child and adult files for two reasons. First, the age of the youngest diarists vary highly across the surveys. Also, as children's time use differs markedly from the activities of adults, excluding children from the main file increases the harmonisation of the adult files. Additionally, there are a number of surveys that only sampled young people. We hope in the future to include some of these surveys in the child files.

1.2 Format and structure of the datasets

The harmonised surveys are saved in **SPSS**, **STATA**, and **Flat text** formats. People who download the flat text files can access the variable and value labels in both English (Appendix 1) and Spanish (Appendix 2).

In most descriptive analyses, MTUS Users are encouraged to use all cases and disregard the fact that the total number of cases (diaries) correspond to a smaller number of respondents for some surveys. However, when carrying out analyses based on inferential statistics, MTUS users should be aware of the non-

independence of cases and should use appropriate statistical techniques for those surveys which collected multiple diaries from the same respondent.

The MTUS only includes cases where participants completed diaries. MTUS weights also permit users to analyse only good quality diary cases. Some original surveys also include information on partial participants and non-respondents, but to access this information, users would need to match back to original data. MTUS identifiers can readily be renamed to original survey identifiers to facilitate such matching.

The MTUS team has undertaken substantial data preparation and cleaning work, and produced added value variables not available in original surveys.

The time use diary is a narrative account and not a series of quantitative questionnaire answers. People can give a full account of their day without necessarily completing all columns of the diary for all potential time slots. For example, when offered a main activity and a mode of transport column, some diarists opt to make a time-saving minimal entry of writing “drove car” or “train” in the mode of transport column while not recording anything in the main activity column when their activity is transport. We consider entries across the whole diary to define the main activity, not just the information recorded in the main activity column.

We use full diary reports to add detail to some incomplete reports in three specific instances. In cases where the main activity is missing at the beginning or end of the diary day, where the diarist records being at home or at another person’s home, where the subsequent activities after the initial gap at the beginning or the preceding activities before the final gap at the end of the diary day are the sorts of activities which typically follow or precede sleep (have a drink, low-activity leisure like watch TV or read, dress/undress, personal care) we presume the missing activity to be sleep. (We make this assumption both on account of the pattern of activity and as time-diary surveys tend to start the observation window as a point of the day when most people in the population are asleep). Second, in circumstances of a missing period of 25 or fewer minutes that precedes leaving home to travel somewhere else or following returning home after travel from activities away from home, we assume the missing activity to include a combination of personal and household care. The documentation specific to each survey (conversion files) includes information on the number of cases amended by these procedures. Finally, where the diarist gives location information indicating that they are not at home but records no activity, we mark the case with the category unknown activity away from home on the newer 69 category activity code frame (though these cases are treated as missing time on the older 41 category activity list).

The MTUS team does not alter participant reports. Where an activity seems unusual, such as walking at home (which may occur on a treadmill), or food preparation while travelling (which a passenger might undertake in limited circumstances), we do not overwrite and change priority of the original account. We also **do not impute** data based on estimations from what similar people do on similar days. All adjustments to diaries work from information that the participant supplies.

After this data preparation work, we define any diary to be low quality, when:

- continues to have 91 or more minutes of missing time,
- it has fewer than 7 episodes,
- it is missing two or more of four basic activities, or
- it was filled in by a diarist whose age or sex is not known.

We define the four basic activities as those necessary for basic functioning on a day-to-day basis:

1) eating or drinking (measured by time in these activities, or time recorded working with food (set or clear table, food preparation, cooking and the like), or the diarist being in a location where they are likely to be around food and drink, that is attending a feast or being at a pub or in a restaurant);
2) sleep or rest (including do nothing, think, time out, or take a work break)
3) personal care (including assumed self care preceding or following travel and receiving personal services, such as at hair dresser or doctor)
4) exercise and/or travel (including leisure excursions, gardening, walk dogs, imputed travel where no activity is recorded but the diarist records a change of location or records a mode of transport).

Diaries with large volumes of missing time do not account for enough of the day to allow imputation of what is likely to have taken place in the missing periods.

Very low episode diaries and diaries missing basic activities do not give complete accounts of the day, and both lead to over-estimates of the activities the diarist did record and under-estimates of the activities the diarist did not record. Age and sex are two variables highly associated with specific time use patterns, and these variables are required for the creation of the recommended weight.

We make **five exceptions in relation to these quality rules**.

- Diarists may not record any travel when their travel episodes are very short, but may record a pattern in the diary that lets us know that they did travel and where in the day the travel took place. In such diaries, you will find patterns of continuous reports of activity, and a change of

location (such as eating breakfast at home then doing paid work at the office) with no report of travel in between the change of location. We handle these cases by making a flag variable for unreported travel present (0=no such missed travel, 1=missed travel). If the diary includes 2 of the 4 basic activities, one of the 2 missing activities is exercise or travel and the diary is flagged as including missing travel, then we count this diary as a good diary. We do not alter the diary record in such cases, and users of the MTUS would have to make their own adjustments to the entries made by the diarists if they wish to account for such travel.

- Diarists may not record any personal care when their episodes of personal care are short. In such diaries, you will find patterns of continuous reports of activity, and transitions where personal care is highly likely to have occurred (sleep for 2+ hours at home followed by other activities with no care, eating meals at home where the meal consumption lasts at least 10 minutes followed by other activities with no record of personal care). If such patterns are present, we make a flag variable for unreported personal care (0=no, 1=yes). If the diary is missing 2 basic activities, and one of these missing activities is personal care and we can flag this diary as having unreported personal care patterns, then we count this diary as a good diary. We do not alter the diary record in such cases, and users of the MTUS would have to make their own adjustments to the entries made by the diarists if they wish to account for such personal care.
- Diaries of carers (either the variable “carer” flagging cases of people who look after an adult needing assistance =1 for yes, or the diary includes any time in any form of adult or childcare) who otherwise meet the other 4 good diary criteria count as good diaries.
- Diaries including only 2 of the basic activities but that have at least 12 episodes where the diarist reports being at home all day (defined as no travel but eloc=1 – own home, or eloc=2 – other’s home for at least 1000 minutes), but otherwise meet the other 4 good diary criteria count as good diaries.
- Other diaries including only 2 of the basic activities and 15 or more episodes count as good diaries.

Some original surveys additionally include row cases for non-respondents who do not complete a diary. Nevertheless, most of the surveys do not include specific information on non-respondents in the data files. The MTUS format provides a suitable platform to analyse good-quality diaries as well as low-quality diaries, but users would need to take greater account of original survey information to investigate people who do not respond at all. When original

surveys include case rows for non-diarists (people with 24 hours of no reported activity), we delete the non-diary cases.

1.3 Surveys included

The following table lists all the surveys included in MTUS, as well as the surveys that we hope to include in coming years. Users should note that data included only in the harmonised corle file that are drawn from an old version of the MTUS but which have not yet been upgraded are not converted to the same standard as the rest of the MTUS and do not contain the same detail of information.

Table 1.1 – List of surveys included and versions available

Country	**Surveys and years**	**Versions available** **HEF - Harmonised episode file** **HAF - Harmonised aggregate file** **HCF - Harmonised core file**		
Australia	1974	HCF	HAF	HEF
	1987	HCF - drawn from old version		
	1992	HCF - drawn from old version		
	1997	HCF	HAF	HEF
	2006	HCF	HAF	HEF
Austria	1992	HCF	HAF	HEF
	2008-09	Hope to include in future		
Belgium	1965	Hope to include in future		
	1999	Hope to include in future		
Bulgaria	1965	Hope to include in future		
	1988	Hope to include in future		
	2001-02	Hope to include in future		
Canada	1971	HCF - drawn from old version		
	1981	HCF - drawn from old version		
	1986	HCF - drawn from old version		
	1992	HCF - drawn from old version		
	1998	HCF - drawn from old version		
	2005	Hope to include in future		
	2010	Hope to include in future		
Denmark	1964	HCF - drawn from old version		
	1975	Hope to include in future		
	1987	HCF - drawn from old version		
	2001	HCF		
	2008-09	Hope to include in future		
Estonia	1999-00	Hope to include in future		
Finland	1979	HCF	HAF	HEF
	1987-88	HCF - drawn from old version		

	1999-00	HCF - drawn from old version		
	2009-10	Hope to include in future		
France	1966	HCF - drawn from old version		
	1974-75	HCF - drawn from old version		
	1985-86	Hope to include in future		
	1998-99	HCF	HAF	HEF
	2009-10	Hope to include in future		
Germany	1965	HCF - drawn from old version		
	1991-92	HCF	HAF	HEF
	2001-02	HCF		
Hungary	1965	HCF - drawn from old version		
	1976-77	HCF - drawn from old version		
	1986-87	Hope to include in future		
	1999-00	Hope to include in future		
India	1998-99	Hope to include in future		
Ireland	2007-08	Hope to include in future		
Israel	1991-92	HCF	HAF	HEF
Italy	1979-80	HCF - drawn from old version		
	1989	HCF	HAF	HEF
	2002-03	HCF - drawn from old version		
Japan	1976	Hope to include in future		
	1981	Hope to include in future		
	1986	Hope to include in future		
	1991	Hope to include in future		
	1996	Hope to include in future		
	2001	Hope to include in future		
	2006	Hope to include in future		
Netherlands	1975	HCF	HAF	HEF
	1980	HCF	HAF	HEF
	1985	HCF	HAF	HEF
	1990	HCF	HAF	HEF
	1994	HCF	HAF	HEF
	2000	HCF	HAF	HEF
	2005	HCF	HAF	HEF
Norway	1971	HCF - drawn from old version		
	1981	HCF - drawn from old version		
	1990	HCF - drawn from old version		
	2000	HCF - drawn from old version		
Poland	1965	Hope to include in future		
	1975-76	Hope to include in future		
	1984	Hope to include in future		
	2001	Hope to include in future		

Portugal	1999	Hope to include in future		
Republic of Korea	1999	Hope to include in future		
	2004	Hope to include in future		
	2009	HCF		
Romania	2001	Hope to include in future		
Slovak Republic/ Czechoslovakia	1965	Hope to include in future		
	2006	Hope to include in future		
Slovenia / Yugoslavia	1965	HCF - drawn from old version		
	2000	HCF - drawn from old version		
South Africa	2000	HCF	HAF	HEF
	2010	Hope to include in future		
Spain	1992-93 (Basque)	HCF	HAF	HEF
	1997-98 (Basque)	HCF	HAF	HEF
	2002-03 (national)	HCF	HAF	HEF
	2002-03 (Basque)	HCF	HAF	HEF
	2008-09 (Basque)	HCF	HAF	HEF
	2009-10 (national)	HCF	HAF	HEF
Sweden	1991	HCF - drawn from old version		
	2000	HCF - drawn from old version		
	2010	Hope to include in future		
Turkey	2006	Hope to include in future		
United Kingdom	1961	HCF - drawn from old version		
	1974-75	HCF	HAF	HEF
	1983-84	HCF	HAF	HEF
	1987	HCF	HAF	HEF
	1995	HCF	HAF	HEF
	2000-01	HCF	HAF	HEF
	2005	HCF	HAF	HEF
USA	1965-66	HCF	HAF	HEF
	1975-76	HCF	HAF	HEF
	1985	HCF	HAF	HEF
	1992-94	HCF	HAF	HEF
	1994-95	HCF	HAF	HEF
	1998-2001	HCF	HAF	HEF
	2003-12	HCF	HAF	HEF
Totals: 23 countries	Total surveys*	HCF: **65***	HAF: **35^**	HEF:**35^**

* 74 surveys in total if one counts each of the American Time Use Survey years separately

^ 44 surveys in total if one counts each of the American Time Use Survey years separately

CENTRE FOR TIME USE RESEARCH

UNIVERSITY OF OXFORD

1.4 Technical information on the surveys

The table below contains key information on the sample size, age of respondents, response rate, etc. for each of the surveys included in the MTUS. These tables summarise the information in the top table of the readme files.

Table 1.2 Technical information on the time use surveys

Country[1]	Year	Age	Sample Size[2]	Survey Period (# months)[3]	Response rate (%)	Diary (# days)	Type of diary	Time interval	Household members[4]
AUS	1974	18+	1,491	7	67% A/W 58% Melb	1	On day	Free	No
	1987	15+	1,011	2	74.2%	2	On day	15min	Yes
	1992	15+	7,045	11	82.9%	2	On day	5 min	Yes
	1997	15+	7,246	8	72.0%	2	On day	5 min	Yes
	2006	15+	13,617	8	82.5%	2	On day	5 min	Yes
OST	1992	10+	25,233	2	47.0%	1	On day	30 min	Yes
	2008/09	10+	6,451	12	79.5%	1	On day	15 min	Yes
CAN	1971	18-64	2,141	8	72.0%	1	On day	Free	Yes
	1981	15+	2,686	3	46.0%	1	On day	Free	No
	1986	15+	9,946	3	78.9%	1	On day	Free	No
	1992	15+	9,815	12	77.0%	1	Recall	Free	No
	1998	15+	10,749	12	77.6%	1	Recall	Free	No
	2005	15+	19,957	12	59.0%	1	Recall	Free	No
	2010	15+	15,390	12	55.2%	1	Recall	Free	No
DEN	1964	15+	4,069	2	80.4%	1	Recall	30/15 min	In limited cases
	1987	16-74	3,584	3	72.7%	1	Recall	15 min	No
	2001	16-74	4,000	4	70.0%	2	On day	10 min	In limited cases
	2008/09	18-74	6,091	12	48.0%	2	On day	10 min	Yes
FIN	1979	10-64	12,038	4	81.0%	2	On day	10 min	No
	1987/88	15+	7,758	12	74.0%	2	On day	10 min	No
	1999/00	10+	10,561	12	52.0%	2	On day	10 min	Yes
	2009/10	10+		12		2	On day	10 min	Yes
FRA	1966	18-65	2,805	2	90.0%	1	On day	Free	Yes
	1974/75	18+	6,641	12	66.4%	1	On day	5 min	Yes
	1985/86	15+	16,047	12	66.9%	1	On day	5 min	Yes
	1998/99	15+	15,441	12	88.3%	1	On day	10 min	Yes
	2009/10	11+	27,903	15	88.3%	1 of 2	On day	10 min	1 + spouse
GER	1965	18-65	2,478	4	W73% E88%	1	On day	Free	Yes in West, no in East
	1991/2	12+	7,200	4	Quota	2	On day	5 min	Yes
	2001/2	10+	11,919	12	95.5%	3	On day	10 min	Yes
ISR	1991-92	14+	4,843	6	84.9%	1 (more limited cases)	Recall	15 / 30 min	In limited cases
ITA	1988/9	3+	38,110	12	70.0%	1	On day	Free	Yes
	2002/3	3+	55,773	12	91.8%	1	On day	10 min	Yes

CENTRE FOR TIME USE RESEARCH

UNIVERSITY OF OXFORD

Country[1]	Year	Age	Sample Size[2]	Survey Period (# months)[3]	Response rate (%)	Diary (# days)	Type of diary	Time interval	Household members[4]
NET	1975	12+	1,309	1	76.0%	7	On day	15 min	No
	1980	12+	2,730	1	54.0%	7	On day	15 min	No
	1985	12+	3,263	1	54.0%	7	On day	15 min	No
	1990	12+	3,158	1	49.0%	7	On day	15 min	No
	1995	12+	3,227	1	20.0%	7	On day	15 min	No
	2000	11+	1,813	1	25.0%	7	On day	15 min	No
	2005	12+	2,204	1	37.0%	7	On day	15 min	No
NOR	1971/2	16-74	3,040	12	58.0%	2 & 3	On day	15 min	No
	1980/1	16-74	3,307	12	65.0%	2	On day	15 min	No
	1990/1	16-79	3,097	12	64.0%	2	On day	15 min	No
	2000/1	9+	3,211	12	50.0%	2	On day	10 min	Yes
SPA	1992/3 b	16+	5,040	6	73.0%	1	On day	5 min	No
	1997/8 b	16+	5,023	6	Missing	1	On day	5 min	No
	2002/3 b	10+	5,039	6	64.0%	1	On day	5 min	No
	2002/3 n	10+	46,774	12	86.0%	1	On day	10 min	Yes
	2008/9 b	10+	6,746	12	73.5%	1	On day	5 min	No
	2009/10 n	10+	19,295	12	58%	1	On day	10 min	Yes
SLO	2000/1	10+	4,500	12	52.5%	2	On day	10 min	Yes
RSA[5]	2000	10+	14,553	3	94.0%	1	Recall	30/10-15 min	Yes
SWE	1990/1	20-64	3,943	9	75.0%	2	On day	10 min	No
	2000/01	20-99	3,976	12	50%	2	On day	10 min	No
UK[6]	1961	15+	2,363	1	69.8%	7	On day	30 min	Yes
	1974/75	5+	3,583	4	60.0%	7	On day	30 min	Yes
	1983/84	14+	1,525	2	51.0%	7	On day	15 min	Yes
	1987	16+	3,035	1	70.0%	7	On day	15 min	Yes
	1995	16+	1,875	1	93.0%	1	Recall	15 min	No
	2000/1	8+	11,667	15	45.0%	2	On day	10 min	Yes
	2005	16+	4,941	10	59%	1	Recall	10 min	No
USA	1965	18-64	1,243	7	74.0%	1	On day	Free	Yes
	1975/76	18+	2,406	3	72.0%	1	On day	Free	No
	1985	12+	5,358	12	55.2%	1	On day + recall	Free	Yes
	1992/4	0+	9,386	12	63.0%	1	Recall	Free	No
	1994/5	18+	1,199	13	64.6%	1	Recall	Free	No
	1998/1	18+	1,700	12	56.0%	1	Recall	Free	No
	2003-12	15+	136,960	132	52-57%	1	Recall	Free	No

Notes:

1- More countries have carried out time use surveys. A more comprehensive list is available at the CTUR web site.

2- Unless otherwise indicated, the sample size refers to the number of individuals. The actual number of cases is larger in surveys where 2 or 3 diaries were collected.

3- 'Period' refers to different collection periods throughout the year.

4- Indicates whether or not more than 1 household member was included in the survey.

5- The South African diary includes 30 minute intervals. People could nominate multiple activities, and if they nominated more than 1 activity, were asked in the activities were simultaneous or consecutive. The original file codes multiple consecutive activities in 10 as well as 15 minute intervals.

6- The UK 1974-75 survey collected 4 rounds of 1 week diaries. Only the Monday and Tuesday diaries remain for the collection wave that took place in September 1974. The 1983-84 and 1987 surveys are treated as a single survey in the recent versions, though the variable msamp allows the user to distinguish between the two surveys.

1.5 File naming conventions

We have standardised MTUS file names. The name of each file distinguishes:

- The country (2 or 3-letter code) (see table below)
- The first year in which the survey started data collection (4-digit)
- The version of the archive (HEF, HAF, HCF)
- The type of file (extensions 'sav' or 'dta' for data files, and extensions 'sps' or 'do' for programme files)

For example, Release 2 of the HEF version of Spain 2009-2010 is called 'es2009hef.sav', which should be read as:

Country: es (for Spain)
Year: 2009 (the first year in which data collection took place)
Version: hef (harmonised episode file)
Type: sav (an SPSS file)

Country	Code	Country	Code	Country	Code
Albania	AL	Hungary	HU	Poland	PL
Algeria	DZ	India	IN	Portugal	PT
Armenia	AM	Indonesia	ID	Qatar	QA
Australia	AU	Ireland	IE	Republic of Korea	KR
Austria	AT	Israel	IL	Romania	RO
Belgium	BE	Italy	IT	Russian Federation	RU
Bosnia & Herzegovina	BA	Japan	JP	Serbia	RS
Brazil	BR	Laos	LA	Slovenia	SI
Bulgaria	BG	Latvia	LV	South Africa	ZA
Canada	CA	Lithuania	LT	Spain	ES
Chile	CL	Macedonia	MK	Sweden	SE
China	CN	Mauritius	MU	Switzerland	CH
Czechoslovakia	CZ	México	MX	Tanzania	TZ
Denmark	DK	Mongolia	MN	Thailand	TH
Djibouti	DJ	Morocco	MA	Tunisia	TN
Estonia	EE	Netherlands	NL	Turkey	TR
Ethiopia	ET	New Zealand	NZ	United Kingdom	UK
Finland	FI	Norway	NO	United States	US
France	FR	Oman	OM	Uruguay	UY
Germany	DE	Pakistan	PK	Yugoslavia	YU

Ghana	GH	Palestine	PS		
Greece	GR	Peru	PE		

1.6 Missing value conventions

We use three codes to mark missing values, and a separate fourth convention for weights and identifier variables that are not present, as follows:

- "-7" refers to situations for we can create a variable for this survey, but we cannot create the variable for this diarist (or diary) as the respondent was not asked for the information on this diary or because the information is not relevant to that respondent (such as the employment status of a spouse for a person who is single and not living with a co-habiting partner). Although this missing value option potentially applies to all variables, it is mainly used for AGEKIDX, AGEKID2, WORKHRS, EMPSP, PARNTID1, PARNTID2, PARTID and EMPINCLM.
- "-8" refers to situations where we can create the harmonised variable for the study, but no information is recorded for this case (item non-response or insufficient information to create the variable for that case).
- "-9" refers to situations for which the harmonised variable could not be computed for the survey (with exceptions for weights and case identifier variables – although the identifier of spouse or of parents can have a -8 value if this could not be created for a case). Note that we use -9 with the time use activity variables to distinguish true 0s (the diarist did not record any time in this activity, though in theory they could have done so) from cases where no time is recorded in the activity because we could not create this time use category for this survey.

There are cases where an original weight is not present. In these cases, we use "0" rather than a missing value to indicate that this weight is not present in the study (and anyone attempting to use this weight would find they have no cases remaining for analysis from the survey). The conventions for the identifiers are set out in detail below.

Users also should note that we do not use missing values for the aggregated or summary time use variables, unless the category is not available for the whole survey. A value of 0 means that the diarist did not record any minutes in the activity (it is impossible to say for certain if this is because the diarist did not do any of the activity or if the diarist actually did undertake the activity but did not report doing the activity in the diary). If a category is not coded in the survey, then the summary value is set to -9 for the whole survey. Users should take notice of -9 values. If one sums time across a variable that cannot be created for

a survey without first addressing the missing categories, 9 minutes will be subtracted in error for each category that is not present.

There are no system missing cases in MTUS data files. All cases for all variables have either a valid value or a standardised missing value. The MTUS data files contain no declared missing values. MTUS users need to declare missing values if they choose to do so before running their analysis.

1.7 Data preparation

The Harmonised Aggregate Files (HAF) and the Harmonised Core File (HCF) offer **aggregate (summary)** versions of the time-use surveys, where each row case in the dataset reflects a record in one 24-hour time diary. For those studies where respondents completed more than one diary, individual diarists appear on a separate row for each diary they completed. The HAF and HCF include survey, demographic and socioeconomic information about respondents (hereafter called diarists) and their households alongside the aggregated time-use variables.

The Harmonised Episode Files (HEF) cover sequence information. In the HEF, each row case represents one episode, or change of main activity, secondary activity, location, use of computers or the internet, mode of transport, or presence of others, in a diary. Where the diarist completed more than one diary, the episodes of the subsequent diary or diaries follow the episodes of the first diary. As the HEF files are large, only the identifiers, age and sex are included in the HEF alongside the diary information. Users will need to match the HEF with the HAF file to pick up the corresponding background variables.

The process of making the HAF and HEF files takes around three to five weeks of cumbersome work, and can take longer in the case of older time use surveys where information is reported in uneven intervals and more considerable efforts are required to resolve errors in original files. For this reason, only a limited number of surveys will be coded into the HAF and HEF formats. More surveys will be included only in the core HCF format.

Before beginning the actual conversion, users should undertake three steps to ensure maximum data quality.

DATA PREPARATION STEP 1 – Check alternative options for the MTUS background variables to ensure that you are using the option with the cleanest profile compared with other reported results and the least missing data. If there are options and one is better than others, the choice should be documented in the conversion syntax and the Readme file. In some cases, combinations of

original variables are needed to create the MTUS variables. We also triangulate information in files to use any available information to fill gaps, not to impute data, but to make maximum use of the information coded in the file. As an example, a diarist may have no answer recorded for the question of marital status. Nevertheless, a household grid may show that this person is the spouse of another diarist, and this person may report time with this spouse in the diary, and this diarist's diary may match patterns the spouse reports being with this diarist, indicating that the person is in a couple even though the couple variable has a missing value.

DATA PREPARATION STEP 2 – Apparently missing main activity time in diaries is not necessarily missing. The point of the diary is to collect information about what people are doing at any point in time. Diarists sometimes do not fill in the main activity column – creating the appearance of missing data, but fill in other information elsewhere in the diary that nonetheless indicates their activity and allows us to properly code the time period. We should recognise that elements of the diary are not always separate. At points of overlap, diarists can record a comprehensible and clear response in the diary in one place but not in others. For example, an entry “took train to work” is both a location/mode of transport and an activity, and this dual meaning is clear even if the entry is written only once in either the main activity column or the location column. The redundancy of writing the same entry in two places is not necessary for the diary to have a full account of a participant’s activities. We recommend the following steps be undertaken where a main activity is missing before converting the data:

a) Completing a time diary can be an onerous task, and some diarists do not appreciate making redundant entries. Where diaries have a location or mode of transport column and the diarist is travelling, some diarists may write “drive my car to work” or “on the bus” in the mode of transport column and see no point in writing the same entry in the activity column. When main activity is missing but the diarist has recorded a mode of transport during this time period, we recode the missing main activity slot as unspecified travel (main=62).
b) Some diarists get confused while they complete the diary in a hurry, and may record the main activity in the secondary activity column. Another possibility is that a diarist may be undertaking a series of main activities while also doing an extended secondary activity – for instance alternating between care of pets, care of children and housework as main activities while listening to the radio. An item on the radio may be particularly interesting and attract the diarist’s full attention for 10 minutes, but the 10 minutes of main activity radio listening is more efficiently recorded by simply extending the radio listening recorded in the secondary activity column. Where main activity is missing but a valid secondary activity is recorded, we recode the main activity as the reported secondary activity, and recode the secondary activity as no

reported second activity. These are cases where the diarist has reported one valid activity.

c) For short gaps in the early hours at the beginning or end of the diary where the diarist is at home or in the same location where they report sleeping on the diary day and asleep before the gap at the end of the diary, or asleep following the gap at the beginning of the diary, we recode the gap as imputed sleep.

d) If a short gap (<25 minutes) occurs at home just before travel or at home just after travel home, set the missing time to imputed personal and household care

e) If there is other diary information that illuminates the activity in an episode where there is no recorded main activity, this should be used to identify the activity. As some examples, individual surveys in the past have recorded information as the number of cigarettes smoked during the episode, which television station the diarist watched if they watched TV during the episode, which type of material the diarist read if they read during the episode, and the like. Similar to the instance of the diarist recording a mode of transport but not recording a main activity, a diarist might record that they smoked 10 cigarettes in 15 minutes or watched a specific television station for 45 minutes but not record a main activity. Nonetheless, such records do reveal what the diarist was doing, so can be used to complete apparently missing time episodes.

All these changes are making use of information the diarist supplied about their activity, and this procedure eliminates some unnecessary wastage of diaries. All such data cleaning should be fully documented in the conversion programme.

DATA PREPARATION STEP 3 – Check to see if other diary information facilitates the coding of time use activities. Different studies code activities in different ways. Sometimes researchers need to use multiple columns from the diary to code a single activity. For instance, some surveys simply code “eating/drinking” in the main activity, and the location variable is needed to distinguish meal breaks at work (Main=5), from eating out in a restaurant (Main=39), from eating meals at home or elsewhere (Main=6). Likewise, location can distinguish paid work at home (Main=8) from paid work away from home (Main=7). Who else is present information sometimes is needed to distinguish childcare from adult care. Some cases arise peculiar to only one dataset. For instance, Denmark 1964 includes an original code for all media use, but also has a separate column where diarists indicated what media they were reading, watching, or listening to, and this second column enables the separate coding of listening to the radio (Main=58) from watching TV (Main=59) to listening to music (Main=57). All combinations of information used to code a category should be included in the documentation.

We engage in a series of quality checks in the post-harmonisation process. These quality checks are detailed in Section 11 (Quality checks) of the MTUS coding procedures document available elsewhere on the MTUS web pages.

1.8 Identifying good-quality diaries

Diaries with large volumes of missing time do not account for enough of the day to allow imputation of what is likely to have taken place in the missing periods. Low episode diaries and diaries missing basic activities do not give complete accounts of the day. Low quality diaries lead to over-estimates of the activities the diarist does record and under-estimates of the activities the diarist did not record. Age, sex and day of the week are highly associated with specific time use patterns, and these variables are required for the creation of the recommended weight. We also classify diaries missing age or sex of the diarist or the day of the week on which the diary was completed as low quality diaries.

For this reason, the MTUS includes the variable BADCASE to distinguish good quality diaries from diaries lacking sufficient standards for analysis. The MTUS team defines any diary which:

- continues to have 91 or more minutes of missing time after data cleaning,
- which has fewer than 7 episodes,
- which is missing two or more of four basic activities - with 5 exceptions (defined below)

The four basic activities necessary for basic day-to-day functioning are:

- eating or drinking (measured by time in these activities, or time recorded working with food (set or clear table, food preparation, cooking and the like), or the diarist being in a location where they are likely to be around food and drink, that is attending a feast or being at a pub or in a restaurant);
- sleep or rest (including do nothing, think, time out, or take a work break)
- personal care (including assumed self care preceding or following travel and receiving personal services, such as at hair dresser or doctor)
- exercise and/or travel (including leisure excursions, gardening, walk dogs, imputed travel where no activity is recorded but the diarist records a change of location or records a mode of transport).

The five exceptions where MTUS does not count a diary as being low quality if the only problematic dimension is missing two or more of four basic domains of activities are as follows:

- Diarists may not record any travel when their travel episodes are very short, but may record a pattern in the diary that lets us know that they did travel and where in the day the travel took place. In such diaries, you will find patterns of continuous reports of activity, and a change of location (such as eating breakfast at home then doing paid work at the office) with no report of travel in between the change of location. We handle these cases by making a flag variable for unreported travel present (0=no such missed travel, 1=missed travel). If the diary includes 2 of the 4 basic activities, one of the 2 missing activities is exercise or travel and the diary is flagged as including missing travel, then we count this diary as a good diary. We do not alter the diary record in such cases, and users of the MTUS would have to make their own adjustments to the entries made by the diarists if they wish to account for such travel.
- Diarists may not record any personal care when their episodes of personal care are short. In such diaries, you will find patterns of continuous reports of activity, and transitions where personal care is highly likely to have occurred (sleep for 2+ hours at home followed by other activities with no care, eating meals at home where the meal consumption lasts at least 10 minutes followed by other activities with no record of personal care). If such patterns are present, we make a flag variable for unreported personal care (0=no, 1=yes). If the diary is missing 2 basic activities, and one of these missing activities is personal care and we can flag this diary as having unreported personal care patterns, then we count this diary as a good diary. We do not alter the diary record in such cases, and users of the MTUS would have to make their own adjustments to the entries made by the diarists if they wish to account for such personal care.
- Diaries of carers (either the variable “carer” flagging cases of people who look after an adult needing assistance =1 for yes, or the diary includes any time in any form of adult or childcare) who otherwise meet the other 4 good diary criteria count as good diaries.
- Diaries including only 2 of the basic activities but that have at least 12 episodes where the diarist reports being at home all day (defined as no travel but eloc=1 – own home, or eloc=2 – other’s home for at least 1000 minutes), but otherwise meet the other 4 good diary criteria count as good diaries.
- Other diaries including only 2 of the basic activities and 15 or more episodes count as good diaries.

- which was filled in by a diarist whose age or sex is not known,
- the day of the week on which the diary was completed is not know

to be low-quality.

Note that only good-quality diaries have positive values in PROPWT. Low-quality diaries should have 0 values on PROPWT.

Some original surveys additionally include row cases for non-respondents who do not complete a diary. Nevertheless, most of the surveys do not include specific information on non-respondents in the data files. The MTUS format provides a suitable platform to analyse good-quality diaries as well as low-quality diaries, but users would need to take greater account of original survey information to investigate people who do not respond at all. Where original surveys include case rows for non-diarists (people with 24 hours of no reported activity), we delete the non-diary cases.

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CHAPTER 2: HISTORICAL DEVELOPMENT OF THE MTUS

Though some early research compared time use in the United States and the then USSR, comparative time use research work began effectively with the first cross-national study funded by the UNESCO in the 1960s and led by the Hungarian Sandor (Alexander) Szalai. This study collected time use surveys in twelve countries. The Szalai project drew both on the expertise in diary design that had emerged in the Soviet Union and Eastern Europe, and on the new data processing capabilities emerging in Western Europe and particularly North America. John Robinson, still (in 2013) actively writing comparative papers on social indicators using time diaries, and then the US Project Director working, in the late-1960s, at the University of Michigan, with the Principle Researcher Philip Stone, was responsible for the computer processing of the comparative survey materials.

The diary designed by Szalai's UNESCO team, with separate recording fields reserved for primary activity, any simultaneous secondary activity, location and co-presence information, was collected as a face-to-face "what did you do yesterday?" interview, and served as the basis for most modern time use studies. Indeed, the fact that this common model was adopted independently by a very wide range of countries for subsequent national studies, is a large part of explanation of the success of the post-fieldwork harmonisation strategy adopted for the MTUS.

The MTUS process has undergone a variety of iterations over the years. This chapter charts that history, and documents variables and guiding ideas that appeared in earlier versions.

2.1 Theoretical origins and the search for data

The ultimate origin of the Multinational Time Use Study is a 1970s study of "post-industrial society". The US sociologist Daniel Bell (1976) advanced the hypothesis that post industrial "service economies" emerge as a result of an extension of the 19th century "Engel's Law" which holds that households, as they get richer, spend ever-larger proportions of their money income on the purchase of services. Gershuny (1978), investigating the empirical basis of this claim using historical changes in (expenditure diary-based) household consumption

estimates, arrived at a fully counter-intuitive result. Though employment in services occupations was increasing, household expenditure on services, when appropriately deflated by specific price indexes, was rapidly declining. Households were substituting the purchase of manufactured goods (and associated infrastructural provisions) for services, and then producing the final services outside the money economy: private cars substituting for transport services , televisions for cinemas, washing machines for laundry services and so on. (The resulting paradox, of growing service employment with declining service consumption, is explained by the growth in the number of "knowledge work" service jobs involved in the increasingly sophisticated manufacturing technology.)

There was, in effect, a "self-servicing" sector of economic activity growing rapidly, and largely unnoticed by policymakers, outside the measured GNP—a phenomenon analogous to the late 19th century finding (by the British economist and social statistician Robert Giffen) that the as-yet un-named service sector of the British economy (catering for what Giffen in 1883 called "incorporeal functions") should be included in the national product (summarised in Gershuny 1978, 2000). But as Giffen also found, statistics for this sort of activity were almost entirely lacking. Hildegarde Kneeland (1929), an early pioneer in this field, strove to fill this gap by systematically collected time diary samples were the only possible source for information on unpaid domestic production.

The cross-national comparative extension of this 1970s research, funded largely by the EU "Forecasting and Assessment of Science and Technology" (FAST) programme, shaped the subsequent structure of the MTUS. In 1978, Gershuny's first attempt was to find UK diary evidence for extra-economic activity led him to the BBC viewer/listener survey 1974/5, the results of which were in the course of publication by the BBC Audience Research Department. He met John Robinson, then on a sabbatical from the University of Michigan, a visitor at the BBC, investigating the comprehensibility of news broadcasts, and together they searched for, and ultimately found, the original diaries from the 1961 BBC national viewer/listener availability survey (which lay abandoned in the basement of the BBC staff club, now the Langham Hotel, in a pile of egg boxes and tea chests). These 2,500 7-day diaries, recoded to correspond to the Szalai activity classification, and combined with the 1974-75 materials, (and a smaller 1970 diary study, itself using a version of the Szalai instrument) conducted by the sociologists Michael Young and Peter Willmott, (1975) provided the first baseline for estimating historical change in time use in the UK.

2.2 Development of the MTUS and parallel cross-national projects

Jonathan Gershuny raised a series of research grants in the mid-1980s (from the UK Economic and Social Research Council, Anglo-German Foundation, German Marshall Fund, and notably the UK-based Joseph Rowntree Memorial Trust) test his original UK service economy findings using European Labour Force Surveys (LSF) and other harmonised cross-national survey materials. The same "self-servicing" or "first world informal economy" finding emerged (Gershuny 1983, Gershuny and Miles 1983). It became clear that there was need for cross-national comparative data on work outside employment to complement the LSF-type data on paid work. No source of large scale time use information had emerged subsequent to the 1960 Szalai materials. Gershuny's post-fieldwork harmonisation of British time use surveys with the Szalai data yielded promising results. The widespread adaptation of the Szalai diary design as model for a variety of independently funded national studies made this process simpler than might otherwise have been the case.

F. Thomas Juster and Frank Stafford collected a longitudinal national time diary study in the United States from 1974 to 1975 which complemented the 1965-66 national study conducted as an extension to the Szalai programme. A pairwise comparison of the US historical sequence (augmented by a subsequent 1985 national study conducted by Robinson) with the UK sequence (also extended to the mid-1980s), formed the basis for the first cross-national comparisons of diary-based evidence of historical changes in time use (initially undertaken in the early 1980s though not published until Gershuny and Robinson 1988). By this time, and under the auspices of the Working Group on Time Use Research of the International Sociological Association (which later evolved into the International Association for Time Use Research), various other countries with historical sequences of time diary studies (Denmark, France, Hungary, Norway, Netherlands) had contributed their materials to the post fieldwork harmonisation effort, and the first publications of multinational comparative time use change estimates were emerging (Gershuny 1986).

The European Foundation for the Improvement of Living and Working Conditions (EFILWC) provided funding for the first official release of the MTUS (then described as the "Multinational Longitudinal Time Use Study"—this predating the current convention that reserves "longitudinal" as a description of studies with repeated measures at the individual respondent level, such as the Panel Study of Income Dynamics or the British Household Panel Study). This consisted of a seven country harmonisation (Gershuny 1990). A summary of this work presented by the EFILWC to Eurostat in 1991 led to a proposal to set in motion a concerted Europe-wide time use data collection exercise, which subsequently

contributed to the creation of the Harmonised European Time Use Surveys (HETUS). The HETUS programme collected a first tranche of input-harmonised national time-diary surveys between 1998 and 2004. Ten participating countries made data widely available for European policy analysis (Eurostat 2005). Fifteen countries later contributed data to the HETUS table generating tool maintained by Statistics Sweden. In total, 26 countries collected at least a pilot time diary survey in the first HETUS round (Fisher et. al. 2013). A similar number ultimately may participate in the second round of the HETUS surveys, which launched in 2009, though some countries which originally participated in the first round of the HETUS did not participate in the second round, while some countries that did not participate in the first round did collect surveys in the second round. Many of these are already, or will be, included in the MTUS.

2.3 Early phases of the MTUS

The 1965 Szalai surveys, which gave inspiration for the original MTUS, only sampled the working-age population (people aged 18-60) from households where at least one member was employed in an industry other than agriculture. The older versions of the MTUS restricted the diaries included to this age range. From the 1999 version, called World 5.1, we changed policy to now include all diaries collected in harmonised surveys (though those surveys originally harmonised into MTUS and not yet upgraded retain this limitation). This change was driven by research seeking to model the time use of young people and older people (Gauthier and Ferstenberg 2002, Bittman et. al. 2004).

As the post-industrial society research motivated the original development of the MTUS, the range of background variables in the early versions was limited. Prior to the W5.52 version which displaced the W5.1 all ages version, MTUS treated all diaries equally, and did not account for multiple diaries by the same person or completed by members of the same households. The W5.52 version, released from early in the 2000s, differs from previous versions by separately identifying diarists and households, by adding more details of the diary day, and by increasing the range of background variables. MTUS began with seven person- and two household-level variables, with the number of person-level variables rising to 12. The W5.52 version increased the number of household-level variables to six, and the number of person-level variables to 20. The W5.52 version introduced the first elements of relationships within households - adding employment status of the spouse and the relationship between the diarist and the household reference person. The more recent W5.53 version included 11 household-level variables, and 25 person-level variables, three of which facilitate mapping diaries between household members (for multiple diarist per household samples) - identifiers of parents, and identifiers of the spouse or partner.

While the MTUS team has developed significant data quality control procedures since 1999, in early versions, limited or no efforts were made to clean data or to account for information included across all domains of the diary. From the early versions through the World 5.52 version, diaries missing 61 or more minutes of main activity time were deleted. Using the diary processing procedures the MTUS now follows, some diaries that would have been deleted in the past now are counted as good quality diaries. MTUS processing and analysis techniques now are more sophisticated and account for other considerations in addition to reported time, and some diaries originally included as good quality diaries now are classified as low quality diaries not suitable for more analysis. In addition to refining the classification of diary quality, MTUS now include all collected diaries, though we 0-weight the low-quality diaries. Nevertheless, MTUS does continue to exclude row cases of non-participants where these are included in the original data.

Some activities have changed (distinct reading by medium purchased has changed as people have more platforms one which they can read a greater variety of material, making the delivery of the text read less significant), and some new activities (use of the internet) have arisen since the initial development of the MTUS. MTUS data also now are used for a much wider range of research purposes that the early motivations. The early activity category lists no longer meet many research needs. The W5.8 version, introduced from 2007, added a more detailed and updated range of activity categories. At the same time, MTUS developed the W6 files offering episode level data and activity context data.

As the numbering system makes sense only to people who know the history of the MTUS, the current version has changed to using descriptive file names without the numbers.

2.4 Variables from older versions no longer in use

The MTUS has evolved with time. In addition to adding a number of variables, we also have dropped some variables available in earlier versions. We detail the changes and the variables no longer in use here for those users who have read research using older versions of the MTUS of who themselves have used previous versions of the files.

- COUNTRY: (ancient versions): Country where survey conducted
- COUNTRYA: Country where survey was conducted
- PERIOD: Time survey period

- ID: Case Identifier
- BADCASE: Marker of low quality cases
- AGE1/2: Age
- AGEGR5Y: Five-year age groups
- AGEKID: Age of the youngest child in household
- CPHOME
- EMPSTAT2/3
- OCCUP
- TOTTIME
- OPOPWT
- ODAYWT
- POPWT2
- DAYWT2
- 22-category activity typology

COUNTRY: (ancient versions of MTUS, numeric variable) Country where study conducted

This is the old variable that records the country where the survey was carried out. In this old variable, countries were given the next number as they were added to the MTUS. This variable remains solely for those users who may still have code for analysis of older versions of the MTUS.

Value	Label	Value	Label
1	Canada	**18**	Italy
2	Denmark	**19**	Australia
3	France	**20**	Israel
4	Netherlands	**21**	Sweden
5	Norway	**22**	Germany
6	UK	**23**	Austria
7	USA	**24**	South Africa
8	Hungary	**25**	Spain
9	Japan	**26**	Estonia
10	Poland	**27**	Brazil
11	Belgium	**28**	Ireland
12	Bulgaria	**29**	Korea (South)
13	Czechoslovakia	**30**	Mexico
14	India	**31**	New Zealand
15	Peru	**32**	Portugal
16	Russia	**33**	Romania
17	Finland	**34**	Slovenia

CENTRE FOR TIME USE RESEARCH

UNIVERSITY OF OXFORD

COUNTRYA: (numeric variable) Country where study conducted[1]

This variable recorded the country where the survey was carried out. We replaced these MTUS specific codes that had to be renumbered as new surveys were added with international standard harmonised letter codes.

Value	Label	Value	Label
1	Armenia	**20**	Latvia
2	Australia	**21**	Lithuania
3	Austria	**22**	Netherlands
4	Belgium	**23**	New Zealand
5	Brazil	**24**	Norway
6	Bulgaria	**25**	Pakistan
7	Canada	**26**	Poland
8	China	**27**	Portugal
9	Denmark	**28**	Republic of Korea
10	Estonia	**29**	Romania
11	Finland	**30**	Serbia / Yugoslavia
12	France	**31**	Slovak Republic/Czechoslovakia
13	Germany	**32**	Slovenia/Yugoslavia
14	Hungary	**33**	South Africa
15	India	**34**	Spain
16	Ireland	**35**	Sweden
17	Israel	**36**	Turkey
18	Italy	**37**	United Kingdom
19	Japan	**38**	USA

PERIOD: Survey time period

[1] En español: countrya 'País o region de la encuesta'.
val lab countrya
1 Armenia; 2 Australia; 3 Austria; 4 Bélgica; 5 Brasil; 6 Bulgaria; 7 Canadá; 8 China; 9 Dinamarca; 10 Estonia; 11 Finlandia; 12 Francia; 13 Alemania; 14 Hungría; 15 India; 16 Irlanda; 17 Israel; 18 Italia; 19 Japón; 20 Letonia; 21 Lituania; 22 Holanda; 23 Nueva Zelanda; 24 Noruega; 25 Paquistan; 26 Polonia; 27 Portugal; 28 República de Corea; 29 Rumania; 30 'Serbia / Yugoslavia'; 31 'Republica Eslovaca / Checoslovaquia'; 32 'Eslovenia / Yugoslavia'; 33 Sudáfrica; 34 España; 35 Suecia; 36 Turquía; 37 Reino Unido; 38 Estados Unidos de América.

This variable records the period during which the survey was carried out. The values range from 1961-69 (value '1') to 2000-04 (value '7'). Precise information on when the survey was carried out is recorded in the variable 'Survey'.

Note that the length of each period is not equal. Cut-off points were chosen to maximise the number of countries in each period and to ensure that there was only 1 survey per period for any specific country. In cases for which multiple surveys were available for a country during a specific period, only one of these surveys has been included in the MTUS dataset.

Value	Label
1	1961 – 1969
2	1970 – 1975
3	1976 – 1984
4	1985 – 1989
5	1990 – 1994
6	1995 – 1999
7	2000 – 2004
8	2005 – 2009
9	2010 – 2014

ID: Diary identifier

In the oldest version of the MTUS, this variable served as a case id within each survey. No regard was given to multiple diaries per person or multiple diaries per household. Rather, this variable ranged in value from 1 to the highest number of diaries in the survey. This decision was recognised as a mistake, and in most versions of the MTUS, this variable distinguishes diaries, and taken alongside persid, hldid, msamp, swave, survey, and country, uniquely identifies cases.

BADCASE: Marker of low quality cases

This variable identified individual reasons for not weighting diary cases as lacking sufficient quality for analysis. The main domains for not weighting a diary included missing key basic demographic variables (age and sex); day of the week the diary reflects; missing 91 or more minutes of main activity time; containing only 1 to 6 episodes (changes in any domain of the time diary as originally reported by the diarists); and missing 2 of four basic domains (with exceptions made for high episode diaries and diaries from carers who otherwise met all other quality criteria).

Value	Label
0	good case
1	missing age or sex only
2	missing day of the week only
3	missing 91+ minutes in diary only
4	(1 to 6) <7 episodes only
5	missing 2+ basic activities only
6	missing age or sex & the day of week
7	missing age or sex & 91+ diary minutes
8	missing age or sex & <7 episodes
9	missing age or sex & 2+ basic activites
10	missing the day of the week & 91+ diary minutes
11	missing the day of the week & <7 episodes
12	missing the day of the week & 2+ basic activites
13	missing 91+ diary minutes & <7 episodes
14	missing 91+ diary minutes & 2+ basic activites
15	<7 episodes & 2+ basic activites
16	missing age or sex, the day of the week, & 91+ diary minutes
17	missing age or sex, the day of the week, & <7 episodes
18	missing age or sex, the day of the week, & 2+ basic activites
19	missing age or sex, 91+ diary minutes, & <7 episodes
20	missing age or sex, 91+ diary minutes, & 2+ basic activites
21	missing age or sex, 2+ basic activites, & <7 episodes
22	missing the day of the week, 91+ diary minutes, & <7 episodes
23	missing the day of the week, 91+ diary minutes, & 2+ basic activites
24	missing the day of the week, 2+ basic activites, & <7 episodes
25	missing 91+ diary minutes, 2+ basic activites, & <7 episodes
26	missing age or sex, the day of the week, 91+ diary minutes, & <7 episodes
27	missing age or sex, the day of the week, 91+ diary minutes, & 2+ basic acts
28	missing age or sex, the day of the week, <7 episodes, & 2+ basic activities
29	missing age or sex, 91+ diary minutes, <7 episodes, & 2+ basic activities
30	missing day of the week, 91+ diary minutes, <7 episodes, & 2+ basic acts
31	bad case on all points

AGE1/2: Age

This variable records the age of respondents (up to 3 digits). For surveys in which age was recorded in categories, we recoded age into a continuous variable by assigning the mid-point of each age group (e.g. 17 for age group 15-19). When surveys only included the year of birth of respondents, we computed

AGE by subtracting the year of birth from the year of the survey. This variable was renamed as AGE for clarity from the release of Version 5.53.

AGEGR5Y: Five-year age groups

This variable, derived from AGE2, recorded respondent's age in 5-year bands.

Value	Label
1	0-4
2	5-9
3	10-14
4	15-19
5	20-24
6	25-29
7	30-34
8	35-39
9	40-44
10	45-49
11	50-54
12	55-59
13	60-64
14	65-69
15	70-74
16	75-79
17	80+

AGEKID: Age of youngest child in household

This variable records information on the age of the youngest child in the household. If there are no children under 18 in the household, this variable takes the value -7 (even if the original survey gives a valid value for such cases).

Value	Label
1	Youngest child between 0-4
2	Youngest child between 5-12
3	Youngest child between 13-17

This variable is highly comparable across surveys. However, the cut-off point for the age of the child varies across surveys. Also, in some surveys the data correspond to the diarist's children rather than children residing in the diarist's household. This variable has been upgraded to AGEKIDX which now includes a category for a child aged 18 or older in the household.

CPHOME: Unmarried child living in parental home[2]

This variable indicates whether or not diarists who are not married or cohabiting live with their parents, regardless of the diarists' age. Note that diarists who are the child of another household member who also are married can be indentified using PARNTID1 and PARNTID2.

Value	Label
0	Not a child in parental home
1	Child in parental home

We abandoned this variable as no users worked with this variable, and the effort to create it seemed unjustified with our scarce resources. Where multiple household members completed diaries, parntid1/2 map diaries of children and parents together, and FAMSTAT=4 still marks children aged <18 living with parents or guardians.

EMPSTAT2/3: Employment status

This variable has been updated and modified slightly over various incarnations of the of MTUS. The first version, called simply EMPSTAT, had three categories, 1=Full-time employed, 2=Part-time employed, and 3=no employed. Diarists who said that they were in the military but for whom no hours of work were reported were coded as '3' (other, not employed).

We recognised this as a mistake and from version 5.51, changed category 3 to "employed, hours unknown" and coded people not employed as 4. With this change, diarists who reported serving in armed forces or otherwise being employed but whose weekly hours of work were unknown were coded as the new category 3. This recoding affected few surveys and very few cases, but to note the change, the variable was renamed EMPSTAT2.

[2] En español

```
var lab cphome Hijo no casado en casa de padres.
val lab cphome
     0 No
     1 Sí
    -7 "no aplica/no se preguntó"
    -8 no encontrado
    -9 no se pudo crear.
```

With the release of Version 5.52, we further amended the coding of this variable. In previous incarnations of the MTUS, people reporting working 30 or more hours per week were coded as working full-time. From the release of version 5.52, preference was given to self-declared full-time or part-time status. Additionally, diarists who said that they were employed but did not declare their full-time or part-time status and whose hours of work are not reported are coded as '3' (working, hours unknown) rather than missing, as had been the case in earlier versions. The variable was renamed to EMPSTAT3.

No further changes were added when the variable was renamed to EMPSTAT from the release of version 5.53 – but we felt that the variable name EMPSTAT was more clear than EMPSTAT3 – which creates the expectation that two other variables also are available in the same file. Also, few people used the MTUS in the old SPSS versions when the original variable also had this name, and we felt that the length of time which has passed justified the return to the original name with minimal chance that users might be inconvenienced.

OCCUP: Occupation[3]

This variable details the diarist's occupation. If the diarist is not presently employed, but there is information on the diarist's most recent occupation, use this information to code occupation.

[3] En español -

```
var lab occupo Ocupación.
val lab occup
     1 administración
     2 'profesional de finanzas/legal'
     3 'profesional ciencias/ingeniería'
     4 'profesional civil/servicio social'
     5 profesional de educacion
     6 profesional medico
     7 otro professional
     8 'soporte de salud/educación/social'
     9 'soporte de oficina'
    10 'fuerzas armadas o de seguridad'
    11 'ventas/servicios/soporte de arte/limpieza'
    12 granja, forestal, pesca
    13 'construcción, ensamblaje/reparaciones, transporte'
    14 no professional autoempleado
    -7 "no aplica/no se preguntó"
    -8 no encontrado
    -9 no se pudo crear.
```

Value	Label
1	Management (senior management, not supervisors) Code lower-level managers and self-employed professionals or small firm owners in the other codes below, for instance, include SOC codes 1110 and 1999
2	Finance and legal professionals For instance SOC codes 2411-2424; 3516-3541 or 3544
3	Science and engineering professionals For instance SOC codes 2321 or 2111-2209 or 3111-3119, or 3131 or 3132
4	Civil and social service professionals For instance SOC codes 2431-2443 or 3121-3123 or 3231 or 3232 or 3551-3561 or 3563-4099
5	Education and social science professionals For instance SOC codes 2322 or 2311-2319 or 2451 or 2452
6	Medical professionals For instance SOC codes 2211-2309 or 3210-3229
7	Other professionals For instance SOC codes 2329 or 2444 or 2521-2949 or 3311-3519 or 3542 or 3543 or 3562
8	Health, education, and social care support For instance SOC codes 5501-6209 or 9221
9	Clerical and office support For instance SOC codes 4111-5109 or 9211 or 9219
10	Security and armed forces For instance SOC codes 9241-9249
11	Sales, services, creative support, and cleaning For instance SOC codes 5411-6109 or 6141-8109 or 9222-9239 or 9251 or 9259
12	Farming, forestry, and fishing For instance SOC codes 5111-5209 or 8223 or 9111-9119
13	Construction, assembly & repair, moving goods, transport, extraction For instance SOC codes 5211-5409 or 8111-8222 or 8229-8532 or 9121-9209
14	Self-employed non-professionals

TOTTIME: Total diary minutes per day

This variable was a constant value of 1440 – and was generated during tests that all diaries had been correctly coded. As this variable merely is an interim check and of no research value, we no longer include it.

OPOPWT: Original population weight

Where original surveys included a weight that correct for over- and/or under-sampling and non-response but did not correct for the distribution of the days of the week, we included this weight under this column heading. This weight appeared in versions World 5.0 through World 5.52.

ODAYWT: Original day weight

Some original surveys offered separate weights, one which corrected for the variation between the observed population and the respondents, and another for balancing the distribution of the days of the week (but not the sample variation from the observed population). If the original survey included separate weights, we used this name for the day of week distribution weight.

POPWT2: Post-hoc sex-age weight

Where original surveys did not include a weight that corrected for the distribution of age and sex groups in the population, we calculated such a weight on the basis of the age/sex group distribution in that country reported in an international organisation text, such as the International Labour Organization (ILO) Year Book. This weight appeared in versions World 5.0 through World 5.52.

DAYWT2: post-hoc day weight

Where original surveys did not include a weight that corrected for the distribution of the days of the week, we constructed this weight. This weight appeared in versions World 5.0 through World 5.52.

General note on older weights

All the weights in earlier versions of the Multinational Time Use Study were post-hoc types, that is, weights that were computed by the MTUS team as opposed to 'original' weights computed by the statistical agencies in charge of administering each survey. These post-hoc weights were age-sex-employment specific. They were computed based on official data published in the ILO's *Year Book of Labour Statistics.* From Version 5.0 through 5.52, the original survey weights were included wherever possible, and ad hoc weights only constructed when original weights were not calculated.

SEXEMPWT: Sex, age, employment weight (not account for day)

This weight balanced the demographic distributions in accordance with ILO data. This older weight made use of employment data as well as sex and age, though has been superseded. Partly, in older and younger age categories in some datasets, too few people were employed to allow for meaningful weights to be based (in the earliest versions of the MTUS were employment status also was used, the MTUS sample also was restricted to people aged 20-60 – the working age population). Also, in the majority of more recent surveys, weights provided

with the original data account for an even wider range of demographic characteristics.

SURVWT: Weight to get 2000 per survey (not account for day of week)

This weight generally reduced the apparent size of the survey, though in a limited number of cases inflated the size of the survey to place all surveys on a comparable sample size. More recent surveys tend to have significantly larger samples, and better options are available in statistical software than were available in the mid-1980s, and we no longer make this restriction.

COUNWT: Weight to get 2000 cases per country (not account for day)

This weight created an artificial balance between the countries. When the MTUS covered a smaller scope and time period, this weight served some limited research purposes of the original creators. As more countries, some of which have many surveys over decades and some of which have only one survey, this weight no longer makes the same sense, so no longer is created.

DAYWT: Weight to balance the distribution of the days of the week

This weight balances the distribution of the days of the week for the survey.

SEDWT: Sex, and age weight from ILO data (not account for day of week)

This weight balanced the demographic distributions of sex and age only in accordance with ILO data.

SEDWT2: Sex, age, employment, and day weight

SEXEMPWT * DAYWT generates this weight. This weight is the weight most often used in the analysis of the earlier versions of the MTUS.

SEDWT3: Sex, age, employment, day and survey balance weight

SEXEMPWT * DAYWT * SURVWT generates this weight.

SEDWT4: Sex, age, employment, day, survey, and country balance weight

SEXEMPWT * DAYWT * SURVWT * COUNWT generates this weight.

22-category activity typology

Table 3.1 shows how the 41 activity category code list collapses into 22 categories. Half the categories directly map to one category on the AV41 code list. The SPSS syntax which makes this collapse is available on the user contributions page of the CTUR website.

Table 3.1: Map of the 22-category to 41-category MTUS activity codes

22 codes	MAIN	Notes on changes and similarities
paidetc	AV1 AV2 AV3 AV5	Paid work and education combined
hwork	AV7	Routine housework
cooking	AV6	Food preparation and cooking
eating	AV15	Meals and snacks
kidcare	AV11	Child care
shopping	AV10	Shopping (all sorts)
dtravel	AV12	Domestic related travel
otravel	AV17 AV18	All other non-work travel
perscare	AV13 AV16	Personal care activities
eatout	AV28	Eating out
pubsclubs	AV26 AV27	At pubs or clubs
spectat	AV20 AV22 AV23 AV24 AV25	Spectator
asports	AV19	Active sporting
walking	AV21	Walking
visits	AV29 AV38	Visiting or entertaining friends **Note that we return to this collapsed category in the 69-category typology**
tvrad	AV30 AV31 AV32	Televisions, radio etc.
reading	AV33 AV34 AV35	Reading books, papers or magazines **Note that we return to this collapsed category in the 69-category typology**
chatsets	AV36 AV37	Talking, relaxing
oddjobs	AV8	Non-routine domestic work

	AV9	
hobbies	AV39 AV40	Other at-home leisure
medical	AV14	Medically related personal care
educ	AV4	Education (included in paidetc in the earliest versions of the MTUS)

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CHAPTER 3: ACTIVITY CODES

MTUS is one of a number of efforts developing harmonised activity codes for cross-time and cross-national analysis of people's daily activities and use of time. Alexander Szalai (1972) developed the first such typology of 90 codes, which continued to influence code frames of other time use studies for many subsequent decades. The Szalai project concentrated on the paid and unpaid activities of the working-aged population, and also reflects the leisure and domestic technologies of its time (with concern to distinguish newspaper from book reading, radio listening from listening to records, and hand-written from telephone communication). The United Nations Statistics Division International Classification of Activities for Time-Use Statistics (ICATUS), draws on a similar concern with measuring total paid and unpaid work outputs, with aims to illuminating the total economic contributions of women - particularly in the global South, and the calculation of standard national accounts, and satellite national accounts that measure productive activities outside the paid production boundary. Most applications of the ICATUS in time use surveys reflect international-agency supported efforts to collect data to measure propensity for and actual progress of development in less industrialised countries.

Eurostat has developed the most comprehensive list of harmonised activity codes for the Harmonised European Time Use Surveys (HETUS) project, which includes a four-levels of progressively more detailed codes, which allow for national-level measurements at the fourth and most detailed level. More recently, the United Nations Economic Commission for Europe (2013) led a time use task force, which developed standards for comparable reporting of time use statistics for policy analysis. These guidelines specify a limited set of categories as the minimum set of activity categories required for policy-relevant time use analysis.

The reason the UNECE guidelines offer this short list of minimum required activities is an inherent tension in the field of time use research. Time-diary surveys which collect the more detailed activity and context information offer a vast range of research and policy analysis applications; however, even though per range of policy-relevant uses from the individual survey, time use surveys offer particularly good value for money, detailed time diary surveys nonetheless require substantial time and financial cost inputs to administer. The more detailed the diary, the greater the respondent burden. From the early periods of collection, time diary surveys have spanned a range from those collecting substantial detail of activities and those which collect minimal details to address a specific purpose, and minimise the costs of administering and completing the survey.

Some countries only collect one form of time diary, but in many, diaries of a range of detail have been collected at different points in time.

From the outset, Gershuny encountered the challenge of reconciling the limited and detailed coding frames into a single harmonised activity list. Some of the first surveys he harmonised with the Szalai surveys included a 1961 UK and 1964 Danish survey, both of which included substantially fewer activity categories that the Szalai surveys. To limit research only to the detailed coding frames means accepting a more limited range of countries and of time points within countries, which in turn limits the scope of cross-national analysis. From the outset, Gershuny aspired to include as large a field of surveys as the very limited staff resources his teams could devote to the MTUS project.

The early versions of the MTUS included a 41 activity code list based largely on the Szalai activities, but also including some activities of particular relevance at the time in the UK (going to the pub, going to social clubs). In parallel to the 41 categories Gershuny ideally wished he could create, he also developed a 22 category activity list into which nearly all surveys he harmonised could be directly coded. MTUS no longer uses the 22 category list, though details of this category list are set out in Chapter 2.

Since Kimberly Fisher joined the MTUS team in 1999, the MTUS procedures have refined to work with the narrative properties of time diaries and maximise the activity and context information from the diary as a complete narrative, rather than concentrating on parts in isolation. Fisher's concern for data quality and archiving information not only to preserve historical records of developments in the time use research field but also to inform the improvement of future time use survey collection have both expanded the range of uses to which the MTUS can be applied, but also increased the time required to include any individual survey. In order to add more recent surveys and surveys from more countries, the MTUS project has lacked resources needed to upgrade all older surveys each time improvements are introduced to the dataset. As a result, the MTUS expands through a dual process of backwards upgrading of some surveys already included and the acquisition of new data, though a backlog of older conversions will remain for some time.

To meet the divergent interests of the MTUS project team and users, MTUS now offers a simple, core version of the file, which combines the not yet upgraded surveys, some surveys to which the MTUS team at present lacks resources to convert in detail, and a simplified version of those surveys to which considerable efforts at data cleaning and enhancement to create the episode and detailed aggregate files have been invested. The 25 (plus four) activity categories in the core file directly collapse from the current 69 activity category typology (and also represent the categories possible to create from a larger range of surveys).

3.1 Using MTUS activity codes

We now detail all three MTUS activity category typologies. This user guide should be read in conjunction with the Coding Procedures Document, which offers a detailed breakdown of the components of each of the activity codes, and with the survey-specific README documents for each survey the user wishes to include in research. The README files offer maps of original survey codes into the MTUS codes.

In the summary aggregate and core MTUS files, each row represents a 24-hour time diary. The aggregate file includes variables for the total minutes in each of the 69 categories, and separately in each of the 41 categories. The core file includes variables for the total minutes in each of the 25 categories. The total time spent across the 69, 41 and 25 categories sums to 1440 minutes, the total minutes in a 24-hour day.

Users should note that in the Harmonised Aggregate File (HAF), those summary time use variables which cannot be coded for a particular survey are set to -9 to allow users to distinguish true 0s (that is cases where the diarist did not report any time in the activity) from 0s arising where a survey did not separately collect instances of the activity category. Users will need to exclude the -9 missing cases as missing data before they sum MAIN1 to MAIN69, AV1 to AV41 (otherwise they will produce total time that is less than 1440 for many surveys).

In the Harmonised Core File (HCF), a number greater than 0 means the diarist reported time in that activity. Values of 0 in the time user variables in the core file can either mean that the diarist did not report time in that activity or that this category cannot be created for this survey. Users should look through Appendix 3 and the individual survey documentation when interpreting their results.

The default value for all time use variables that can be created is 0 in the aggregate and the core files. People do not undertake every activity which they regularly perform every day. A 0 value is a meaningful report. The diary reflects just 24 hours of activity of each individual. In drawing large-scale random national samples, time diaries reflect the most common behaviour patterns of different groups across a population. Time use surveys reflect the total amount of unpaid work, voluntary work, exercise, travel, care, cultural participation, and the like that takes place on any given day at different times of the year. Time diaries can be used in conjunction with longer-term participation questions to analyse the behaviour of individuals over longer time periods, and area of significant development in the time use research field (for instance see Gershuny 2012,

UNECE 2013). At this time, the MTUS does not include longer term participation questions. Nevertheless, the MTUS is set up to readily facilitate matching MTUS variables back to original surveys to add additional information. MTUS uses the original identifiers, renamed. The documentation for each survey includes the code to make the MTUS conversion, which users can adapt to add variables to MTUS files.

The person-level and household variables as well as the weights are in the aggregate and core files, as most analysis will occur at the level where each row case is a diary. The episode level file only contains diary information, sex, age and the indentifiers.To map diaries from spouses together, or the diaries from children and their parents together at the episode level (in surveys that collected diaries from more than one person per household), the user will need to map the spouse indentifier (partid) or the parent identifiers (parntid1/2) from the HAF to the HEF file.

The full-diary processing procedures MTUS follows mean that MTUS files map details that might be reported in a number of columns in the time diary in all relevant places in the MTUS codes. Many original surveys do not do this. As a result, the activity reports in the MTUS version of the original surveys may appear to differ from results users might obtain from original surveys. For example, an activity like exercising by riding a bicycle might be recorded as exercise by cycling in the activity code, or just as exercise in the activity code and by bicycle in the location and mode of transport codes. In the MTUS files, this instance would be coded as

activity = exercise by cycling (main=44)
location = travelling (eloc=8)
mode of transport = bicycle (mtrav=4)

The creation of MTUS files also involves a considerable amount of data cleaning and processing, particularly in the case of older surveys, which were produced in the days when the technology for handling large data files was more cumbersome and survey teams tolerated larger volumes of errors and inconsistencies than now is the case. The MTUS team spends up to 5 weeks per survey harmonised into the episode format looking up original information and running algorithms to correct many of the original file errors and inconsistencies (for instance correcting time and episode inconsistencies arising from original data entry people entering time diary pages out of sequence). At the margins, some research results will differ using MTUS versions as opposed to unadjusted original versions of some datasets.

Some research purposes may require a rework of the categories using a different elements of the diary in the episode and aggregate files. If, for instance, a researcher wishes to explore the risk of exposure to insect bites, categories of exposure risk may relate to a combination of time of day, season of the year,

location or activities, and sequencing of events (such as whether the diarist engaged in an activity such as personal care that might have enabled them to mitigate the risk of insect bites if they had brought an insect home on their clothing). Similarly, if the researcher has an interest in physical activity, the mode of transport, the duration of activities, and combinations of activities will inform the possible level of intensity of physically active time. No code frame will ideally suit all research purposes. Users are advised to be very familiar with the coding of activities in order to avoid misinterpretations of results.

3.2 MTUS 69 activity and 25 activity typologies

Table 3.1 summarises the 69 category main activity category list. In the aggregate file, time in each category as a main activity is summed in a separate variable column. In this aggregate file, the variable column MAIN11 contains the total minutes in reported travel as a part of paid work. In the episode file, we use the same 69 categories for both the main activity variable called "main" and the secondary activity. In the variable columns MAIN (69 category main activity) and SEC (secondary activity), the value 11 means that in this episode, the reported activity is time in travel as a part of paid work. These 69 categories constitute an exhaustive activity list.

Table 3.1 also shows the mapping of the 69 categories to the 25 core file categories. The second column of table 3.1 shows the variable name for each of these 25 variables, followed by a number in (). This number reflects the order in which the diaries appear in the data file. These numbers are not used in the MTUS core file. Instead, a variable like sleep contains the total minutes recorded in the activity.

The 25 categories also constitute and exhaustive list. Time summed across the 25 categories totals 1440 minutes.

MTUS does not overwrite any entries made by the diarist. If a diarist reports an activity, such as child care, while travelling with a child (as reflected by a change of location and a mode of transport), MTUS team leave the report as made. In certain circumstances where the diarist has not recorded a main activity, the MTUS team does use other information in the diary to fill in the partial information that the diarists' reports of their days make available. As explained in Section 1.7 of this document and the MTUS Coding Procedures document, codes constructed by the CTUR team using diary information have separate codes (1, 3, 41, and 62). These four codes are assigned using information in the diary, and not using analysis of diaries produced by other people.

Table 3.1: Harmonised activity codes (69 and 25 category typologies)

Activity codes 69	core file variable	Description
1	Selfcare (3)	imputed personal or household care
2	Sleep (1)	sleep and naps
3	Sleep (1)	imputed sleep
4	Selfcare (3)	wash, dress, care for self
5	Eatdrink (2)	meals at work or school
6	Eatdrink (2)	meals or snacks in other places
7	Paidwork (4)	paid work - main job (not at home)
8	Paidwork (4)	paid work at home (main, second or other job)
9	Paidwork (4)	second or other job not at home
10	Paidwork (4)	unpaid work to generate household income
11	Paidwork (4)	travel as a part of work
12	Paidwork (4)	work breaks
13	Paidwork (4)	other time at workplace
14	Paidwork (4)	look for work
15	Educatn (5)	regular schooling, education
16	Educatn (5)	Homework
17	Educatn (5)	leisure course or other education or training
18	Foodprep (6)	food preparation, cooking
19	Foodprep (6)	set table, wash/put away dishes
20	Cleanetc (7)	Cleaning
21	Cleanetc (7)	laundry, ironing, clothing repair
22	Maintain (8)	home/vehicle maintenance/improvement, collect fuel
23	Cleanetc (7)	other domestic work
24	Shopserv (9)	purchase goods
25	Shopserv (9)	consume personal care services
26	Shopserv (9)	consume other services
27	Petcare (11)	pet care (other than walk dog)
28	Pkidcare (13)	physical or medical child care
29	Ikidcare (14)	teach child a skill, help with homework
30	Ikidcare (14)	read to, talk or play with child
31	Pkidcare (13)	supervise, accompany, other child care
32	Eldcare (12)	adult care
33	Volorgwk (16)	voluntary work, civic or organisational activity
34	Religion (15)	worship and religious activity
35	Goout (23)	general out-of-home leisure
36	Goout (23)	attend sporting event
37	Goout (23)	cinema, theatre, opera, concert
38	Goout (23)	other public event, venue
39	Goout (23)	restaurant, café, bar, pub

40	Goout (23)	party, reception, social event, gambling
41	Goout (23)	imputed time away from home
42	Sportex (19)	general sport or exercise
43	Sportex (19)	Walking
44	Sportex (19)	Cycling
45	Goout (23)	other out-of-doors recreation
46	Garden (10)	gardening/forage (pick mushrooms), hunt/fish
47	Petcare (11)	walk dogs
48	Leisure (24)	receive or visit friends
49	Leisure (24)	conversation (in person, phone)
50	Leisure (24)	games (social or solitary), other in-home social
51	Leisure (24)	general indoor leisure
52	Leisure (24)	artistic or musical activity
53	Leisure (24)	written correspondence
54	Leisure (24)	knit, crafts or hobbies
55	Leisure (24)	relax, think, do nothing
56	Read (21)	Read
57	TVradio (20)	listen to music, ipod, CD, audio book
58	TVradio (20)	listen to radio
59	TVradio (20)	watch TV, DVD, including web streamed content
60	Compint (22)	play computer games
61	Compint (22)	send e-mail, surf internet, programming, computing
62	Travel (18)	no activity, recorded travel mode or change of location
63	Commute (17)	travel to or from work
64	Commute (17)	education-related travel
65	Travel (18)	travel for voluntary/civic/religious activity
66	Travel (18)	child/adult care-related travel
67	Travel (18)	travel for shopping, personal or household care
68	Travel (18)	travelling for other purposes
69	Missing (25)	no recorded activity

3.3 MTUS original 41 activity typology

Table 3.2 details the original MTUS activity categories. The 69 activity code list both updates and amends some shortcomings of that original classification. Some of the 41 codes grouped categories where few minutes of time were recorded, but the nature of these activities differs markedly (particularly in paid work time and odd jobs, the latter of which spans adult care, pet care, DIY and

household management). Retaining these categories enable users to directly test some of the early publications using the older versions of the MTUS.

Table 3.2: Original harmonised activity codes (41 category typology)

Activity codes 69 core file variable		Description
1	Paidwork (4)	paid work
2	Paidwork (4)	paid work at home
3	Paidwork (4)	paid work, second job
4	Educatn (5)	school, classes
5	Commute (17)	travel to/from work or education
6	Foodprep (6)	cook, wash up
7	Cleanetc (7)	housework
8	Maintain (8)	odd jobs, including maintenance or home and car, household management, pet care & adult care
9	Garden (10)	gardening
10	Shopserv (9)	Shopping
11	Pkidcare (13)	Childcare
12	Travel (18)	domestic travel
13	Selfcare (3)	dress/personal care
14	Shopserv (9)	consume personal services
15	Eatdrink (2)	meals and snacks
16	Sleep (1)	sleep
17	Travel (18)	free time travel
18	Goout (23)	excursions
19	Sportex (19)	active sports participation
20	Goout (23)	passive sports participation
21	Sportex (19)	walking
22	Religion (15)	religious activities
23	Volorgwk (16)	civic and voluntary activities
24	Goout (23)	cinema or theatre
25	Goout (23)	dances or parties
26	Goout (23)	social clubs
27	Goout (23)	pubs
28	Goout (23)	restaurants
29	Leisure (24)	visit friends at their homes
30	TVradio (20)	listen to radio
31	TVradio (20)	watch television or video
32	TVradio (20)	listen to records, tapes, CDs
33	Educatn (5)	study, homework
34	Read (21)	read books
35	Read (21)	read papers, magazines

36	Leisure (24)	relax, do nothing
37	Leisure (24)	conversation
38	Leisure (24)	entertain friends at home
39	Leisure (24)	knit, sew
40	Leisure (24)	other leisure
41	Missing (25)	unclassified or missing
-	Petcare (11)	not possible to create from original MTUS codes
-	Eldcare (12)	not possible to create from original MTUS codes
-	Ikidcare (14)	not possible to create from original MTUS codes
-	Compint (22)	not possible to create from original MTUS codes

Table 3.3 maps the older 41 categories into the 69 category list, and highlights points at which the two code frames differ. The old and new categories do include some differences, and the more detailed list does not simply collapse back to the older less detailed list. That this is the case is a strength, as there are instances where by mapping the two categories together, users can further break down some code into further details.

Table 3.3: Map of the 41 category to the 69 category MTUS codes

AV	MAIN	Notes on changes and similarities
AV1	**Main5** Main7 Main10 Main12 Main13	eating at work, work breaks, other time at the workplace separated out from paid work. Main7 covers most activity included in AV1
AV2	Main8 Main14	paid work at home separated from job search activities
AV3	Main9	second job – equivalent categories
AV4	**Main5** Main15 Main17	eating at school, and leisure classes separated out from main education. Main14 covers most time that was in AV4
AV5	Main11 Main63 Main64	travel to/from work, travel as a part of paid work, education-related travel separated out from work-related travel
AV6	Main18 Main19	food preparation and cooking separated from setting and clearing table/wash dishes home brewing, wine making moved from leisure to food preparation in new code
AV7	Main20 Main21	cleaning separated from laundry/clothing care
AV8	Main22 Main23 Main27	home/vehicle maintenance, other domestic work, pet care, adult care separated out from old odd jobs category. Also, informal assistance to people outside the household moved to

	Main32	the voluntary activity category (Main33 rather than AV8), and help to another person that involves child or adult care moved from Av8 to the respective child care or adult care code in the Main scheme.
AV9	Main46	gardening – mostly equivalent categories, except that foraging (ie collecting mushrooms) was formerly in walking category – AV21, and hunting & fishing was formerly in AV19 – sport
AV10	Main24 Main26	shopping for goods separated from using services – ie bank, post office
AV11	Main28 Main29 Main30 Main31	physical/medical child care, teach or help with homework, read to and play with child, and supervise or other childcare distinguished. Also note that AV11 only covers child care of household children, childcare as help had been coded in AV8. In the new code, all child care, whether for a household child or as help to someone else is coded in the Main28 to 32 codes
AV12	Main66 Main67	child and adult care-related travel separated from shopping and services travel
AV13	Main1 Main4	imputed personal and household care added to personal care
AV14	Main25	personal services – equivalent category
AV15	Main6	meals & snacks – equivalent categories
AV16	Main2 Main3	recorded sleep and naps, imputed sleep
AV17	*Main62* Main65 Main68	no activity but mode of travel reported, voluntary and civic activity travel distinguished from leisure travel
AV18	Main35 Main38 Main45	general out of home leisure, attending event, other outdoor recreation distinguished
AV19	Main42 Main44	cycling distinguished from other exercise and sport
AV20	Main36	attend sporting event – equivalent code
AV21	Main43 Main47	dog walking (which sometimes was lumped with AV8) separated from other walking
AV22	Main34	religious activities – equivalent categories
AV23	Main33	voluntary/civic/organisational – note a change; the old MTUS coded only formal volunteering for an organisation in AV23, Main33 covers both formal organisational volunteering and informal unpaid assistance to a person outside the household – the informal volunteering had been coded in AV8.
AV24	Main37	cinema, theatre, concert – equivalent activities
AV25 AV26	Main40 Main41	social clubs grouped with dances, receptions, parties; other social and imputed events away from home added that

		previously would have been in missing time
AV27 AV28	Main39	restaurants, bars, pubs combined
AV29 AV38	Main48 Main50	receive and visit friends combined – distinguishable by location code, imputed in-home social code also added to these categories
AV30	Main58	listen to radio – equivalent categories
AV31	Main59	watch TV/DVD – equivalent categories
AV32	Main57	listen to CDs, music – equivalent categories
AV33	Main16	study, homework – equivalent categories
AV34 AV35	Main56	reading books combined with other reading
AV36	Main55	relax – equivalent categories
AV37	Main49	conversation – equivalent categories
AV39 AV40	Main51 Main52 Main53 Main54 Main60 Main61	knitting, sewing combined with crafts and hobbies; but playing games/in home social with family, general indoor leisure, artistic and musical activity; casual writing by hand; computer games, and email/internet/chat room distinguished home brewing, wine making moved from leisure to food preparation in new code
AV41	Main69	missing any account distinguished from missing time where the activity is away from home

3.4 Context and episode variables

Some of the MTUS activity codes imply the presence of others, the use of computers, a mode of transport or a location. The MTUS core and aggregate files include one explicit context variable: SPPART (total minutes spent over the 24 hour diary with the spouse or partner for those diarists who are in a couple). For surveys where who else is present or time with the spouse or partner is not available, we set this variable to -9. If the diarist is not married and does not have a cohabiting partner, we code this variable as -7.

The MTUS episode file includes a wider range of context information as well as the main activity. The use of these other context variables is more complex, and appropriate use depends on the questions researchers ask using the data. For this reason, these variables are offered in the episode file alone. The episode file also includes sex and age, as well as the diary variables and identifier variables. Users should treat this file as a database from which to extract variables to then match back into the aggregate file for analysis. **This section now considers the additional variables which appear only in the episode file.**

CDAY: Calendar day diary kept

The sole diary variable not in the other versions is **CDAY**. This variable takes a value between 1 and 31 where the information has been released, or -9 if the information is not available. This variable appears here partly to allow matching of additional information relevant to specific days (weather conditions, sunrise and sunset on the diary day, whether the diary took place before or after a major event), and partly to allow testing of potential minor variations in activities across months (for instance closer or further away from when most people get paid).

TIME: Duration of activity in minutes

We calculate this variable by subtracting START from END. Many surveys include a variable for the duration of the episode in minutes, though some files include errors in the variable, and in some cases, described in more detail in relation to the activity variables below, the CTUR team modified the definition of an episode. Consequently, while people converting original surveys into MTUS format should double check their calculation for time against the duration variable in the original file and carefully check any inconsistencies, the variable time should be the variable calculated by the converter of the survey.

CLOCKST: Start time on 24-hour clock

This variable represents the time on the 24-hour clock when the episode started. We report this variable as a 4-digit number. The digit(s) prior to the decimal represent the hour; the two digits following the decimal represent the minute.

6.35	(thirty five minute past 6AM)
18.05	(five minutes past 6PM)

We represent midnight as 0.00.

START: Start minute

END: End minute

There are two ways to represent time in the diary episode file: time as reported on the 24-hour clock, and time in terms of the number of minutes which have elapsed since the start of the diary observation period. A 24-hour file contains 1440 minutes - except on those days where an adjustment of an extra minute is added to the day to adjust for minor variations in the actual rotation speed of the Earth around the sun (though users should note that very few diaries are collected on such days, partly as few of such days appear in the sampled periods

and partly as few participants have been willing to keep a time diary on New Year's Eve when such adjustments are added.) The addition or absence of the additional 60 seconds makes little difference to population behaviour patterns, so this dataset makes no attempt to account for these adjustments.

All the surveys included in the MTUS cover an observation period of 24 hours (1440 minutes), and all surveys begin at a point on the 24-hour clock where the majority of the observed population was asleep. There is considerable variability about the start-time on the 24-hour clock, both in the sense that the start time of the diaries varies from midnight to 6:00, and that the time when the diarists in different surveys (as well as in the same survey in the case of countries that span multiple time zones) start their diary in relation to Greenwich Mean Time. As people lead their lives in 24-hour cycles, we harmonise the concept of time in Version 6 by reporting the start and end minutes of the episode in the 1440 minute observation period. The first episode in all diaries has a start value of 1, and the last episode in all diaries has an end value of 1440.

EPNUM: Episode number

This variable is the identifier of the episode. The first episode has a value of 1.

Episode(n+1) = epnum(n)+1.

This episode number should be generated after the activity and ancillary variables have been created. As the next page explains, some elements of the MTUS processing can produce different numbers of episodes compared to the original data. The MTUS variable EPNUM needs to reflect the number of episodes in the MTUS version of the file, while also retaining any changes in the activity or context codes in the original file.

MAIN: Main activity (69 category list)

AV: Main activity (41 category list)

These variables mirror the MAIN1 to MAIN69 and AV1 to AV41 variables in Harmonised Aggregate File (HAF). MAIN covers the main activity codes in the 69 category list of categories. AV covers the main activity codes in the original 41 category list of categories. A code of "33" in MAIN means the diarist performed voluntary work or a civic activity in that time slot (and this time would be summed in MAIN33 for the diary day). The labels of the values in the AV and MAIN activity lists appear in the previous two sections.

In cases where only one activity has been recorded, but we can identify missing travel records (the diarist starts in one place and ends up in another place with no recorded travel), we code the secondary activity as imputed travel. For cases

where we identify missing eating or drinking (the diarist records working with food (food preparation or set/clear table) but never reports eating or drinking, or the diarist records social activity at an event where other household members classify the activity as eating, if there is no secondary eating, we add eating as a secondary activity.

As already noted in the first section on the preparation of the data on page 2, CTUR has a number of conventions for filling in other instances where the diarist fills in some elements of the diary but not others yet has provided sufficient information to reveal the sequence of her or his activities in the gap. These cases of filling in information may result in additional episodes appearing in MTUS versions of the data that were not apparent in the original release of the data.

Some surveys collected activities in half-hour time slots. Such long observation periods will include multiple episodes on occasion. In particular, short travel episodes can be left out of the half hour slots. In the case of missing short travel in these 30-minute time slot surveys, as well as in cases where the diarist coded one activity as the main activity and travel as the secondary activity, we code 20 minutes of the 30 minute slot as the main activity, and 10 minutes as travel. The placement of the 10 minutes of travel depends on the sequence in which the time slot occurs. If a diarist has been working at the office for 7 hours, then has a time slot with missing or secondary travel where the main activity is recorded as paid work, then in the next episode is doing activities at home, we code the first 20 minutes of the episode that includes travel and the last 10 minutes as secondary travel. In contrast, if after seven hours of paid work, the diarist then records an episode of eating at a restaurant with secondary travel, and the next time slot is a continuation of eating out, then we code the first ten minutes of the time slot with the short travel episode imbedded as travel and the second 20 minutes as eating out in the restaurant.

This procedure increases the number of episodes in the MTUS version of the data as compared to the original data. For this reason, the episode number and start and stop minute of episodes need to be calculated after the activity and ancillary variables have been constructed.

SEC: Secondary activity (69 category list)

Simultaneous activities do not sum to 1440, nor should the user attempt to do so. While people may undertake more than one activity at the same time (such as driving while listening to the radio), the surveys harmonised here have highly variant instructions about the degree of detail respondents should try to capture in the recording of secondary activities. Also, the degree of commitment implied by different combinations of activities is not the same. Consider the difference

between watching the waves while sunbathing on a beach, watching the children while making dinner, and looking after an adult with dementia while watching television. The first activity combines forms of leisure, the second combines care and domestic work and the third combines care and leisure. In many research contexts, the first of these combinations might be treated as a single activity. The same is not the case for the second two examples.

Researchers using time use data should consider the nature of their analytic needs in deciding whether and how to include secondary activities. In some cases, some combinations of simultaneous activities will count as new activities added to the instances of singular or focussed activity, and the total time spent in the day across this expanded and customised list of activities should total 1440 minutes. Which secondary activity combinations are relevant will vary by the focus of the research. We code the secondary activities using the 69 category list also used to code main activities.

In some diary surveys, diarists were able to report more than one secondary activity. Where this occurs (UK 1987), we split the episode into sub-episodes that total to the same length of the original episode, one new episode for each reported secondary activity. In these cases, we coded the main activity and context information as applying across all elements of the split episode, except where there is a clear transition to travel. Users can identify these cases as these sub episodes have the same value for the variable clockst, while all unsplit episodes have different values for clockst (the start time of the episode on the clock).

INOUT: Inside or outside

ELOC: Location

Table 3.4: Location codes

Location variables	Description
INOUT = -8	location unknown
INOUT = 1	Inside
INOUT = 2	outside
INOUT = 3	travelling
ELOC = -8	location unknown
ELOC = 1	at own home
ELOC = 2	at another's home
ELOC = 3	at workplace
ELOC = 4	at school
ELOC = 5	at services or shops
ELOC = 6	at restaurant, café, bar, pub

ELOC = 7	at place of worship
ELOC = 8	travelling
ELOC = 9	other locations

Table 3.4 details the location codes. We draw these location codes both from separate location variables and from imbedded information in the original activity codes. Users should note that the degree of specification about whether an activity in inside or outside is highly variable by survey, and caution should be used with this variable for cross-country and cross-time analysis. During this process, we have checked any inconsistencies between the original location codes and the imbedded activity codes, and we comment on such cases in the conversion programmes for each survey. Where some location codes we aim to identify are collapsed into a general "other" code, where possible we use the activity codes to break down "other" locations. As examples, if there is no code for school, but the activity is formal schooling and takes place away from home, we code the location as school. Similarly, if the activity is attend religious service and the location is other not at home, we code this activity as at a place of worship. If the diarist was travelling (including on foot and by bicycle), ELOC has the value of 8.

ICT: Used information communication technology during activity

We include a marker of whether the diarist used one or more ICTs during the activity. In some recent surveys, the diary included a column marking whether the diarist used ICTs. If such a column is available, then we use this column to create this 0/1 marker variable. In many cases, however, we can only identify this information from the activity code list. The HETUS surveys, for example, separately coded playing social games from playing social computer games, and doing household accounts and banking on the computer/over the internet from doing household accounts and banking on paper. In cases where the identification of ICT use is available in more than one format (a dedicated column as well as in activity codes), we use all forms of available information to create this marker. As is the case with the mode of transport, where the diarist may not write down the word "commute" in the activity column if they have written "drove car to work" in the location column, some diarists similarly might write "internet banking" as their activity but not bother to tick the used a computer box. Nevertheless, such an identification of the activity does give use sufficient information to know that the diarist used ICTs during this episode.

ICT values	Description
ICT = 0	no/not known if computer, mobile, web used
ICT = 1	computer, mobile phone, web used

MTRAV: Mode of transport

Most surveys that collect mode of transport gather this information in a separate column, but in some cases the mode of transport is recorded in the activity codes. Again, we use any available information in the data to code MTRAV (categories shown in Table 3.5). For those cases where we identify unrecorded travel, we record the mode of transport as travel by unspecified means.

Table 3.5: Mode of transportation codes

MTRAV values	Description
MTRAV = -8	activity missing
MTRAV = -7	not travelling
MTRAV = 1	travel in car/truck, on motorcycle (inc. taxi)
MTRAV = 2	travel on public transport
MTRAV = 3	walk / on foot
MTRAV = 4	cycle, other physically active transport
MTRAV = 5	travel by other/unspecified transport

Where the original survey records an activity such as walking for pleasure, jogging or hiking and no mode of transport is recorded, we code MTRAV as walk / on foot. Where the activity is coded as a sport that also involves physical active travel (cycling, riding a horse etc.) and no mode of transport is recorded, we code MTRAV cycle or other active transport.

ALONE: Alone or with strangers

CHILD: Child aged <18 present

SPPART: Spouse or partner present

OAD: Other adult present

Collection of the who else is present data varies more across the surveys than other information harmonised into the MTUS. Creating a useful single "who else was present" variable for a majority of surveys is almost impossible. Instead, we opted to make four flags. As with the other ancillary information, these flag variables are based on a combination of who else is present column information as well as activity codes (and any other relevant information in the diary). Some diary surveys have code frames that mark the presence of others in certain activities. A code for "physical care of children" implies that at least one child is present to receive this care. "Watch TV alone" similarly would indicate that other people are not present.

The concept “alone” does not necessarily mean that no other person was within sight of the diarist. If given the option of “alone” in a who else is present matrix, some diarists will select “alone” when on public transport at rush hour, while eating out in a restaurant or shopping for essential goods. In such cases, the diarist most likely is around other people, and the “alone” designation means that the diarist is not engaging with these other people, though the diarist may well moderate her or his behaviour on account of the presence of these other people. The “alone” flag marks cases where the diarist had an option on the survey instrument to indicate that he or she was alone and selected this option.

Most surveys do not ask diarists to count the exact number of other people present. The American Time Use Study includes the most detailed code frame for the presence of others, and even this list allows an unspecified number of certain categories of people to be covered by a single value. Users need to be aware that the presence of children or other adults will not necessarily allow them to identify which children or other adults were present, only that children or other adults were present.

In the case of the presence of children, the MTUS does not distinguish household children from non-household children, or the diarists’ own children from other children. Some original surveys do make such distinctions. In the MTUS case, the flag that a child was present simply means at least one person aged <18 was with the diarist.

Where the diarist is in a couple and the “who else is present” column allows us to distinguish if the spouse or partner was present, we mark this in the spouse column. Some surveys do not distinguish the presence of the spouse from the presence of other household adults. In these cases, we code the presence of the spouse for those cases where we can make this determination. In households comprised only of a couple or of a couple and children, the presence of another household adult necessarily means the presence of the spouse. We comment on this matter in the individual survey documentation and readme files. For such surveys, the presence of the spouse cannot be identified where the household includes more than one couple or a couple and other adults.

The OAD variable covers the presence of any other adult – this includes the presence of the spouse/partner. SPPART and OAD are not mutually exclusive as this allows us to make a maximally relevant code for the surveys harmonised into the MTUS. Users can make more detailed distinctions with some original datasets, though not with others.

Table 3.6: Who else was present codes

Who else present variables	Description
ALONE = 0	others reported present
ALONE = 1	no others reported present
CHILD = 0	child not reported present
CHILD = 1	with child
SPPART = 0	spouse/partner not reported present
SPPART = 1	with spouse/partner
OAD = 0	other adults not reported present
OAD = 1	with other adults

3.5 Cross-survey comparability

The extent to which it was possible to create the harmonised codes is partly a function of the number of codes originally used in each survey. Table 3.7 provides further information on these codes.

Table 3.7: Information on the codes of activities used in each survey (prior to harmonization)

Country	Year	Number of codes	Range
Australia	1974	94	0 to 99
	1987	57	010 to 980
	1992	281	000 to 999
	1997	215	0 to 999
	2006	224	1 to 999
Austria	1992	202	100 to 900
Canada	1971	100	00 to 99
	1981	272	001 to 990
	1986	99	01 to 99
	1992	167	001 to 990
	1998	178	001 to 999
Denmark	1964	22	1 to 41
	1987	39	1 to 39
	2001	166	0 to 999
Finland	1979	100	1 to 99
	1987	100	1 to 100
	2000	265	0 to 9990
France	1985	200	1 to 199
	1999	145	111 to 911

Country	Year	Number of codes	Range
Germany	1992	231	11 to 999
	2001-02	271	000 to 999
Israel	1991-92	90	1 to 90
Italy	1989	150	1001 to 6009
	2002-03	176	001 to 999
Netherlands	1975-95*	354	000 to 999
	2000-05	274	000 to 999
Norway	1971	97	1 to 99
	1981	97	1 to 99
	1990	123	700 to 1310
	2000	265	0 to 9990
Slovenia	2000	265	0 to 9990
South Africa	2000	100	010 to 990
Spain	1992-93	192	100 to 999
	1997-98 Basque	192	100 to 999
	2002-03 Basque	229	100 to 999
	2002-03 national	198	000 to 9900
	2008-09 Basque	229	100 to 999
	2009-10 national	118	0 to 999
Sweden	1991	108	110 to 6121
	2000	150	0 to 999
UK	1961	106	001 to 193
	1974-75	73	1 to 99
	1983-84	185	101 to 9999
	1987	193	101 to 9999
	1995	31	1 to 31
	2000-01	268	0 to 9990
	2005	41	1 to 99
USA	1965	100	00 to 99
	1975	175	000 to 999
	1985	88	0 to 99
	1992-94	91	1 to 99
	1994-95	93	1 to 99
	1998-01	92 in 1998-99 / 98 in 1999-01	1 to 99
	2003-2012	91/564	1 to 98/3 tiers (some changes over time, over 400 codes

Notes:

* Based on the merged 1975 to 1995 file provided by the Netherlands. This merged file contains identical codes across the 5 surveys. The codes for each individual survey may have differed prior to this harmonization.

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CHAPTER 4: DIARY, DEMOGRAPHIC AND SOCIO-ECONOMIC VARIABLES

The MTUS contains identifiers (equal to the original survey identifiers wherever possible), as well as harmonised diary, demographic and socio-economic variables. Most original datasets contain a larger number of such variables. In the context of MTUS, we prioritise variables available in a large majority datasets. This section lists the categories of the harmonised variables. Details of the specific conversions appear in the survey-specific (readme) documents.

The harmonised variables cluster into the following five sets:

- Diary, survey and case information
- Household-level variables
- Person-level demographic variables
- Employment and education
- Health

Some background variables are not included in all versions of all files. The table shows which variables are in which MTUS versions. We present the variables in the order in which they should appear in the final files in both the table and the subsequent variable descriptions.

Variable	Episode File	Aggregate File	Core File
Country – country of survey	included	included	included
Survey - survey start year	included	included	included
Swave - wave if longitudinal	included	included	-
Msamp - multi-sample marker	included	included	-
Hldid - household identifier	included	included	included
Persid - person identifier	included	included	included
Id - diary identifier	included	included	included
Parntid1 - identifier parent 1	included	included	-
Parntid2 - identifier parent 2	included	included	-
Partid - spouse identifier	included	included	-
Day - day of week diary kept	included	included	included
Cday - calendar day of diary	included	-	-
Month - month diary kept	included	included	included

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Variable	Episode File	Aggregate File	Core File
Year - year diary kept	included	included	included
Diary - diary order	included	included	-
Nowght – propwt not created	included	included	-
Hhtype - household type	-	included	-
Hhldsize - household size	-	included	included
Nchild - number children <18	-	included	included
Agekidx - age youngest groups	-	included	included
Agekid2 - age youngest actual	-	included	-
Incorig - original hhld income	-	included	-
Income - hhld income groups	-	included	-
Ownhome - own or rent home	-	included	-
Urban - urban or rural home	-	included	-
Computer - has home internet	-	included	-
Vehicle - household vehicles	-	included	-
Sex - sex of diarist	included	included	included
Age - age of diarist	included	included	included
Famstat - diarist & child age	-	included	-
Singpar - single parent diarist	-	included	-
Relrefp - relation to reference person	-	included	-
Civstat - is diarist in couple	-	included	included
Cohab - married or cohabit	-	included	-
Citizen - citizen of country	-	included	-
Empstat - employment status	-	included	included
Emp - employed or not	-	included	-
Unemp - unemployed	-	included	-
Student - diarist is a student	-	included	-
Retired - diarist is retired	-	included	-
Empsp - spouse employment	-	included	-
Workhrs - paid work hours	-	included	Included
Empinclm - labour income	-	included	-
Occupo - original occupation	-	included	-
ISCO1 – ISCO 1 occupation	-	included	-
Sector - public or private job	-	included	-
Educa - education - original	-	included	-
Edcat - highest education	-	included	Included
Rushed - time pressure	-	included	-
Health - self-assessed health	-	included	-
Carer - looks after an adult	-	included	-
Disab - diarist has disability	-	included	-

4.1 Diary, survey and case information

- COUNTRY
- SURVEY
- SWAVE
- MSAMP
- HLDID
- PERSID
- ID
- PARNTID1
- PARNTID2
- PARTID
- DAY
- MONTH
- YEAR
- DIARY
- BADCASE

COUNTRY: Country of survey - HEF HAF HCF

This variable records the country where the survey was carried out. This is the only text variable in the MTUS.

Country	Code	Country	Code	Country	Code
Albania	AL	Hungary	HU	Poland	PL
Algeria	DZ	India	IN	Portugal	PT
Armenia	AM	Indonesia	ID	Qatar	QA
Australia	AU	Ireland	IE	Republic of Korea	KR
Austria	AT	Israel	IL	Romania	RO
Belgium	BE	Italy	IT	Russian Federation	RU
Bosnia & Herzegovina	BA	Japan	JP	Serbia	RS
Brazil	BR	Laos	LA	Slovenia	SI
Bulgaria	BG	Latvia	LV	South Africa	ZA
Canada	CA	Lithuania	LT	Spain	ES
Chile	CL	Macedonia	MK	Sweden	SE
China	CN	Mauritius	MU	Switzerland	CH
Czechoslovakia	CZ	México	MX	Tanzania	TZ
Denmark	DK	Mongolia	MN	Thailand	TH
Djibouti	DJ	Morocco	MA	Tunisia	TN
Estonia	EE	Netherlands	NL	Turkey	TR
Ethiopia	ET	New Zealand	NZ	United Kingdom	UK
Finland	FI	Norway	NO	United States	US
France	FR	Oman	OM	Uruguay	UY
Germany	DE	Pakistan	PK	Yugoslavia	YU
Ghana	GH	Palestine	PS		
Greece	GR	Peru	PE		

These country codes are based on the International Organisation for Standardisation (ISO) 3166-1 alpha-2 typology. Users should note three derivations. The official designation for the United Kingdom is GB, but UK is reserved for use by the UK. As the MTUS documents already used UK, we deemed changing to GB an inefficient use of our labour, hence UK remains. The YU for Yugoslavia was deleted from the original ISO 3166-1 but remains reserved transitionally for Yugoslavia. As the survey from Yugoslavia has elements in two newer countries, both of which have data in the MTUS, we retain this designation for this older survey. CZ now applies only to the Czech Republic. The Czechoslovakian surveys are old, and neither the Czech Republic nor Slovakia have recent time use surveys. Information taken from this website: https://en.wikipedia.org/wiki/ISO_3166-1_alpha-2#Exceptional_reservations

Surveys collected in what were East and West Germany, and the Slovenian and Serbian elements of the 1965 Yugoslavia Szalai survey can be distinguished using the variable MSAMP.

SURVEY: Year the survey began - HEF HAF only

This variable records the 4-digit year in which data collection began
.

SWAVE: Longitudinal study wave marker - HEF HAF only

This variable is relevant only for surveys that are longitudinal.

Value	Label
0	Not longitudinal
1	Wave 1
2	Wave 2
3	Wave 3
4	Wave 4

Note that in the case of Denmark 1987/2001 (with multiple samples), the code ‘1’ in 1987 and 2 in 2001 indicates a longitudinal case, while the code ‘0’ indicates that that it is not a longitudinal case.

MSAMP: Multiple samples using the same diary instrument - HEF HAF only

Value	Label
0	One sample
1	Szalai USA 1965 sample
2	National USA 1965 sample
3	USA 1998-99
4	USA 2000-01
5	Slovenia in Szalai Yugoslavia
6	Serbia in Szalai Yugoslavia
7	UK 1987 - main sample, drawn from SCELI survey
8	UK 1987 - spouses and additional household members
9	East Germany
10	West Germany
11	Basque Country in Spain

HLDID: Household identifier - HEF HAF HCF

This variable uniquely identifies households for those studies where more than one household member completed a diary. For surveys in which only one person per household completed a diary and no household identifier is included in the original data, HLDID=0. For surveys in which only one person per household completed a diary but a household identifier is included, HLDID takes the original value for the corresponding variable. If the household identifier should be combined with a higher level identifier, such as sampling region, then the value of HLDID should combine the larger group identifier and the household identifier so that each HLDID uniquely identifies one household.

In some limited cases, the original survey data does not include a household identifier even though the study collected a diary from more than one person in the household. In these cases, we construct a household identifier using a combination of other variables that enable us to make a unique identification (full details of these cases are explained in the survey conversion files where this was needed).

If the household identifier maps to other data but is not relevant to the time use survey or if the household identifier needs to be computed or adjusted in any

way, an explanatory note should be included in the Readme documentation file. The household identifier should enable users to match MTUS data back to the original survey.

PERSID: Person/diarist identifier - HEF HAF HCF

This variable uniquely identifies diarists within sampled households. For surveys with only one diarist per household, this identifier should uniquely identify each diarist. Use the original person-level identifier to allow users to match back to the original data. If no identifier was included with the data, construct an identifier from a combination of person and household-level variables that allows the unique identification of diarists.

ID: Diary identifier - HEF HAF HCF

This variable uniquely identifies each diary kept by each diarist. Normally, if the survey collected three diaries per participant, ID would have values between 1 and 3. Keep the original diary identifier if there is one to allow users to match MTUS data back to the original data. If the survey collected only one diary per diarist, ID should = 1.

PARNTID1: Person identifier of 1st parent of diarist - HEF HAF only

This variable records the person-level identifier of the first parent of the diarist if that parent also completed a diary or otherwise has person-level information included in the original survey. In cases where only one person per household completed a diary and no other information is available about household members, this variable is coded as -9. If multiple people completed diaries in the household and the diarist does not live with a parent, this variable takes a value of -7. If the diarist lives with a parent and this parent should have but did not complete a diary or cannot be identified, this variable takes a value of -8. If both parents are in the same household and completed diaries, this variable takes the value of the parent with the lower person identifier.

PARNTID2: Person identifier of 2nd parent of diarist - HEF HAF only

This variable records the person-level identifier of the second parent of the diarist if the parent also completed a diary or otherwise has person-level information included in the original survey. In cases where only one person per household completed a diary and no other information is available about other household members, this variable is coded as -9. If multiple people completed diaries in the household and the diarist does not live with a parent or only lives with one parent, this variable takes a value of -7. If the diarist lives with two parents and

both parents should have but did not complete a diary or cannot be identified, this variable takes a value of -8. If both parents are in the same household and completed diaries or have other person-specific information in the original survey, this variable takes the value of the parent with the higher person identifier.

PARTID: Person identifier of spouse or partner - HEF HAF only

This variable records the person-level identifier of the spouse or partner of the diarist if the spouse or partner also completed a diary or has other person-level information in the original survey. In cases where only one person per household completed a diary and other information is not available about other household members, this variable is coded as -9. If multiple people completed diaries in the household and the diarist does not have a spouse or partner, this variable takes a value of -7. If the diarist has a partner who cannot be identified, this variable takes a value of -8.

DAY: Day of week diary kept - HEF HAF HCF

This variable records the day of the week when the diary was kept. Note that some older surveys only included all week averages or distinguished Saturdays and Sundays from week days, but did not distinguish week days.

Value	Label
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday
8	Averaged time across week
9	Unspecified weekday
10	Unspecified weekend day

CDAY: Calendar day diary kept - HEF only

The sole variable not in the other versions is **CDAY**. This variable takes a value between 1 and 31 where the information has been released, or -9 if the information is not available. This variable appears here partly to allow matching of additional information relevant to specific days (weather conditions, sunrise

and sunset on the diary day, whether the diary took place before or after a major event), and partly to allow testing of potential minor variations in activities across months (for instance closer or further away from when most people get paid).

MONTH: Month diary kept - HEF HAF HCF

This variable records the month when the diary was kept. Some surveys only record the quarter or season when the survey was carried out. In such cases, we assumed that the survey was conducted during the first month of the quarter even though the data collection was actually spread throughout the quarter. Such cases are documented in the relevant Readme documents.

Value	Label
1	January
2	February
3	March
4	April
5	May
6	June
7	July
8	August
9	September
10	October
11	November
12	December

YEAR: Year diary kept - HEF HAF HCF

This variable records the year when the diary was kept in four digits.

DIARY: Diary order - HEF HAF only

When surveys collected more than one diary per person, this variable records the order in which diaries were completed. In most cases, this variable has the same value as ID, the diary identifier. In a limited number of surveys, the UK 2000-01 and France 2009-10, a minority of diaries have a diary identifier order that differs from the date order in which diaries were completed. In both cases, this coding variation reflects coding mistakes. We use the variable DIARY to mark the order of completion rather than correcting the variable ID so that users are able to smoothly match MTUS data back to the original survey data. Where users wish to control for or examine effects of completing multiple diaries, users will need to

use this variable instead of ID. For surveys that collected only one diary per participant, this variable takes the value 1.

Value	Label
1	First diary day
2	Second diary day
3	Third diary day
4	Fourth diary day
5	Fifth diary day
6	Sixth diary day
7	Seventh diary day

NOWGHT: Marker of insufficient information to make propwt - HEF HAF only

This variable distinguishes diaries with basic background variables (age and sex), known day of the week, and sufficient diary information to permit most forms of analysis, from those diaries lacking at least any one of these essential characteristics. Diaries with these elements missing have a propwt value = 0.

Value	NOWGHT Labels
0	Diary case has a weight
1	Insufficient information to create weight: propwt=0

4.2 Household-level variables

- HHTYPE
- HHLDSIZE
- NCHILD
- AGEKIDX
- AGEKID2
- INCORIG
- INCOME
- OWNHOME
- URBAN
- COMPUTER
- VEHICLE

HHTYPE: Household type - HAF only

This variable records the type of household in which the diarist lived at the time of the survey. This variable is computed from a household type variable or a household grid when available, and from a combination of marital status and household size when no household type classification was available. Where there is inconsistency in the reporting in the survey, the converter should opt for the most logical solution and document the process of coding this variable in the code file.

One person households have only 1 member. In instances where a household size variable suggests that there is only one household member, but the person is also a parent and not in a couple and at least one child also lives in the household, then the household type should be coded as 4.

Values 2 and 3 mark instances where a household includes a couple (cohabiting or married). If the couple are the only people in the household (and the household size=2, then the appropriate code is category 2. If a couple lives in the household with at least one other person, then the code is 3. It does not matter if the couple are lodgers of the household reference person, or the household is a multi-couple household, or the reference person is a widow/widower or divorced person and has a child who has a partner that lives in the same household, or is a couple and children, the appropriate code is 3. If two or more people live in the household, and no household member is in a couple, then the appropriate code is 4. A crosstab of civstat and hhtype should produce no cases of a person with civstat=1 (in couple) and hhtype=4.

Value	Label
1	One person household
2	Couple alone
3	Couple + others
4	Other household types

In some surveys, we cannot identify cohabiting couples, and these people may be miscoded as HHTYPE =4. Some surveys make the identification of single parent households difficult. If there are potential miscodes in this variable, these should be noted in the documentation.

In contrast to FAMSTAT, this variable is a household characteristic and all household members should be coded the same way.

HHLDSIZE: Number of people in household - HAF HCF only

This variable records the total number of household members. In some surveys, the size of large households is capped, with the value 'n' meaning 'n or more members'. Such cases should be documented in the Readme documents.

There are cases where household size is not presented directly or in full. In such cases, we made the best possible calculation based on what information is available (summing number of income earners + non-income earners, number of people listed on the household matrix, 2 + the number of children for couple households with children, etc.). Any instances where this information is incomplete for a survey should be documented in the Readme file for the survey.

General notes on 3 household child variables

If a household member is a dependent child, someone will have a legal responsibility for looking after that child, and the presence of the child in the household will likely have some impact on the behaviour of other household members (if only in influencing the storage of chemicals, use of language, some late night leisure activity choices, or timing of some forms of housework). NCHILD values 1 and higher, AGEKIDX values 1, 2, & 3, and AGEKID2 values 0 through 17 indicate that a child of this age lives in the household. The relationship of the child to the other household members does not matter. In some cases, a child may also be the household reference person. If a 17-year-old lives alone or a 16 and 17-year-old married couple live alone together, the NCHILD, AGEKIDX and AGEKID2 should have values in the child present range.

When we look at the time use patterns of adults, there are some altered social expectations when the relationship between two adults is that of parent and child. We also mark these relationships in the value of AGEKIDX=4 and values of 18 and greater for AGEKID2. AGEKIDX=4 and AGEKID2>17 apply only when the relationship between two people in the household is that of parent and child and no person aged 17 or younger lives in the household. If no people aged less than

18 live in the household and no household member is the child of another household member, then the appropriate codes are: NCHILD=0; AGEKIDX and AGEKID2= -7.

NCHILD: Number of children under 18 in household - HAF HCF only

This variable records the total number of children aged under 18 in the household. The children are not necessarily the diarist's own children. If the diarist is aged <18, nchild should be >0, even if the diarist is married.

This variable is highly comparable across countries, though there are some surveys with limited information about household composition and different age bands (such as the number of children aged <15 or <12). We made adjustments and corrections when possible. Users are asked to consult the Readme documents for more detailed explanations.

AGEKIDX: Age of youngest child in household (including adult children) - HAF HCF only

This variable records grouped information on the age of the youngest child in the household. If no household member is the child of another household member and all members are aged 18 or older, this variable takes the value -7.

Value	Label
1	Youngest child aged between 0-4
2	Youngest child aged between 5-12
3	Youngest child aged between 13-17
4	Youngest child aged 18+

If the survey has different cut-off points in categories of age of the youngest child, or only report information on the diarist's children rather than children residing in the diarist's household, a note should be recorded in the Readme document.

AGEKID2: Age of youngest child in household - HAF only

This variable records the actual age of the youngest child in the household. If a household member is aged less than 18, then this variable has a positive value (unless the exact age is not known). If no household member is aged less than 18 and no household member is the child of another household member, this variable takes the value -7. In the unlikely event that a child in the household is

aged older than 60, the age should be top-coded at 60 – that is the value 60 means 60 or older.

INCORIG: Original household income - HAF only

This variable records total household income as originally recorded in the survey. This variable is **not harmonised** (see INCOME for the harmonised variable). This variable is not suitable for analysis across the megafile, but is provided to enable users to make customised variables for individual research projects.

Note that when merging data from different surveys, the original value labels for this variable will be lost since they are survey-specific. Labels are recorded in the Readme document for each survey.

INCOME: Total household income - grouped - HAF only

This variable records the annual household income, recoded in quartiles.

Value	Label
1	lowest 25%
2	middle 50%
3	highest 25%

Income often has a high percentage of cases with missing values. Also, in many surveys, data on household income was collected and/or coded in income groups rather than interval values. As a result, the identification of the cut-off points for the first quartile (lowest 25%) and fourth quartile (highest 25%) may not be precise.

OWNHOME: Whether household owns or rents home - HAF only

This variable marks whether a diarist's household owns or rents accommodation.

Value	Label
1	Own (outright or on mortgage)
2	Rent
3	Other arrangement

URBAN: Urban or rural household - HAF only

This variable indicates whether or not the diarist lives in an urban area.

Value	Label
1	Urban/suburban
2	Rural/semi-rural

Survey-specific definition of 'urban' and 'rural' is included in the conversion code. Look up the official statistical office definition of rural areas where the available data indicate the population of the area in which the diarist resides.

COMPUTER: Does household have a computer - HAF only

This variable indicates whether the diarist's household has a home computer and / or internet access at home.

Value	Label
0	No
1	Yes

VEHICLE: Does household have a private vehicle - HAF only

This variable reflects the private transport options of the diarist's household. In most developed countries, the question of access to animal is not asked. In urban areas of many developed countries, transport by animal may not be permitted. Most people in most developed countries can afford to purchase a bicycle and are able to ride that bicycle if they chose to do so. Most surveys ask

whether the household has a car or the number of cars the household owns. A smaller number of surveys ask whether the household owns a bicycle. Often the number of cars and ownership of a bicycle are separate questions. Unless noted in the documentation to the contrary, for most developed countries only options 0, 3 and 4 will apply. Options 1 and 2 are for those countries where such data are collected, generally also where the affordability of any private transport option is not accessible to all households.

Value	Label
0	No
1	Animal only
2	Non-motorised vehicle
3	1 car or motorcycle
4	2+ cars or motorcycles

4.3 Person-level demographic variables

- SEX
- AGE
- FAMSTAT
- SINGPAR
- RELREFP
- CIVSTAT
- COHAB
- CITIZEN

SEX: Sex - HEF HAF HCF

Value	Label
1	Man
2	Woman

AGE: Age - HEF HAF HCF

This variable records the age of respondents (2 digits). For surveys in which age was recorded in categories, we recoded age into a continuous variable by assigning the mid-point of each age group (e.g. 17 for age group 15-19). When surveys only included the year of birth of respondents, we computed AGE by subtracting the year of birth from the year of the survey. The protect the anonymity of the oldest diarists, we top-code age at 90 – that is the value 90 means aged 90 or older.

FAMSTAT: Individual level family status - HAF only

This variable is an individual characteristic, which means that not every member of a household would be coded the same way (in the case of multi-member surveys). It records the presence of any children in the household (irrespective of whether those children are the diarist's own children), and the diarist's age.

Value	Label
0	Adult aged 18 to 39 with no co-resident children <18
1	Adult 18+ living with 1+ co-resident children aged <5
2	Adult 18+ living with 1+ co-resident children 5-17, none <5
3	Adult aged 40+ with no co-resident children <18
4	Respondent aged <18 and living with parent(s)/guardian(s)
5	Respondent aged <18, living arrangement other or unknown

SINGPAR: Whether diarist is a single parent - HAF only

This variable records whether the diarist is a sole parent living with her or his child or children.

Value	Label
0	No
1	Yes

RELREFP: Relation to household reference person - HAF only

This variable indicates the relationship of the diarist to the household reference person. In the MTUS, the reference person usually is the person who answered the household questionnaire (generally person identifier 1). In some cases, this may be the person the survey designates as the head of the household.

Value	Label
1	Person 1
2	Spouse/ Common-law partner
3	Child
4	Parent
5	Sibling
6	Son/Daughter-in-law
7	Father/Mother-in-law
8	Brother/Sister-in-law
9	Other Relative
10	Not related

CIVSTAT: Is diarist in a couple? - HAF HCF only

This variable marks whether the diarists is in a couple.

Value	Label
1	Yes, diarist is in a couple, lives with spouse/partner
2	No, diarist not in a couple

COHAB: Respondent is cohabiting - HAF only

This variable indicates whether or not the diarist is cohabiting or legally married. People not in couples are coded as -7.

Value	Label
-7	Not in a couple
0	Married/civil partnership
1	Cohabiting

CITIZEN: Whether diarist is a citizen of the country - HAF only

This variable indicates whether or not the diarist is citizen or national of the country in which she or he completed the diary.

Value	Label
0	No
1	Yes

4.4 Employment and education variables

- EMPSTAT
- EMP
- UNEMP
- STUDENT
- RETIRED
- EMPSP
- WORKHRS
- EMPINCLM
- OCCUPO
- ISCO1
- SECTOR
- EDUCA
- EDCAT

EMPSTAT: Employment status - HAF HCF only

This variable reflects attachment to the labour market. People who are retired, students, seeking work or looking after family but who work at least some hours should be coded as working part time. Category 4 should mean no attachment to the labour force, though when it is not possible to make this distinction, this fact is noted in the Readme file for the survey.

Value	Value Label	Description
1	Employed Full Time	Employed/self-employed (including military service), full-time hours
2	Employed Part Time	Employed/self-employed (including military service), part-time hours
3	Employed, unknown status	Employed/self-employed (including military service), hours of work unknown
4	Not in paid work	Other

		Unemployed, looking for work Retired Homemaker Currently attending school Currently on maternity leave Disability retirement/leave

EMP: In paid work - HAF only

This variable indicates whether or not the diarist was employed or self-employed (i.e. had a paid job) during the week prior to the survey (or whatever the period of reference was in the original questionnaire). The value 1 here means the diarist should have a value between 1 and 3 for EMPSTAT.

Value	Label
0	Not in paid work
1	In paid work

UNEMP: Unemployed - HAF only

This variable indicates whether or not the diarist was unemployed during the week prior to the survey (or whatever the period of reference was in the original questionnaire). This variable does not differentiate between respondents who were registered as unemployed, who were not working but available for work and actively seeking work, and who self-reported themselves to be unemployed. Ideally, when combined with EMPSTAT, this variable should distinguish unemployed people not undertaking any paid work from those with some part-time or unknown hours work time.

Value	Label
0	Not-unemployed
1	Unemployed

STUDENT: Whether diarist is a student - HAF only

This variable indicates whether or not the diarist was a student. This variable should be coded from a question about whether or not the diarist was a student (or was enrolled in school). Where no information on whether the diarist is a student is available, but the diarist is in the age range where children are

required to attend school in the country where the survey was collected, if any study activity is coded in any of the diaries from this respondent or the diary is completed during school holidays, we code this diarist as a student. When combined with EMPSTAT, this variable should distinguish working and non-working students.

Value	Label
0	Not a student
1	Student

Some surveys only identify students whose general economic activity status is study. In such surveys, students may be miscoded if the survey took place during summer months. For example, a student who is working full-time during summer months and is interviewed during such a month would declare his/her main activity during the week prior to the survey as 'employed' as opposed to 'student'. Cases where a general economic activity status variable is the only way to identify students should be noted in the Readme documentation file.

RETIRED: Whether diarist has retired - HAF only

This variable indicates whether or not the diarist has retired. This variable should be created from a question about retirement. If the study did not include retirement questions, the receipt of a retirement pension income can be used instead. Where no information is reported, but the diarist is aged above the legal retirement age and does not report working full-time hours, we code this perso as retired. Only when this information was not available was data regarding the diarist's main activity during the week prior to the survey used to compute this variable. Ideally, when combined with EMPSTAT, this variable should distinguish working and non-working retired people. The Readme documentation file should not when the retirement variable only can be created from a main economic activity status last week variable.

Value	Label
0	Not retired
1	Retired

EMPSP: Employment status of spouse/partner - HAF only

This variable records the employment status of the diarist's spouse or partner for diarists who are in couples. Where the survey collected diaries from both people in the couple, each partner's own self-reported employment status should be used to identify the corresponding spouse's employment status. Where one

partner's employment status is not reported or where only one person in the household completed a diary, we use questions about the employment status of the diarist's spouse during the week prior to the survey (or whatever the period of reference was in the original questionnaire).

Note that if the diarist is not in a couple (CIVSTAT=2), EMPSP is coded as '-7'.

Value	Label
1	Employed full-time
2	Employed part-time
3	Employed, unknown hours
4	Not in paid work

WORKHRS: Paid work hours last week including overtime - HAF HCF only

This variable records the number of hours of paid work reported during the week prior to the survey including any overtime. Note that the number of hours of paid work during the last week was given priority even if data on the number of hours 'usually worked' was available. If data on the number of paid work hours last week was not available, then WORKHRS was computed by using usual hours of paid work. When neither question was available, 7-day diaries or work schedules (as collected in HETUS surveys) were used to measure hours worked during the diary week. Surveys in which this variable does not represent hours worked last week should be documented in the Readme documents. The variable includes reported hours of paid work for any diarist who answered the question, whether or not this person reports being employed on a main economic activity variable.

Value of 0 means that the diarist reported zero hours of paid work. If diarists were not asked the question, they were given a value of -9 or -7 as appropriate. If diarists did not answer the question, they were coded as -8 for this variable.

EMPINCLM: Original monthly employment income - HAF only

This variable records the monthly personal income from wages/employment/self-employment during the last month. This variable is not harmonised and is instead recorded in national currency. Note that if data is only available on the personal income from wages/employment/self-employment during the last 12 months, include this variable as presented and add a note the Readme file.

Note that when merging data from different surveys, the original value labels for this variable will be lost since they are survey-specific. Labels should be recorded in the Readme document.

OCCUPO: Original occupation - HAF only

This variable details the diarist's occupation. If the diarist is employed at the time of the survey, use the diarist's current occupation. If the diarist is not presently employed, but there is information on the diarist's most recent occupation, use this information to code occupation. Aim to use an ISCO 2008 compatible variable if this is available, otherwise use the closest approximation. Ensure that you enter the original value labels associated with each value in the survey documentation. If you need to combine multiple variables to make a single variable, ensure all the original elements have a separate label in the new combined variable.

ISCO1: ISCO 2008 1-Digit Occupation - HAF only

This variable uses the first digit of ISCO 2008 code for occupation groups. If a respondent's occupation is not given in ISCO categories, make the best approximation of these categories that can be made from OCCUPO and note the variations in the survey documentation. As with OCCUPO, if the diarist is presently employed, use the current occupation to make this variable. If the diarist is not currently employed but a last occupation variable is available, use this last occupation variable to make ISCO1.

Armed Forces occupations	0
Managers, senior officials and legislators	1
Professionals	2
Technicians and associate professionals	3
Clerical workers	4
Service and sales workers	5
Skilled agricultural, fishery, and forestry workers	6
Craft and related trades workers	7
Plant and machine operators and assemblers	8
Elementary occupations	9

SECTOR: Sector of employment - HAF only

This variable records if employed people work in the public or the private sector.

Value	Label
1	Public sector
2	Private sector

EDUCA: Educational level-original study code - HAF only

This variable contains the diarists' education level as originally coded in the surveys. This variable is not harmonised. Note that when merging data from different surveys, the original value labels for this variable will be lost since they are survey-specific. Labels should be recorded in the Readme document. Also note that where original surveys offer a large number of individual education qualification variables, use a highest level of completed education variable. If only a number of qualifications is offered and no highest level of education variable is available, we create a highest level of education from the available variables in the original survey.

EDCAT: Harmonised highest level of education - HAF HCF only

This variable contains the harmonised diarists' highest education level. It is based on the International Classification of Education (ISCED). This variable proved one of the most difficult to harmonise. In earlier versions of the MTUS, this variable had the column name EDTRY.

Value	Label	ISCED equivalent
1	uncompleted secondary or less	Not completed ISCED level 3
2	completed secondary	Completed ISCED level 3 and/or attendance at level 4
3	above secondary education	ISCED level 5 or above

This variable refers to the diarist's highest level of education completed (in the case of '1' and '2') or attended (in the case of '3').

4.5 Health variables

- RUSHED
- HEALTH
- CARER
- DISAB

RUSHED: Whether diarist generally feels rushed - HAF only

This variable indicates self-reported feelings of time pressure. If the scale includes more categories in the original, make the most logical collapse of categories.

Value	Label
0	Almost never
1	Sometimes
2	Often

HEALTH: Diarist's general health - HAF only

This variable indicates is drawn from a self-reported general health status.

Value	Label
0	Poor
1	Fair
2	Good
3	Very good

CARER: Diarist looks after an adult or child with a disability - HAF only

This variable indicates whether the diarist provides any level of routine care to an adult who needs regular assistance with daily living or looks after a child whose disability or health condition requires more than the standard child care a child of that age might typically require.

Value	Label
0	No
1	Yes

DISAB: Diarist has disability / limiting health condition - HAF only

This variable indicates whether or not the diarist has a disability or long-term health limiting condition.

Value	Label
0	No
1	Yes

It should be noted that the way disability is defined tends to vary across surveys, which may affect the degree of cross-survey comparability. We attempt to ensure consistency in the coding across time in the same country. Also, where possible, we use health variables and not economic activity status to code this variable (thus allowing users to identify working people with disabilities). When such distinctions are not possible and the only information is from a main economic activity status variable, we add a note in the Readme documentation file.

CENTRE FOR
TIME USE RESEARCH

UNIVERSITY OF
OXFORD

CHAPTER 5: WEIGHTS IN MTUS

Time diary analysis requires two levels of weighting. First, as in all surveys, weights are needed to bring the sample in line with the population from which it was drawn. Second, weights also balance seasonal variations and variations by day of the week.

The MTUS aggregate file contains the following two weights:

- OCOMBWT: Original weight (population & day preferred, or whatever original weight is available if not combined);
- PROPWT: Proposed weight (population & day combined weight rescaled if needed) (see below about the rescaling procedure).

The core file contains only propwt.

The episode file does not contain weights for two reasons, First, the weights are calculated at the diary level. Non-response and sample distribution adjustments can be addressed at the level of the diary and the diarist. The meaning of an episode level weight is less clear. There is no way of knowing how many diaries are less detailed than the diarists' actual days or the degree to which activities are under-reported at the episode level. While the sample distribution can be reasonably accurately estimated, it is not possible to estimate the true distributions of episodes in a meaningful way. Second, the meaning of an episode varies by the context of the research purpose (discussed more in the next chapter). As there is not a set unit for all analysis at the episode level, the episode file is best treated as a database from which variables are extracted to match back into the aggregate version for analysis.

Some surveys inflate the sample size by a factor to mirror the size of the whole population of the country. If the original weight is inflated, OCOMBWT should be left inflated.

Nevertheless, to promote consistency among the datasets and to prevent surveys from countries with larger populations from apparently swamping surveys from countries with smaller populations, we deflate the original weight in the computation of PROPWT. The mean of the original weight will sum to the inflation factor. Where survey designs collect diaries on a weekday and a weekend day, it is advisable to use the mean of the weekday diaries to deflate weekday diaries and the mean of the original weight for the weekend diaries to deflate the weekend diaries.

If the survey does not include a weight, OCOMBWT should be set to 0. Researchers have to find official statistics describing the population by age and sex. We recommend the United Nations publication "*World Population Prospects*" which contains time-series (since 1950) of the population by age and sex for each country. Alternative internationally recognised sources, such as the ILO Yearbook also may be used. If the survey has enough cases for you to split age and sex groups by employment status (using emp, employed or not employed) – this means if you have at least 50 cases of working and not-working for each sex and age group – then also include employment status. Note that you may not include employment status for the youngest and oldest diarists if few are working, but include emp for the working age population.

The main MTUS weight, PROPWT, is calculated by:

1- Begin from the original survey weight (deflated if the original weight was inflated). If there is no original weight, construct a population weight by dividing the percentage of the population you would expect to be in each age/sex (and in some cases employment status) group by the percentage of cases you actually have in that age/sex (/employment status) category in the sample data (expected/achieved).
2- Create a good-diary inflation factor by dividing the total number of diaries collected in the survey by the number of good diaries (total diaries/good diaries).
3- Create an interim weight with the same value of the weight in step 1. Set the value of this interim weight to 0 where NOWGHT=0. Multiply your interim weight by the good diary inflation factor you created in step 2 for all cases (remaining 0 where nowght=0).
4- Compute ASEWT - a sum of the weights for each age/sex(/employment status) group (across all days of the week).
5- Compute two further sums: ASEDayWT - a sum of weights for each age/sex (/employment status) group separately for each day of the week, and also: ASEDayCASE - the sum of the number of cases in each age/sex(/employment status) group for each day of the week. (This step differs from step 4 as now you calculate the sums separately for each day of the week).
6- Compute an expected sum of weights (ESW) for each day of the week: ESW = ASEWT / 7 (divide by 7 as there are 7 days of the week).
7- PROPWT = **(**ESW **/** ASEDayWT**) / (**ASEDayCASE **/** ASEDayWT**)**
8- Check that the weight has calculated correctly. PROPWT should have a mean of 1, and PROPWT should sum to the total number of diary cases. When the weight has been applied, the weighted frequency of the diaries by the days of the week should be evenly distributed (14.3% for each day). Similarly, each age/sex group should have an even distribution of diaries across each day of the week.

CENTRE FOR
TIME USE RESEARCH

UNIVERSITY OF
OXFORD

CHAPTER 6: ANALYSIS OF TIME-USE DATA

In order to work with time use data, users should consider the nature of the data which diaries collect and also the population which is sampled. We begin this chapter by outlining key elements of time use data. We then offer some basic tips for working with diary data.

6.1 The data which time diaries collect

Time diaries collect stories. Even when presented in the quantitative data format, the diary row still represents a story and can be read as a story. Users should keep this narrative element of time use data in mind when working with the MTUS or any other time diary dataset.

The elements of a quantitative diary are not mutually exclusive but overlapping domains. In most cases, the domains in a diary are separate. Knowing that a person was reading does not cover the whole picture, as there are many qualitative differences between reading while on the beach but also keeping an eye on the children, reading alone in the house while drinking a glass of wine and listening to music, and reading while standing on crowded public transport at rush hour. Nonetheless, there are some cases where the domains overlap. Taking the train to work is simultaneously a location, a mode of transport and an activity. Washing and changing a baby is an activity, but also an activity in which the presence of the baby is a necessary element, and hence this activity also indicates that a child was present.

A second dimension of the narrative quality of diary data that users should keep in mind is that the ordering of elements reported in the diary is not always the motivator of the next element of behaviour in a diary sequence. This fact can be obscured as the first column diarists typically are asked to fill in when accounting for their day is called “main” or “primary” activity. Diary instructions generally distinguish main activity from simultaneous activities people are doing at the same time. Nonetheless, the record in the main activity column is not always the dimension of an episode which is the most important to the diarist. The main activity may be eating, but the most important element of the activity for the diarist might be that her children or the person he has wanted to date for months is joining the diarist during the meal.

A third key dimension of the narrative element of diary data is that accounts are mediated the participants. Diarists do not report activities they consider irrelevant, risky, shameful or compromising. Participants also report those activities which they notice and consider of sufficient importance to report. Some activities, such as violence and illegal behaviour, seldom appear, and diarists in some cultures report sexual behaviour, while others do not. People focussed on a particular activity (such as caring for an adult, or an intensive day on the job) may forget to report an essential activity like eating if they periodically fit the behaviour into short sessions of browsing food in between other intensive activity. The absence of a report does not mean that people did not undertake a particular activity. Likewise, absence of particular reports in and of themselves reveal what populations consider to be unimportant or not fit for public discussion.

Time diaries sample sequences of activities. Many constraints influence our patterns of behaviour. The weather, our general health, how energetic we feel at any given moment, where we are in relation to resources and facilities, the money and time we have to spend at any particular point, social expectations, the basic needs of our bodies, requirements of our care or paid work responsibilities are among the many constraints which limit the range of patterns of actions in which each individual might engage on any particular day. One way to measure patterns of daily activity involves following particular individuals over time and collect a rich and detailed dataset about their behaviour (though the expense of such collection means that the sample necessarily must be small). Such a strategy will reveal what a particular person typically does at a particular stage in that person's life. Alternatively, a researcher can collect snapshots over a day or small number of days for a large number of people to get a sense of what patterns of behaviour occur across the population. The time-diary data included in the MTUS is of the latter variety. Large-scale diary surveys reveal what patterns of behaviour most regularly occur across a population and which groups of people are most likely to engage in different forms of behaviour. Large-sample diary surveys do not reveal the full range of activities of any specific participant, but do reveal what people with similar characteristics to any given diarist are more likely to be doing on different days and at different times.

A related consequence is that time diary surveys do not produce normal distributions for all activities. People only can do so much in one day, and no one can do every activity they normally undertake on any single day. Some researchers unfamiliar with time diary data have over-used Tobit models on the grounds that large numbers of 0-time cases appear for most activities. Nevertheless, MTUS users should keep in mind that Tobit models assume that large numbers of 0 cases appear because of censorship of reporting imposed by the survey design. In some limited cases, 0s for some activities may represent censoring, but in general, the 0s represent real behaviour – people cannot do

everything every day. For most time use diary analysis, users will need models which allow for real 0s in sequences of activities which occur over 24-hours.

Diaries will not reveal the full range of patterns of any given individual over longer periods. The unit of analysis is the sequence of activities or the summary time of activities for groups over 24-hours. For those activities which people undertake virtually every day (the domains noted elsewhere which we use as one dimension of distinguishing good-quality from low-quality diaries), we expect to observe at least one of the regular patterns of engagement in rest/sleep, eating or drinking, personal care and exercise or travel. For activities in which people generally engage on a less-than-daily basis, the diary data will reveal what people who undertake the activity do on days when they engage in the activity, but the diary data alone do not reveal whether any particular person ever undertakes the activity. To obtain this information, the survey designers would have to add supplementary questions to the diary asking participants if they ever undertake a particular activity, and if they do, how often they typically engage in that activity). While diary data can reveal which groups of people are most likely to take up an activity, diary data do not reveal total participation rates of activities people generally do not perform every day.

6.2 Basic analysis

People new to time use research should keep in mind a number of basic principles about working with this data. First, time is a rare commodity in that it is one of the few concepts we use on a daily basis but measure in units of 60 rather than in metric units. When modelling time, researchers use continuous measures such as of total minutes per day or week, participation rates, or the likelihood of categories of people engaging in a particular sequence of behaviours or not participating in such activities. When the final analysis produces figures in minutes (per day or per week), though, if the number of minutes involved is large, researchers are wise to report the findings in weeks, hours and minutes rather than just in minutes. Reporting that a group sleeps and average of 475 minutes on weekdays but an average of 525 minutes on weekends does not present the information in a meaningful way to most readers. Reporting that a group sleeps and average of 7 hours and 55 minutes on weekdays but an average of 8 hours and 45 minutes on weekends is meaningful to a wider audience. The Centre for Time Use Research maintains a minutes to weeks, hours and minutes calculator on its web site to facilitate such more meaningful reporting.

When time use researchers initially investigate data, they tend to produce three parallel sets of statistics:

- Average time spent in the activity over a 24-hour day of the whole population (total mean);
- Average time spent in the activity over a 24-hour day by those persons who undertook the activity on their diary day (participation mean);
- The proportion of the population who undertook the activity on their diary day (participation rate).

All three statistics have significant value. Knowing that people in a particular country work significantly fewer hours on night shifts over a 15 year period can mean multiple things. It might mean that fewer people work nights, but those who work nights continue to work similar shifts. It equally might mean that significantly fewer people work nights, but those who work nights work longer shifts. It also might mean that more people work nights but that they work shorter night shifts than in the past. To get a rounded picture, a researcher should calculate all three of these figures for basic analysis.

Time use collects general information. Concepts often can overlap, and many activities could fit into several different topics of analysis. If a researcher is interested in time that parents spend with children, passive supervisory care, playing active sports with children, helping with homework and showing children how to do things, physical and medical care, time escorting or travelling with children, and time when children are present but parents and their children are not interacting are all relevant. If the researcher is interested in travel to work, recorded commuting is relevant, but so is travel taking a child to school or day care before then travelling to the office, or walking a dog from the home to the office where the diarist records pet care as primary activity also are relevant to understanding how people get to work. If the researcher is interested in measuring the total physical activity of the population, sport and exercise are relevant, but so too are time travelling by physically active means (including walking and cycling), time playing outside with children (often coded in child care activity ranges), and time in active care or physically active housework. These examples demonstrate that an activity like walking a child to day care can fit into the concept of child care, commuting or exercise. Researchers need to approach analysis by considering the total range of areas in the diary in which a person might record an activity of interest to that concept.

Similarly, the meaning of a sequence of activity likewise can vary by the nature of the concept the researcher investigates. In some cases, a sequence may include the presence of other activities outside the main domain of interest. If the researcher wishes to record the degree to which paid work impacts work-life balance, an episode of paid work may include time that is not spent working (taking a break, doing personal or household activities on the computer while at work, as examples). Similarly, if the researcher wishes to profile how having children impacts on parent's time use, time when the child is not present (such as waiting for a child to come out of school or working on paperwork for the child

when the child is not present) would count as an episode of interest, and the episode would continue once the child arrives. In other cases, a change of activity out of a domain of interest would constitute and end of an episode. If the researcher is measuring total exercise time, time when a person stops physical activity to take a drink or meal break would not count as a continuation of the exercise episode. If the researcher is interested in time when children learn verbal language skills from their parents, time when the parents and children are not interacting does not count as the continuation of an episode. Researchers need to think about what constitutes a string of relevant information when deciding how they plan to use the time diary data.

CENTRE FOR
TIME USE RESEARCH

UNIVERSITY OF
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CENTRE FOR
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UNIVERSITY OF
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Appendix 1
Variable and value labels in English

Country	Code	Country	Code	Country	Code
Albania	AL	Hungary	HU	Poland	PL
Algeria	DZ	India	IN	Portugal	PT
Armenia	AM	Indonesia	ID	Qatar	QA
Australia	AU	Ireland	IE	Republic of Korea	KR
Austria	AT	Israel	IL	Romania	RO
Belgium	BE	Italy	IT	Russian Federation	RU
Bosnia & Herzegovina	BA	Japan	JP	Serbia	RS
Brazil	BR	Laos	LA	Slovenia	SI
Bulgaria	BG	Latvia	LV	South Africa	ZA
Canada	CA	Lithuania	LT	Spain	ES
Chile	CL	Macedonia	MK	Sweden	SE
China	CN	Mauritius	MU	Switzerland	CH
Czechoslovakia	CZ	México	MX	Tanzania	TZ
Denmark	DK	Mongolia	MN	Thailand	TH
Djibouti	DJ	Morocco	MA	Tunisia	TN
Estonia	EE	Netherlands	NL	Turkey	TR
Ethiopia	ET	New Zealand	NZ	United Kingdom	UK
Finland	FI	Norway	NO	United States	US
France	FR	Oman	OM	Uruguay	UY
Germany	DE	Pakistan	PK	Yugoslavia	YU
Ghana	GH	Palestine	PS		
Greece	GR	Peru	PE		

Variable and value labels (in SPSS syntax) for the Harmonised Aggregate File. Labels are listed in the order in which the variables appear in the file.

```
variable label      country     'Country of survey'
                    survey      'Year survey began (survey id)'
                    swave       'longitudinal study wave marker'.
value label         swave
      0     'not longitudinal study/case'
      1     'Wave 1'
      2     'Wave 2'
      3     'Wave 3'
      4     'Wave 4'.

variable label      msamp       'multiple samples in study'.
value label         msamp
      0      '1 sample'
      1     'Szalai USA 65 sample'
      2     'national USA 65 sample'
      3     'USA 1998-99'
      4     'USA 2000-01'
      5     'Slovenia in Szalai Yugoslavia'
      6     'Serbia in Szalai Yugoslavia'
      7     'UK 1987, main sample, drawn from SCELI survey'
      8     UK 1987, spouses and additional household members
      9     East Germany
     10     West Germany
     11     Basque Country in Spain.

variable label      hldid       'Household identifier'.
value label         hldid
      0     '1 person sampled per household'.

variable label      persid      'Person/diarist identifier'
                    id          'Diary identifier'
                    parntid1    'Person id 1st parent of diarist'
                    parntid2    'Person id 2nd parent of diarist'
                    partid      'Person id of spouse or partner'.
value label         parntid1 parntid2
     -9     could not be created
     -8     could not identify parent in hh
     -7     diarist does not live with parent.
value label         partid
     -9     could not be created
     -8     could not identify partner in hh
```

-7 diarist does not have partner.

variable label day 'Day of week diary kept'.
value label day
1 Sunday
2 Monday
3 Tuesday
4 Wednesday
5 Thursday
6 Friday
7 Saturday
8 Whole week average
9 Unspecified weekday
10 Unspecified weekend day
-8 missing
-9 could not be created.

variable label month 'Month diary kept'.
value label month
1 January
2 February
3 March
4 April
5 May
6 June
7 July
8 August
9 September
10 October
11 November
12 December
-8 missing
-9 could not be created.

variable label year year diary kept.
value label year
-8 missing
-9 could not be created.

variable label diary Diary order.
value label diary
1 1st diary day
2 2nd diary day
3 3rd diary day

4 4th diary day
5 5th diary day
6 6th diary day
7 7th diary day
8 Weekly average
-8 missing
-9 could not be created.

variable label nowght marker of insufficient information to make propwt.
value label nowght
0 diary case has a weight
1 insufficient information to create weight: propwt=0.

variable label hhtype Household type.
value label hhtype
1 person household
2 'Married/cohabiting couple alone'
3 'Married/cohabiting couple + others'
4 Other household types
-7 'not applicable/not asked'
-8 missing
-9 could not be created'.

variable label hhldsize # people in household.
value label hhldsize
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label nchild '# child aged<18 in hhold'.
value label nchild
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label
agekidx "Age youngest child in hhold (includes adult children)".
value label agekidx
1 'age 0-4'
2 'age 5-12'
3 'age 13-17'
4 adult child
-7 'not applicable/not asked'
-8 missing

-9 could not be created.

variable label agekid2 Actual age youngest child in hhold.
value label agekid2
60 60 or older
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label incorig 'Original household income'
income 'Total hhold income grouped'.
value label incorig
-9 not available in survey.
value label income
1 'lowest 25%'
2 'middle 50%'
3 'highest 25%'
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label ownhome owns or rents home.
value label ownhome
1 own outright or mortgage
2 rents
3 other
-8 missing
-9 could not be created.

variable label urban Urban or rural hhold.
value label urban
1 'urban/suburban'
2 'rural/semi-rural'
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label computer 'hhold has computer/internet access'.
value label computer
0 no
1 yes
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label vehicle hhold access to a private vehicle.
value label vehicle
0 no
1 animal only
2 non-motorised vehicle
3 '1 car/motorcycle'
4 '2+ cars/motocycles'
-8 missing
-9 could not be created.

variable label sex Sex.
value label sex
1 man
2 woman
-8 missing.

variable label age Age.
value label age
90 90 or older
-7 not asked
-8 missing.

variable label famstat Individual level family status.
value label famstat
0 'Aged 18 to 39 with no coresident children <18'
1 'Aged 18+ living with 1+ coresident children aged <5'
2 'Aged 18+ living with 1+ coresident children 5-17, none <5'
3 'Aged 40+ with no coresident children <18'
4 'Aged <18 and living with parent(s)/guardian(s)'
5 'Aged <18, living arrangement other or unknown'
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label singpar diarist a single parent.
value label singpar
0 No
1 Yes
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label relrefp 'Relation to hhold ref person'.

value label relrefp
1 person 1
2 'spouse/partner'
3 child
4 parent
5 sibling
6 'son/daughter-in-law'
7 'parent-in-law'
8 'brother/sister-in-law'
9 other relative
10 not related
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label civstat is diarist in a couple.
value label civstat
1 'in couple (married/cohabit/civil partnership)'
2 'not in couple'
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label cohab diarist cohabiting.
value label cohab
0 no, married
1 yes, cohabiting
-7 'not in couple'
-8 missing
-9 could not be created.

variable label citizen 'Diarist is citizen/national of country'.
value label citizen
0 no
1 yes
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label empstat employment status.
value label empstat
1 'full-time'
2 'part-time'
3 unknown job hours

4 not in paid work
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label emp in paid work.
value label emp
0 not in paid work
1 in paid work
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label unemp unemployed.
value labels unemp
0 no
1 yes
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label student Student status.
value label student
0 not student
1 student
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label retired Retirement status.
value label retired
0 not retired
1 retired
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label empsp 'Emp status spouse/partner'.
value label empsp
1 'full-time'
2 'part-time'
3 unknown job hours
4 not in paid work
-7 'not applicable/not asked'

-8 missing
-9 could not be created.

variable label workhrs Hours paid work last week inc overtime.
value label workhrs
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label empinclm Orig monthly labour income.
value label empinclm
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label occupo Original occupation
isco1 ISCO 2008 1-Digit Occupation.
value label isco1
0 armed forces and security
1 managers, senior officials and legislators
2 professionals
3 technicians and associate professionals
4 clerical workers
5 service and sales workers
6 skilled agriculture, fishery, forestry workers
7 craft and related trades workers
8 plant and machine operators and assemblers
9 elementary occupations
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label sector Sector of employment.
value label sector
1 public sector
2 private sector
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label educa 'Education-original study codes'
edcat 'Harmonised highest level of education'.
value label educa
-9 not available in survey.

value label edcat
1 'inc 2ndry or less'
2 'completed secondary'
3 'above 2ndry education'
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label rushed Whether diarist ususally feels rushed.
value label rushed
0 almost never
1 sometimes
2 often
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label health "Diarist's general health".
value label health
0 poor
1 fair
2 good
3 very good
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label carer diarist provides adult care
disab 'has disability/long-term health condition'.
value label disab carer
0 no
1 yes
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label
main1 imputed personal or household care
main2 sleep and naps
main3 imputed sleep
main4 wash, dress, care for self
main5 meals at work or school
main6 meals or snacks in other places
main7 'paid work-main job (not at home)'

main8	paid work at home
main9	second or other job not at home
main10	unpaid work to generate household income
main11	travel as a part of work
main12	work breaks
main13	other time at workplace
main14	look for work
main15	regular schooling, education
main16	homework
main17	leisure & other education or training
main18	food preparation, cooking
main19	'set table, wash/put away dishes'
main20	cleaning
main21	laundry, ironing, clothing repair
main22	'maintain home/vehicle, including collect fuel'
main23	other domestic work
main24	purchase goods
main25	consume personal care services
main26	consume other services
main27	'pet care (not walk dog)'
main28	physical, medical child care
main29	teach, help with homework
main30	read to, talk or play with child
main31	supervise, accompany, other child care
main32	adult care
main33	voluntary, civic, organisational act
main34	worship and religion
main35	general out-of-home leisure
main36	attend sporting event
main37	‘cinema, theatre, opera, concert'
main38	other public event, venue
main39	restaurant, café, bar, pub
main40	party, social event, gambling
main41	imputed time away from home
main42	general sport or exercise
main43	walking
main44	cycling
main45	other outside recreation
main46	'gardening/pick mushrooms'
main47	walk dogs
main48	receive or visit friends
main49	'conversation (in person, phone)'
main50	'games (social & solitary)/other in-home social'
main51	general indoor leisure

main52	art or music
main53	'correspondence (not e-mail)'
main54	knit, crafts or hobbies
main55	relax, think, do nothing
main56	read
main57	listen to music or other audio content
main58	listen to radio
main59	watch TV, video, DVD
main60	computer games
main61	e-mail, surf internet, computing
main62	no activity, imputed or recorded transport
main63	'travel to/from work'
main64	education travel
main65	'voluntary/civic/religious travel'
main66	'child/adult care travel'
main67	'shop, person/hhld care travel'
main68	other travel
main69	no recorded activity.

variable label

av1	paid work
av2	paid work at home
av3	second job
av4	'school/classes'
av5	'travel to/from work'
av6	cook, wash up
av7	housework
av8	odd jobs
av9	gardening
av10	shopping
av11	childcare
av12	domestic travel
av13	'dress/personal care'
av14	consume services
av15	meals, snacks
av16	sleep
av17	free time travel
av18	excursions
av19	active sport
av20	passive sport
av21	walks
av22	religious activity
av23	civic activity
av24	cinema, theatre

av25 dances, parties
av26 social club
av27 pub
av28 restaurant
av29 visit friends
av30 isten to radio
av31 TV, video
av32 listen to CDs records
av33 study
av34 read books
av35 'read paper/magazine'
av36 relax
av37 conversation
av38 entertain friends
av39 knit, sew
av40 other leisure
av41 missing.

variable label sppart time with spouse or partner
ocombwt 'Original weight'
propwt 'Proposed weight'.

value label main1 to sppart
-9 could not be created for study.

value label propwt
0 insufficient case, excluded using this weight.

formats survey to sppart (f4.0) ocombwt propwt (f6.2).

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Variable and value labels (in SPSS syntax) for the Harmonised Episode File.
Labels are listed in the order in which the variables appear in the file.

```
variable label      country     'Country of survey'
                    survey      'Year survey began (survey id)'
                    swave       'longitudinal study wave marker'.
value label         swave
      0     'not longitudinal study/case'
      1     1 'Wave 1'
      2     'Wave 2'
      3     'Wave 3'
      4     'Wave 4'.

variable label      msamp       'multiple samples in study'.
value label         msamp
      0     '1 sample'
      1     'Szalai USA 65 sample'
      2     'national USA 65 sample'
      3     'USA 1998-99'
      4     'USA 2000-01'
      5     'Slovenia in Szalai Yugoslavia'
      6     'Serbia in Szalai Yugoslavia'
      7     'UK 1987, main sample, drawn from SCELI survey'
      8     UK 1987, spouses and additional household members
      9     East Germany
     10     West Germany
     11     Basque Country in Spain.

variable label      hldid       'Household identifier'.
value label         hldid
      0     '1 person sampled per household'.

variable label      persid      'Person/diarist identifier'
                    id          'Diary identifier'.

variable label      day         'Day of week diary kept'.
value label         day
      1     Sunday
      2     Monday
      3     Tuesday
      4     Wednesday
      5     Thursday
      6     Friday
```

7 Saturday
8 Whole week average
9 Unspecified weekday
10 Unspecified weekend day
-8 missing
-9 could not be created.

variable label cday calendar day diary kept.
value label cday
-8 missing
-9 could not be created.

variable label month 'Month diary kept'.
value label month
1 January
2 February
3 March
4 April
5 May
6 June
7 July
8 August
9 September
10 October
11 November
12 December
-8 missing
-9 could not be created.

variable label year year diary kept.
value label year
-8 missing
-9 could not be created.

variable label diary Diary order.
value label diary
1 1st diary day
2 2nd diary day
3 3rd diary day
4 4th diary day
5 5th diary day
6 6th diary day
7 7th diary day
8 Weekly average

-8 missing
-9 could not be created.

variable label nowght marker of insufficient information to make propwt.
value label nowght
0 diary case has a weight
1 insufficient information to create weight: propwt=0.

variable label sex sex.
value label sex
1 man
2 woman
-8 missing.

variable label age age.
value label age
90 90 or older
-7 not asked
-8 missing.

variable label time duration of activity in minutes
clockst start time on 24 hour clock
start 'start minute (of 1440 min 0=begin of diary)'
end 'end minute (of 1440 min 1440=end of diary)'
epnum episode number
main main act, 69 category list
sec secondary act, 69 category list
av main act, old MTUS 41 category list.
value label main
1 imputed personal or household care
2 sleep and naps
3 imputed sleep
4 wash, dress, care for self
5 meals at work or school
6 meals or snacks in other places
7 'paid work-main job (not at home)'
8 paid work at home
9 second or other job not at home
10 unpaid work to generate household income
11 travel as a part of work
12 work breaks
13 other time at workplace
14 look for work
15 regular schooling, education

16	homework
17	'leisure/other education or training'
18	food preparation, cooking
19	'set table, wash/put away dishes'
20	cleaning
21	laundry, ironing, clothing repair
22	'maintain home/vehicle, including collect fuel'
23	other domestic work
24	purchase goods
25	consume personal care services
26	consume other services
27	'pet care (not walk dog)'
28	physical, medical child care
29	teach, help with homework
30	read to, talk or play with child
31	supervise, accompany, other child care
32	adult care
33	voluntary, civic, organisational act
34	worship and religion
35	general out-of-home leisure
36	attend sporting event
37	'cinema, theatre, opera, concert'
38	other public event, venue
39	restaurant, café, bar, pub
40	party, social event, gambling
41	imputed time away from home
42	general sport or exercise
43	walking
44	cycling
45	other outside recreation
46	'gardening/pick mushrooms'
47	walk dogs
48	receive or visit friends
49	'conversation (in person, phone)'
50	other in-home games, skilled leisure
51	general indoor leisure
52	art or music
53	'correspondence (not e-mail)'
54	knit, crafts or hobbies
55	relax, think, do nothing
56	read
57	listen to music etc
58	listen to radio
59	watch TV, video, DVD

60	computer games
61	e-mail, surf internet, computing
62	no second act, imputed or recorded transport
63	'travel to/from work'
64	education travel
65	'voluntary/civic/religious travel'
66	'child/adult care travel'
67	'shop, person/hhld care travel'
68	other travel
69	no recorded activity.

value label	av
1	paid work
2	paid work at home
3	second job
4	'school/classes'
5	'travel to/from work or education'
6	cook, wash up
7	housework
8	odd jobs
9	gardening
10	shopping
11	childcare
12	domestic travel
13	'dress/personal care'
14	consume services
15	meals, snacks
16	sleep
17	free time travel
18	excursions
19	active sport
20	passive sport
21	walks
22	religious activity
23	civic activity
24	cinema, theatre
25	dances, parties
26	social club
27	pub
28	restaurant
29	visit friends
30	listen to radio
31	TV, video
32	listen to CDs records

33	study
34	read books
35	'read paper/magazine'
36	relax
37	conversation
38	entertain friends
39	knit, sew
40	other leisure
41	missing.

value label sec

-9	no secondary activity in study
-7	no second act collected from diary group
1	imputed personal or household care
2	sleep and naps
3	imputed sleep
4	wash, dress, care for self
5	meals at work or school
6	meals or snacks in other places
7	'paid work-main job (not at home)'
8	paid work at home
9	second or other job not at home
10	unpaid work to generate household income
11	travel as a part of work
12	work breaks
13	other time at workplace
14	look for work
15	regular schooling, education
16	homework
17	'leisure/other education or training'
18	food preparation, cooking
19	'set table, wash/put away dishes'
20	cleaning
21	laundry, ironing, clothing repair
22	'maintain home/vehicle, including collect fuel'
23	other domestic work
24	purchase goods
25	consume personal care services
26	consume other services
27	'pet care (not walk dog)'
28	physical, medical child care
29	teach, help with homework
30	read to, talk or play with child
31	supervise, accompany, other child care

32	adult care
33	voluntary, civic, organisational act
34	worship and religion
35	general out-of-home leisure
36	attend sporting event
37	'cinema, theatre, opera, concert'
38	other public event, venue
39	restaurant, café, bar, pub
40	party, social event, gambling
41	imputed time away from home
42	general sport or exercise
43	walking
44	cycling
45	other outside recreation
46	'gardening/pick mushrooms'
47	walk dogs
48	receive or visit friends
49	'conversation (in person, phone)'
50	other in-home games, skilled leisure
51	general indoor leisure
52	art or music
53	'correspondence (not e-mail)'
54	knit, crafts or hobbies
55	relax, think, do nothing
56	read
57	listen to music etc
58	listen to radio
59	watch TV, video, DVD
60	computer games
61	e-mail, surf internet, computing
62	no second act, imputed or recorded transport
63	'travel to/from work'
64	education travel
65	'voluntary/civic/religious travel'
66	'child/adult care travel'
67	'shop, person/hhld care travel'
68	other travel
69	no recorded activity.

variable label inout inside or outside
eloc location.

value label inout

-9	location not collected by study
-8	location unknown

-7 location not collected from diary group
1 inside
2 outside
3 in vehicle.

value label eloc
-9 location not collected by study
-8 location unknown
-7 location not collected from diary group
1 at own home
2 at another's home
3 at workplace
4 at school
5 at services or shops
6 at restaurant, bar etc
7 at place of worship
8 travelling
9 other locations.

variable label mtrav mode of transport.
value label mtrav
-9 mode not collected by study
-8 missing
-7 not travelling
1 travel by car etc
2 public transport
3 "walk / on foot"
4 other physical transport
5 'other/unspecified transport'.

variable label ict used ict during activity
alone time alone or with strangers
child child aged <18 present
sppart spouse or partner present
oad other adult present.

value label ict alone child sppart oad
-9 could not be created for study
-7 not collected for diary group
0 no
1 yes.

formats survey to time (f4.0) start to oad (f4.0) clockst (f6.2).

Variable and value labels (in SPSS syntax) for the Harmonised Core File.
Labels are listed in the order in which the variables appear in the file.

```
variable label      country     'Country of survey'
                    survey      'Year survey began (survey id)'.

variable label      hldid   'Household identifier'.
value label         hldid
      0     '1 person sampled per household'.

variable label      persid      'Person/diarist identifier'
                    id          'Diary identifier'.

variable label      day     'Day of week diary kept'.
value label         day
      1     Sunday
      2     Monday
      3     Tuesday
      4     Wednesday
      5     Thursday
      6     Friday
      7     Saturday
      8     whole week average
      9     unspecified weekday
     10     unspecified weekend day
     -8     missing
     -9     could not be created.

variable label      month       'Month diary kept'.
value label         month
      1     January
      2     February
      3     March
      4     April
      5     May
      6     June
      7     July
      8     August
      9     September
     10     October
     11     November
     12     December
     -8     missing
     -9     could not be created.
```

variable label year year diary kept.
value label year
-8 Missing
-9 could not be created.

variable label hhldsize # people in household.
value label hhldsize
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label nchild '# child aged<18 in hhold'.
value label nchild
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label
agekidx "Age youngest child in hhold (includes adult children)".
value label agekidx
1 'age 0-4'
2 'age 5-12'
3 'age 13-17'
4 adult child
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label sex Sex.
value label sex
1 man
2 woman
-8 missing.

variable label age Age.
value label age
90 90 or older
-7 not asked
-8 missing.

variable label civstat is diarist in a couple.
value label civstat
1 'in couple (married/cohabit/civil partnership)'

2 'not in couple'
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label empstat employment status.
value label empstat
1 'full-time'
2 'part-time'
3 unknown job hours
4 not in paid work
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label workhrs Hours paid work last week inc overtime.
value label workhrs
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label edcat 'Harmonised highest level of education'.
value label edcat
1 'inc 2ndry or less'
2 'completed secondary'
3 'above 2ndry education'
-7 'not applicable/not asked'
-8 missing
-9 could not be created.

variable label
sleep sleep and naps
eatdrink meals or snacks
selfcare wash, dress, care for self
paidwork paid work and related activities
educatn schooling, education, homework
foodprep 'food preparation, cook, wash/put away dishes'
cleanetc cleaning, laundry, regular housework
maintain 'maintain home/vehicle, including collect fuel'
shopserv purchase goods, consume services
garden 'gardening/pick mushrooms'
petcare 'pet care (including walk dogs)'
eldcare look after adults needing help or care
pkidcare physical, medical, supervisory, routine child care

ikidcare	'play/sports with, read/talk to child, help with homework'
religion	worship, religion, and prayer
volorgwk	voluntary, civic, organisational act
commute	'travel to/from work or education'
travel	other travel
sportex	sport or exercise
tvradio	watch television, listen to radio
read	read
compint	e-mail, web, program, computer games
gout	'cinema/theatre, sport match, away from home leisure'
leisure	other free time leisure
missing	no activity reported.

variable label

main1	imputed personal or household care
main2	sleep and naps
main3	imputed sleep
main4	wash, dress, care for self
main5	meals at work or school
main6	meals or snacks in other places
main7	'paid work-main job (not at home)'
main8	paid work at home
main9	second or other job not at home
main10	unpaid work to generate household income
main11	travel as a part of work
main12	work breaks
main13	other time at workplace
main14	look for work
main15	regular schooling, education
main16	homework
main17	leisure & other education or training
main18	food preparation, cooking
main19	'set table, wash/put away dishes'
main20	cleaning
main21	laundry, ironing, clothing repair
main22	'maintain home/vehicle, including collect fuel'
main23	other domestic work
main24	purchase goods
main25	consume personal care services
main26	consume other services
main27	'pet care (not walk dog)'
main28	physical, medical child care
main29	teach, help with homework
main30	read to, talk or play with child

main31	supervise, accompany, other child care
main32	adult care
main33	voluntary, civic, organisational act
main34	worship and religion
main35	general out-of-home leisure
main36	attend sporting event
main37	‘cinema, theatre, opera, concert'
main38	other public event, venue
main39	restaurant, café, bar, pub
main40	party, social event, gambling
main41	imputed time away from home
main42	general sport or exercise
main43	walking
main44	cycling
main45	other outside recreation
main46	'gardening/pick mushrooms'
main47	walk dogs
main48	receive or visit friends
main49	'conversation (in person, phone)'
main50	'games (social & solitary)/other in-home social'
main51	general indoor leisure
main52	art or music
main53	'correspondence (not e-mail)'
main54	knit, crafts or hobbies
main55	relax, think, do nothing
main56	read
main57	listen to music or other audio content
main58	listen to radio
main59	watch TV, video, DVD
main60	computer games
main61	e-mail, surf internet, computing
main62	no activity, imputed or recorded transport
main63	'travel to/from work'
main64	education travel
main65	'voluntary/civic/religious travel'
main66	'child/adult care travel'
main67	'shop, person/hhld care travel'
main68	other travel
main69	no recorded activity.

variable label

propwt	'Proposed weight'.

value label sleep to main69

-9 could not be created for study.

value label propwt
0 bad case, excluded using this weight.

formats survey to main69 (f4.0) propwt (f6.2).

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Apéndice 2
Variables y etiquetas de valores en Español

Traducciones de Jorge Rosales-Salas, Valeria Esquivel, y Kimberly Fisher

País	código	País	código	País	código
Albania	AL	Hungría	HU	Polonia	PL
Algeria	DZ	India	IN	Portugal	PT
Armenia	AM	Indonesia	ID	Qatar	QA
Australia	AU	Irlanda	IE	República de Corea	KR
Austria	AT	Israel	IL	Rumania	RO
Bélgica	BE	Italia	IT	Federación de Rusia	RU
Bosnia y Herzegovina	BA	Japón	JP	Serbia	RS
Brasil	BR	Laos	LA	Eslovenia	SI
Bulgaria	BG	Letonia	LV	Sudáfrica	ZA
Canadá	CA	Lituania	LT	España	ES
Chile	CL	Macedonia	MK	Suecia	SE
China	CN	Mauricio	MU	Suiza	CH
Checoslovaquia	CZ	México	MX	Tanzania	TZ
Dinamarca	DK	Mongolia	MN	Tailandia	TH
Djibouti	DJ	Marruecos	MA	Túnez	TN
Estonia	EE	Holanda	NL	Turquía	TR
Etiopía	ET	Nueva Zelanda	NZ	Reino Unido	UK
Finlandia	FI	Noruega	NO	Estados Unidos	US
Francia	FR	Omán	OM	Uruguay	UY
Alemania	DE	Paquistan	PK	Yugoslavia	YU
Ghana	GH	Palestina	PS		
Grecia	GR	Perú	PE		

Variables y etiquetas de valores (en syntax de SPSS) del archivo agregado (Harmonised Aggregate File HAF).
Las etiquetas se muestran en el orden en que aparecen en el archivo.

```
variable label
        country         'País de la encuesta'
        survey          'Año que la encuesta comenzó (id de encuesta)'
        swave           'marcador longitudinal de estudio'.
value label     swave
        0       'estudio/caso no longitudinal'
        1       'Ola 1'
        2       'Ola 2'
        3       'Ola 3'
        4       'Ola 4'.

variable label          msamp       'múltiples muestras en el estudio'.
value label             msamp
          0     '1 muestra'
          1     'muestra Szalai EEUU 65'
          2     'muestra nacional EEUU 65'
          3     'EEUU 1998-99'
          4     'EEUU 2000-01'
          5     'Eslovenia en Szalai Yugoslavia'
          6     'Serbia en Szalai Yugoslavia'
          7     'Reino Unido 1987, muestra principal, de la encuesta SCELI'
          8     Reino Unido 1987, cónyuges y otros miembros del hogar
          9     Alemania Oriental
         10     Alemania Occidental
         11     País Vasco en España.

variable label          hldid       'Identificador del hogar'.
value label             hldid
        0       '1 persona encuestada por hogar'.

variable label
                persid          'Identificador de persona/respondente'
                id              'Identificador de diario'
                parntid1        'Id de persona progenitor/a 1 de la respondente'
                parntid2        'Id de persona progenitor/a 2 de la respondente'
                partid          'Id de persona de esposo/a o pareja'.
value label     parntid1 parntid2
        -9      no se pudo crear
        -8      'no se pudo identificar algún progenitor/a en hogar'
        -7      'diarista no vive con algún progenitor/a'.
```

value label partid
-9 no se pudo crear
-8 no se pudo identificar pareja en hogar
-7 respondente no vive con pareja.

variable label day 'Día de la semana que el diario se completó'.
value label day
1 Domingo
2 Lunes
3 Martes
4 Miércoles
5 Jueves
6 Viernes
7 Sábado
8 Promedio de toda la semana
9 Día de semana sin especificar
10 Día de fin de semana sin especificar
-8 No encontrado
-9 No se pudo crear.

variable label month 'Mes en que se completó el diario'.
value label month
1 enero
2 febrero
3 marzo
4 abril
5 mayo
6 junio
7 julio
8 agosto
9 septiembre
10 octubre
11 noviembre
12 diciembre
-8 no encontrado
-9 no se pudo crear.

variable label year año en el que el diario se completó.
value label year
-8 No encontrado
-9 No se pudo crear.

variable label diary Orden del diario.
value label diary

1 1er día del diario
2 2do día del diario
3 3er día del diario
4 4to día del diario
5 5to día del diario
6 6to día del diario
7 7mo día del diario
8 Promedio semanal
-8 No encontrado
-9 No se pudo crear.

variable label nowght marcador de casos de baja calidad.
value label nowght
0 buen caso
1 sin información para propwt.

variable label hhtype Tipo de hogar.
value label hhtype
1 'hogar unipersonal'
2 'Pareja casada o cohabitando sola'
3 'Pareja casada o cohabitando + otros'
4 Otro tipo de hogar
-7 'no aplica o no se preguntó'
-8 no encontrado
-9 no se pudo crear'.

variable label hhldsize # personas en el hogar.
value label hhldsize
-7 'no aplica o no se preguntó'
-8 no encontrado
-9 'no se pudo crear'.

variable label nchild '# hijas/os de edad <18 en el hogar'.
value label nchild
-7 'no aplica o no se preguntó'
-8 no encontrado
-9 no se pudo crear'.

variable label
agekidx "Edad del hijo/a más joven en el hogar (incluye adultos/as)".
value label agekidx
1 'edad 0-4'
2 'edad 5-12'
3 'edad 13-17'

4 'hijo/a adulto/a'
-7 'no aplica/ no se preguntó'
-8 no encontrado
-9 no se pudo crear.

variable label agekid2 'Edad real del hijo/a más pequeño en el hogar'.
value label agekid2
60 60 o mas años
-7 'no aplica o no se preguntó'
-8 no encontrado
-9 no se pudo crear.

variable label incorig 'Ingreso original del hogar'
income 'Ingreso total del hogar agrupado'.
value label incorig
-9 no disponible en la encuesta.
value label income
1 '25% más bajo'
2 '50% del medio'
3 '25% más alto'
-7 "no aplica/no se preguntó"
-8 'no encontrado'
-9 'no se pudo crear'.

variable label ownhome Posee o arrienda hogar.
value label ownhome
1 la posee completamente o con hipoteca
2 arrienda
3 otro
-8 no encontrado
-9 no se pudo crear.

variable label urban hogar urbano o rural.
value label urban
1 'urbano/suburbano'
2 'rural/semi-rural'
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 "no se pudo crear".

variable label computer 'hogar tiene computador/acceso a internet'.
value label computer
0 no
1 si

-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label vehicle hogar tiene acceso a vehículo privado.
value label vehicle
0 no
1 solo animal
2 vehículo no motorizado
3 '1 auto/motocicleta'
4 '2+ autos/motocicletas'
-8 no encontrado
-9 no se pudo crear.

variable label sex género.
value label sex
1 hombre
2 mujer
-8 no encontrado.

variable label age edad.
value label age
90 90 o mas años
-7 no se preguntó
-8 no encontrado.

variable label famstat Estatus familiar – nivel individual.
value label famstat
0 "Edad 18 a 39 con hijos/as no corresidentes <18"
1 "Edad 18+ viviendo con 1+ hijos/as corresidentes de edad <5"
2 "Edad 18+ viviendo con 1+ hijos/as entre 5-17, ninguno <5"
3 "Edad 40+ con hijos/as no corresidentes <18"
4 "Edad <18 y viviendo con padre y/o madre o tutor(es)"
5 "Edad <18, otra estructura de vida o desconocido"
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label singpar 'Respondente es madre/un padre soltera/o'.
value label singpar
0 No
1 Sí
-7 "no aplica/no se preguntó"
-8 no encontrado

-9 no se pudo crear.

variable label relrefp 'Relación con la persona de referencia del hogar'.
value label relrefp
1 persona 1
2 pareja
3 "hijo/a"
4 "padre/madre"
5 "hermano/a"
6 'yerno/nuera'
7 'suegro/a'
8 'cuñado/a'
9 otro familiar
10 otro no familiar
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label civstat respondente está en pareja.
value label civstat
1 'está en pareja (casado/a cohabitando/pareja civil)'
2 'no está en pareja'
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label cohab respondente cohabitando.
value label cohab
0 'no, casado/a'
1 'sí, cohabitando/a'
-7 'no en pareja'
-8 no encontrado
-9 no se pudo crear.

variable label citizen 'respondente es ciudadano del país'.
value label citizen
0 no
1 sí
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label empstat jornada laboral.
value label empstat

```
   1 'jornada completa'
   2 'jornada parcial'
   3 horas de trabajo desconocidas
   4 'no está ocupado/a'
  -7 "no aplica/no se preguntó"
  -8 no encontrado
  -9 no se pudo crear.

variable label emp 'ocupado/a'.
value label emp
    0 'no está ocupado/a'
    1 'sí está ocupado/a'
   -7 "no aplica/no se preguntó"
   -8 no encontrado
   -9 no se pudo crear.

variable labelel unemp 'desocupado/a'.
value labelels unemp
    0 'no está desocupado/a'
    1 'sí está desocupado/a'
   -7 "no aplica/no se preguntó"
   -8 no encontrado
   -9 no se pudo crear.

variable label student estudiante.
value label student
    0 no es estudiante
    1 es estudiante
   -7 "no aplica/no se preguntó"
   -8 no encontrado
   -9 no se pudo crear.

variable label retired 'es jubilado/a'.
value label retired
    0 'no es jubilado/a'
    1 'es jubilado/a'
   -7 "no aplica/no se preguntó"
   -8 no encontrado
   -9 no se pudo crear.

variable label empsp 'jornada laboral de la pareja'.
value label empsp
    1 'jornada completa'
    2 'jornada parcial'
```

3 horas de trabajo desconocidas
4 no está en trabajo pagado
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label workhrs horas de trabajo remunerado de la semana anterior incluyendo horas extras.
value label workhrs
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label empinclm ingreso laboral original.
value label empinclm
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.
variable label occup categoría ocupacional.
value label occup
1 'empleado/a administrativo/a'
2 'profesional de finanzas/legal'
3 'profesional ciencias/ingeniería'
4 'profesional civil /de los servicios sociales'
5 profesional de la educación
6 profesional de la medicina
7 otro profesional
8 'ocupaciones no profesionales de la salud/educación/social'
9 'ocupaciones no profesionales de oficina'
10 'fuerzas armadas o de seguridad'
11 'ventas/servicios/soporte de arte/limpieza'
12 granja, forestal, pesca
13 'construcción, ensamblaje/reparaciones, transporte'
14 no profesional autoempleado
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label sector Sector de empleo.
value label sector
1 sector público
2 sector privado
-7 "no aplica/no se preguntó"
-8 no encontrado

-9 no se pudo crear.

variable label
educa 'códigos de educación original'
edcat 'Nivel de educación más elevado alcanzado'.
value label educa
-9 no disponible en encuesta.
value label edcat
1 'secundaria incompleta o menos'
2 'secundaria completa'
3 'educación terciaria/universitaria completa/incompleta'
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label
rushed 'si es que el/la respondente se siente usualmente-apresurado/a o presionado/a con su tiempo'.
value label rushed
0 casi nunca
1 a veces
2 generalmente
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label
health "estado de salud general del/de la respondente".
value label health
0 pobre
1 suficiente
2 buena
3 muy buena
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label
carer respondente provee cuidado a adultos
disab ‘tiene alguna discapacidad/problema de salud crónico'.
value label disab carer
0 no
1 sí
-7 "no aplica/no se preguntó"

-8 no encontrado
-9 no se pudo crear.

variable label

main1	cuidado personal o de hogar imputado
main2	dormir y siestas
main3	dormir y siestas, imputado
main4	cuidado personal
main5	"comidas en el trabajo/escuela"
main6	comidas o snacks en otros lugares
main7	'trabajo remunerado - principal (fuera de hogar)'
main8	trabajo remunerado en el hogar
main9	segundo u otro trabajo remunerado fuera del hogar
main10	trabajo no remunerado para generar ingreso al hogar
main11	viaje como parte del trabajo remunerado
main12	recesos laborales
main13	otas actividades en el lugar de trabajo
main14	búsqueda de trabajo
main15	'educación (en establecimientos educativos)'
main16	hacer la tarea, estudiar
main17	ocio y otas formas de instrucción o entrenamiento
main18	preparación de comidas, cocinar
main19	'poner la mesa, lavar los platos'
main20	limpiar
main21	lavado de ropa, planchado, reparación de ropa
main22	'mantener hogar/vehículo, incluyendo cargar nafta/repostar'
main23	otro trabajo doméstico no remunerado
main24	compra de bienes
main25	consumo de servicios de cuidado personal
main26	consumo de otros servicios
main27	'cuidado de mascotas (no sacar a pasear al perro)'
main28	'cuidado físico y médico los/as hijos/as'
main29	enseñar, ayudar con la tarea
main30	'leerle, hablar o jugar con el/la hijo/a'
main31	'supervisar, acompañar u otros cuidados al/a la hijo/a'
main32	cuidado de adultos
main33	voluntariado, actividades cívicas en instituciones
main34	oración y religión
main35	ocio general fuera del hogar
main36	asistir a un evento deportivo
main37	'asistir al cine, teatro, opera, concierto'
main38	otros eventos públicos
main39	asistir a restaurantes, café, bar, pub
main40	fiestas, eventos sociales, casino

main41	tiempo imputado fuera del hogar
main42	realizar deportes en general o ejercicio
main43	caminar
main44	bicicleta
main45	otra recreación al aire libre
main46	'jardinería'
main47	pasear al perro
main48	recibir o visitar amigos
main49	'conversar (en persona o por teléfono)'
main50	'juegar (sociales & solitarios)/otros, dentro del hogar'
main51	ocio general dentro de un local
main52	arte o música
main53	'escribir correspondencia (no correo electrónico)'
main54	tejer, realizar artesanías o pasatiempos
main55	relajarse, pensar, no hacer nada
main56	leer
main57	escuchar música u otro contenido de audio
main58	escuchar radio
main59	ver TV, video, DVD
main60	juegar en la computadora
main61	correo electrónico, ver internet, computación
main62	sin actividad, hay modo de transporte, transporte imputado
main63	'viajar al/del trabajo'
main64	'viaje al/del establecimiento educativo'
main65	'viaje voluntariado/cívico/religioso'
main66	'viaje asociado al cuidado de hijos/as o adultos'
main67	'viaje de compras o cuidado personal/hogar'
main68	otro viaje
main69	sin actividad registrada.

variable label

av1	trabajo remunerado
av2	trabajo remunerado en el hogar
av3	segundo trabajo
av4	'educación (en establecimientos educativos)'
av5	'viaje a/del trabajo'
av6	cocinar, lavar
av7	otro trabajo no remunerado en el hogar
av8	trabajo no remunerado no regular
av9	jardinería
av10	compras
av11	'cuidado de hijos/as'
av12	viajes de trabajo no remunerado y cuidado
av13	'cuidado personal/vestimenta'

av14 consumo de servicios personales
av15 comidas, snacks
av16 dormir
av17 viaje de tiempo libre
av18 excursiones
av19 deportes activos
av20 deportes pasivos
av21 caminatas
av22 actividades religiosas
av23 actividades cívicas
av24 cine, teatro
av25 bailar, fiestas
av26 clubes sociales
av27 pub
av28 restaurantes
av29 visita a amigos
av30 escuchar la radio
av31 TV, video
av32 escuchar CDs
av33 estudiar, hacer la tarea
av34 leer libros
av35 'leer periódicos/revistas'
av36 relajarse
av37 mantener una conversación
av38 recibir amigos en el hogar
av39 tejer, coser
av40 otras actividades relacionadas con el ocio
av41 no encontrado.

variable label
sppart tiempo con la pareja
ocombwt 'Peso original'
propwt 'Peso propuesto'.

value label main1 to sppart
-9 no se pudo crear.

value label propwt
0 malo caso, no se incluye con este peso.

formats survey to sppart (f4.0) ocombwt propwt (f6.2).

CENTRE FOR
TIME USE RESEARCH

UNIVERSITY OF
OXFORD

Variables y etiquetas de valores (en syntax de SPSS) del archivo episodio (Harmonised Episode File HEF).
Las etiquetas se muestran en el orden en que aparecen en el archivo.

```
variable label
        country         'País de la encuesta'
        survey          'Año que la encuesta comenzó (id de encuesta)'
        swave           'marcador longitudinal de estudio'.
value label     swave
        0       'estudio/caso no longitudinal'
        1       'Ola 1'
        2       'Ola 2'
        3       'Ola 3'
        4       'Ola 4'.

variable label          msamp           'múltiples muestras en el estudio'.
value label     msamp
          0     '1 muestra'
          1     'muestra Szalai EEUU 65'
          2     'muestra nacional EEUU 65'
          3     'EEUU 1998-99'
          4     'EEUU 2000-01'
          5     'Eslovenia en Szalai Yugoslavia'
          6     'Serbia en Szalai Yugoslavia'
          7     'Reino Unido 1987, muestra principal, obtenida de SCELI'
          8     Reino Unido 1987, cónyuges y otros miembros del hogar
          9     Alemania Oriental
         10     Alemania Occidental
         11     País Vasco en España.

variable label          hldid   'Identificador del hogar'.
value label     hldid
        0       '1 persona encuestada por hogar'.

variable label          persid          'Identificador de persona/respondente'.
value label     id      'Identificador de diario'.

variable label          day     'Día de la semana que el diario se completó'.
value label     day
          1     Domingo
          2     Lunes
          3     Martes
          4     Miércoles
          5     Jueves
```

6	Viernes
7	Sábado
8	Promedio de toda la semana
9	Día de semana sin especificar
10	Día de fin de semana sin especificar
-8	No encontrado
-9	No se pudo crear.

variable label cday día calendario del diario registrado.
value label cday

-8	no encontrado
-9	no se pudo crear.

variable label month 'Mes en que se completó el diario'.
value label month

1	enero
2	febrero
3	marzo
4	abril
5	mayo
6	junio
7	julio
8	agosto
9	septiembre
10	octubre
11	noviembre
12	diciembre
-8	no encontrado
-9	no se pudo crear.

variable label year año en el que el diario se completó.
value label year

-8	No encontrado
-9	No se pudo crear.

variable label diary Orden del diario.
value label diary

1	1er día del diario
2	2do día del diario
3	3er día del diario
4	4to día del diario
5	5to día del diario
6	6to día del diario
7	7mo día del diario

8	Promedio semanal
-8	No encontrado
-9	No se pudo crear.

variable label nowght marcador de casos de baja calidad.
value label nowght

0	buen caso
1	sin información para propwt.

variable label sex género.
value label sex

1	hombre
2	mujer
-8	no encontrado.

variable label age edad.
value label age

90	90 o mas años
-7	no preguntado
-8	no encontrado.

variable label

time	duración de actividad en minutos
clockst	tiempo de comienzo en reloj de 24 horas
start	'minuto de comienzo (de 1440 min 0=comienzo del diario)'
end	'minuto final(de 1440 min 1440=fin del diario)'
epnum	número de episodio.

variable label

main	actividad principal, lista de 69 categorías
sec	actividad secundaria, lista de 69 categorías
av	actividad principal, lista antigua de 41 categorías.

value label main

1	cuidado personal o de hogar imputado
2	dormir y siestas
3	dormir y siestas, imputado
4	cuidado personal
5	'comidas en el trabajo/escuela'
6	comidas o snacks en otros lugares
7	'trabajo remunerado - principal (fuera de hogar)'
8	trabajo remunerado en el hogar
9	segundo u otro trabajo remunerado fuera del hogar
10	trabajo no remunerado para generar ingreso al hogar
11	viaje como parte del trabajo remunerado
12	recesos laborales

13	otas actividades en el lugar de trabajo
14	búsqueda de trabajo
15	'educación (en establecimientos educativos)'
16	hacer la tarea, estudiar
17	ocio y otas formas de instrucción o entrenamiento
18	preparación de comidas, cocinar
19	'poner la mesa, lavar los platos'
20	limpiar
21	lavado de ropa, planchado, reparación de ropa
22	'mantener el hogar/vehículo, incluyendo cargar nafta/repostar'
23	otro trabajo doméstico no remunerado
24	compra de bienes
25	consumo de servicios de cuidado personal
26	consumo de otros servicios
27	'cuidado de mascotas (no sacar a pasear al perro)'
28	'cuidado físico y médico los/as hijos/as'
29	enseñar, ayudar con la tarea
30	'leerle, hablar o jugar con el/la hijo/a'
31	'supervisar, acompañar u otros cuidados al/a la hijo/a'
32	cuidado de adultos
33	voluntariado, actividades cívicas en instituciones
34	oración y religión
35	ocio general fuera del hogar
36	asistir a un evento deportivo
37	'asistir al cine, teatro, opera, concierto'
38	otros eventos públicos
39	asistir a restaurantes, café, bar, pub
40	fiestas, eventos sociales, casino
41	tiempo imputado fuera del hogar
42	realizar deportes en general o ejercicio
43	caminar
44	bicicleta
45	otra recreación al aire libre
46	'jardinería'
47	pasear al perro
48	recibir o visitar amigos
49	'conversar (en persona o por teléfono)'
50	'juegar (sociales & solitarios)/otros, dentro del hogar'
51	ocio general dentro de un local
52	arte o música
53	'escribir correspondencia (no correo electrónico)'
54	tejer, realizar artesanías o pasatiempos
55	relajarse, pensar, no hacer nada
56	leer

57	escuchar música u otro contenido de audio
58	escuchar radio
59	ver TV, video, DVD
60	juegar en la computadora
61	correo electrónico, ver internet, computación
62	sin actividad pero hay modo de transporte, transporte imputado
63	'viajar al/del trabajo'
64	'viaje al/del establecimiento educativo'
65	'viaje voluntariado/cívico/religioso'
66	'viaje asociado al cuidado de hijos/as o adultos'
67	'viaje de compras o cuidado personal/hogar'
68	otro viaje
69	sin actividad registrada.

value label av

1	trabajo remunerado
2	trabajo remunerado en el hogar
3	segundo trabajo
4	'educación (en establecimientos educativos)'
5	'viaje a/del trabajo/educación'
6	cocinar, lavar
7	otro trabajo no remunerado en el hogar
8	trabajo no remunerado no regular
9	jardinería
10	compras
11	'cuidado de hijos/as'
12	viajes de trabajo no remunerado y cuidado
13	'cuidado personal/vestimenta'
14	consumo de servicios de cuidado personal
15	comidas, snacks
16	dormir
17	viaje de tiempo libre
18	excursiones
19	deportes activos
20	deportes pasivos
21	caminatas
22	actividades religiosas
23	actividades cívicas
24	cine, teatro
25	bailar, fiestas
26	clubes sociales
27	pub
28	restaurantes
29	visita a amigos

30	escuchar la radio
31	TV, video
32	escuchar CDs
33	estudiar, hacer la tarea
34	leer libros
35	'leer periódicos/revistas'
36	relajarse
37	mantener una conversación
38	recibir amigos en el hogar
39	tejer, coser
40	otras actividades relacionadas con el ocio
41	no encontrado.

value label	sec
-9	no hay actividad secundaria en estudio
-7	no hay actividad secundaria recolectada del grupo de diarios
1	cuidado personal o de hogar imputado
2	dormir y siestas
3	dormir y siestas, imputado
4	cuidado personal
5	'comidas en el trabajo/escuela'
6	comidas o snacks en otros lugares
7	'trabajo remunerado - principal (fuera de hogar)'
8	trabajo remunerado en el hogar
9	segundo u otro trabajo remunerado fuera del hogar
10	trabajo no remunerado para generar ingreso al hogar
11	viaje como parte del trabajo remunerado
12	recesos laborales
13	otas actividades en el lugar de trabajo
14	búsqueda de trabajo
15	'educación (en establecimientos educativos)'
16	hacer la tarea, estudiar
17	ocio y otas formas de instrucción o entrenamiento
18	preparación de comidas, cocinar
19	'poner la mesa, lavar los platos'
20	limpiar
21	lavado de ropa, planchado, reparación de ropa
22	'mantener el hogar/vehículo, incluyendo cargar nafta/repostar'
23	otro trabajo doméstico no remunerado
24	compra de bienes
25	consumo de servicios de cuidado personal
26	consumo de otros servicios
27	'cuidado de mascotas (no sacar a pasear al perro)'
28	'cuidado físico y médico los/as hijos/as'

29 enseñar, ayudar con la tarea
30 'leerle, hablar o jugar con el/la hijo/a'
31 'supervisar, acompañar u otros cuidados al/a la hijo/a'
32 cuidado de adultos
33 voluntariado, actividades cívicas en instituciones
34 oración y religión
35 ocio general fuera del hogar
36 asistir a un evento deportivo
37 'asistir al cine, teatro, opera, concierto'
38 otros eventos públicos
39 asistir a restaurantes, café, bar, pub
40 fiestas, eventos sociales, casino
41 tiempo imputado fuera del hogar
42 realizar deportes en general o ejercicio
43 caminar
44 bicicleta
45 otra recreación al aire libre
46 'jardinería'
47 pasear al perro
48 recibir o visitar amigos
49 'conversar (en persona o por teléfono)'
50 'juegar (sociales & solitarios)/otros, dentro del hogar'
51 ocio general dentro de un local
52 arte o música
53 'escribir correspondencia (no correo electrónico)'
54 tejer, realizar artesanías o pasatiempos
55 relajarse, pensar, no hacer nada
56 leer
57 escuchar música u otro contenido de audio
58 escuchar radio
59 ver TV, video, DVD
60 juegar en la computadora
61 correo electrónico, ver internet, computación
62 sin actividad pero hay modo de transporte, transporte imputado
63 'viajar al/del trabajo'
64 'viaje al/del establecimiento educativo'
65 'viaje voluntariado/cívico/religioso'
66 'viaje asociado al cuidado de hijos/as o adultos'
67 'viaje de compras o cuidado personal/hogar'
68 otro viaje
69 sin actividad registrada.

variable label inout espacios cerrados o abierto.
variable label eloc ubicación.

value label inout
-9 ubicación no recolectada por el estudio
-8 ubicación desconocida
-7 ubicación no recolectada en el grupo de diarios
1 'adentro / en un espacio cerrado'
2 'afuera / en un espacio abierto'
3 en un vehículo.
value label eloc
-9 ubicación no recolectada por el studio
-8 ubicación desconocida
-7 ubicación no recolectada en el grupo del diario
1 en su propio hogar
2 en otro hogar
3 en el trabajo
4 en un establecimiento educativoso
5 en las tiendas o comercios
6 en restaurantes
7 en lugares de oración
8 viajando
9 en la calle, vía pública, o otros lugares.

variable label mtrav modo de transporte.
value label mtrav
-9 modo no recolectado por el estudio
-8 no encontrado
-7 no está viajando
1 viaje en auto,
2 transporte público
3 "caminando / a pie"
4 en bicicleta, otro transporte físico
5 'otro/no especificado transporte'.

variable label ict usó tecnologías de información en la actividad
alone 'tiempo solo/a o con otros'
child 'hijo/a que tiene menos que 18 años presente'
sppart pareja presente
oad otro persona adulta presente.

value label ict alone child sppart oad
-9 no se pudo crear para el estudio
-7 no se recolectó para el grupo del diario
0 no
1 sí.

formats survey to time (f4.0) start to oad (f4.0) clockst (f6.2).

Variables y etiquetas de valores (en syntax de SPSS) del archivo simple (Harmonised Core File HCF).
Las etiquetas se muestran en el orden en que aparecen en el archivo.

```
variable label        country 'País de la encuesta'
                      survey 'Año que la encuesta comenzó (id de encuesta)'.

variable label hldid 'Identificador del hogar'.
value label hldid
      0      '1 persona encuestada por hogar'.

variable label persid 'Identificador de persona/respondente'.
variable label id 'Identificador de diario'.

variable label day 'Día de la semana que el diario se completó'.
value label day
      1      Domingo
      2      Lunes
      3      Martes
      4      Miércoles
      5      Jueves
      6      Viernes
      7      Sábado
      8      Promedio de toda la semana
      9      Día de semana sin especificar
     10      Día de fin de semana sin especificar
     -8      No encontrado
     -9      No se pudo crear.

variable label month 'Mes en que se completó el diario'.
value label month
      1      enero
      2      febrero
      3      marzo
      4      abril
      5      mayo
      6      junio
      7      julio
      8      agosto
      9      septiembre
     10      octubre
     11      noviembre
     12      diciembre
     -8      no encontrado
```

-9 no se pudo crear.

variable label year año en el que el diario se completó.
value label year
-8 No encontrado
-9 No se pudo crear.

variable label hhldsize # personas en el hogar.
value label hhldsize
-7 'no aplica o no se preguntó'
-8 no encontrado
-9 'no se pudo crear'.

variable label nchild '# hijas/os de edad <18 en el hogar'.
value label nchild
-7 'no aplica o no se preguntó'
-8 no encontrado
-9 no se pudo crear'.

variable label agekidx "Edad del/de la hijo/a más joven en el hogar (incluye hijos/as adultos/as)".
value label agekidx
1 'edad 0-4'
2 'edad 5-12'
3 'edad 13-17'
4 'hijo/a adulto/a'
-7 'no aplica/ no se preguntó'
-8 no encontrado
-9 no se pudo crear.

variable label sex género.
value label sex
1 hombre
2 mujer
-8 no encontrado.

variable label age edad.
value label age
90 90 o mas años
-7 no se preguntó
-8 no encontrado.

variable label civstat respondente está en pareja.
value label civstat

1 'está en pareja (casado/a cohabitando/pareja civil)'
2 'no está en pareja'
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label empstat jornada laboral.
value label empstat
1 'jornada completa'
2 'jornada parcial'
3 horas de trabajo desconocidas
4 'no está ocupado/a'
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label workhrs horas de trabajo remunerado de la semana anterior incluyendo horas extras.
value label workhrs
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label edcat 'Nivel de educación más elevado alcanzado'.
value label edcat
1 'secundaria incompleta o menos'
2 'secundaria completa'
3 'educación terciaria/universitaria completa/incompleta'
-7 "no aplica/no se preguntó"
-8 no encontrado
-9 no se pudo crear.

variable label
sleep dormir y siestas
eatdrink comidas o bebidas
selfcare lavado, vestido, cuidado personal
paidwork trabajo remunerado y actividades relacionadas
educatn educación, hacer la tarea
foodprep 'preparación de comidas, cocinar, poner la mesa, lavar los platos'
cleanetc limpiar, lavado de ropa, otro trabajo doméstico no remunerado
maintain 'mantener el hogar/vehículo, incluyendo cargar nafta/repostar'
shopserv compra de bienes, consumo de servicios
garden 'jardinería'
petcare 'cuidado de mascotas, pasear al perro'

eldcare	cuidado de adultos
pkidcare	'cuidado físico y médico o supervisar, acompañar los/as hijos/as'
ikidcare	'leerle, hablar o jugar con el/la hijo/a, enseñar, ayudar con la tarea'
religion	oración y religión
volorgwk	voluntariado, actividades cívicas en instituciones
commute	'viajar al/del trabajo o educación'
travel	otra viaje
sportex	realizar deportes en general o ejercicio
tvradio	"ver TV/video/DVD, escuchar radio"
read	leer
compint	correo electrónico, internet, computación, juegos de computador
gout	'cine/teatro, evento deportivo, ocio general fuera del hogar'
leisure	otra recreación
missing	sin actividad registrada.

variable label

main1	cuidado personal o de hogar imputado
main2	dormir y siestas
main3	dormir y siestas, imputado
main4	cuidado personal
main5	"comidas en el trabajo/escuela"
main6	comidas o snacks en otros lugares
main7	'trabajo remunerado - principal (fuera de hogar)'
main8	trabajo remunerado en el hogar
main9	segundo u otro trabajo remunerado fuera del hogar
main10	trabajo no remunerado para generar ingreso al hogar
main11	viaje como parte del trabajo remunerado
main12	recesos laborales
main13	otas actividades en el lugar de trabajo
main14	búsqueda de trabajo
main15	'educación (en establecimientos educativos)'
main16	hacer la tarea, estudiar
main17	ocio y otas formas de instrucción o entrenamiento
main18	preparación de comidas, cocinar
main19	'poner la mesa, lavar los platos'
main20	limpiar
main21	lavado de ropa, planchado, reparación de ropa
main22	'mantener hogar/vehículo, incluyendo cargar nafta/repostar'
main23	otro trabajo doméstico no remunerado
main24	compra de bienes
main25	consumo de servicios de cuidado personal
main26	consumo de otros servicios
main27	'cuidado de mascotas (no sacar a pasear al perro)'
main28	'cuidado físico y médico los/as hijos/as'

main29	enseñar, ayudar con la tarea
main30	'leerle, hablar o jugar con el/la hijo/a'
main31	'supervisar, acompañar u otros cuidados al/a la hijo/a'
main32	cuidado de adultos
main33	voluntariado, actividades cívicas en instituciones
main34	oración y religión
main35	ocio general fuera del hogar
main36	asistir a un evento deportivo
main37	'asistir al cine, teatro, opera, concierto'
main38	otros eventos públicos
main39	asistir a restaurantes, café, bar, pub
main40	fiestas, eventos sociales, casino
main41	tiempo imputado fuera del hogar
main42	realizar deportes en general o ejercicio
main43	caminar
main44	bicicleta
main45	otra recreación al aire libre
main46	'jardinería'
main47	pasear al perro
main48	recibir o visitar amigos
main49	'conversar (en persona o por teléfono)'
main50	'juegar (sociales & solitarios)/otros, dentro del hogar'
main51	ocio general dentro de un local
main52	arte o música
main53	'escribir correspondencia (no correo electrónico)'
main54	tejer, realizar artesanías o pasatiempos
main55	relajarse, pensar, no hacer nada
main56	leer
main57	escuchar música u otro contenido de audio
main58	escuchar radio
main59	ver TV, video, DVD
main60	juegar en la computadora
main61	correo electrónico, ver internet, computación
main62	sin actividad, hay modo de transporte, transporte imputado
main63	'viajar al/del trabajo'
main64	'viaje al/del establecimiento educativo'
main65	'viaje voluntariado/cívico/religioso'
main66	'viaje asociado al cuidado de hijos/as o adultos'
main67	'viaje de compras o cuidado personal/hogar'
main68	otro viaje
main69	sin actividad registrada.

variable label

propwt	'peso propuesto'.

value label sleep to missing
-9 no se pudo crear.

value label propwt
0 malo caso, no se incluye con este peso.

formats survey to main69 (f4.0) propwt (f6.2).

CENTRE FOR
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Appendix 3
Notes on variables from surveys yet to be upgraded

The MTUS project developed as and remains a labour of love, increasing access to quality harmonised time use surveys to a wider range of data users. The process of converting a time use survey into this format takes a minimum of three weeks of work. MTUS does not charge users for this process, and the Centre for Time Use Research which maintains the MTUS includes few staff. As a result, the process of adding or upgrading surveys takes time, and we have placed more priority on adding new data over upgrading older data. Users should note a number of differences between older versions and the current version of the MTUS, detailed in the following table. Users should read this appendix in conjunction with Chapter 2 and Table 3.3 (which maps the old MTUS 41 activity categories to the new MTUS categories on which we base the 25 core activity categories).

Version of MTUS and surveys adapted from this verion	Countrya Country or region of survey	Survey Year survey began	Msamp multiple samples in study
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	Adapted from old variable Country, direct swap of old for new values	Reflects one of the survey years, but not necessarily the first year of the survey	Set to 0 for all surveys, was not in the MTUS version
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	Adapted from old variable Country, direct swap of old for new values	Reflects one survey year, not necessarily the first year, was 2 digits, 1900 added to make 4 digit year	East and West Germany distinguished, insufficient information to split Serbia from Slovenia

Version of MTUS and surveys adapted from this verion	Hldid Household identifier	Persid Person/diarist identifier	Id Diary identifier
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	Included in current MTUS format	Included in current MTUS format	= persid for surveys that collected 1 diary per household
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	Included in current MTUS format	Included in current MTUS format	= persid for surveys that collected 1 diary per household, except for Canada, where set to 1
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	Set to 0 for all cases, was not included in this version originally	Set to the value of ID, which was the only identifier and a diary case id only originally	Set to 1 for all cases Was the only identifier and a diary case id only originally

Version of MTUS and surveys adapted from this verion	Day Day of week diary kept	Month Month diary kept	Year Year diary kept
W5.53 (from 2006)	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W5.52 (from 2000)	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W50 (pre 2000)	Included in current MTUS format	Set to -9, not included in this MTUS format	Set = survey, originally not included in this MTUS format

Version of MTUS and surveys adapted from this verion	Hhldsize # of people in household	Nchild # child aged<18 in household	Agekidx Age youngest child in hhold
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	Included in current MTUS format	Included in current MTUS format	Covers groups 0-4, 5-12, 13-17, but households with adult children or no member who is child of another member not distibguished
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	Adapted from HHTYPE 1 person household = 1 Couple alone = 2 Couple + others and other household types = 3	Adapted from FAMSTAT Adult with no child = 0 Adult living with child = 1	Adapted from FAMSTAT Adult with no child = -7 Adult living with child aged <5 = 1 (aged 0-4); Adult living with older child = 3

Version of MTUS and surveys adapted from this verion	Income Total household income	Urban Urban or rural household	Sex Sex
W5.53 (from 2006)	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W5.52 (from 2000)	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W50 (pre 2000)	Included in current MTUS format, but only for Fance 1974-75	Set to -9, not included in this MTUS format	Included in current MTUS format

Version of MTUS and surveys adapted from this verion	Age Age	Civstat Is diarist in a couple or single	Empstat Employment status
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	Included in current MTUS format	Included in current MTUS format	Included in current MTUS format
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	Only ages 20 to 59 included in this version of the MTUS	Included in current MTUS format	Only covers full-time employed, part-time employed, not working, see Chapter 2 for other variations

Version of MTUS and surveys adapted from this verion	Workhrs Hours paid work last week	Empinclm Monthly labour income	Edcat Highest level of education
W5.53 (from 2006)	Included in current MTUS format	Included in current MTUS format	Renamed EDTRY, otherwise in current MTUS format
W5.52 (from 2000)	Included in current MTUS format	Included in current MTUS format	Renamed EDTRY, otherwise in current MTUS format
W50 (pre 2000)	Included in current MTUS format	Set to -9, not included in this MTUS format	Renamed EDTRY, otherwise in current MTUS format

Version of MTUS and surveys adapted from this verion	Sleep Sleep and naps	Eatdrink Meals or snacks	Selfcare Wash, dress, care for self
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	AV16, largely similar to current MTUS version	AV15, largely similar to current MTUS version	AV13, largely similar to current MTUS version
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	AV16, largely similar to current MTUS version	AV15, largely similar to current MTUS version	AV13, largely similar to current MTUS version
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	AV16, largely similar to current MTUS version	AV15, largely similar to current MTUS version	AV13, largely similar to current MTUS version

Version of MTUS and surveys adapted from this verion	Paidwork Paid work & related activities	Educatn Education, homework	Foodprep Cook, wash/put away dishes
W5.53 (from 2006)	AV1 + 2 + 3, includes some variations, like eating at work	AV4 + 33, largely similar to current MTUS version	AV6, largely similar to current MTUS version
W5.52 (from 2000)	AV1 + 2 + 3, includes some variations, like eating at work	AV4 + 33, largely similar to current MTUS version	AV6, largely similar to current MTUS version
W50 (pre 2000)	AV1 + 2 + 3, includes some variations, like eating at work	AV4 + 33, largely similar to current MTUS version	AV6, largely similar to current MTUS version

Version of MTUS and surveys adapted from this verion	Cleanetc Cleaning, laundry, housework	Maintain Repair home/car, collect fuel	Shopserv Purchase goods, services
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	AV7, largely similar to current MTUS version, missing household management (in maintain)	AV8, significant differences, includes pet care, elder care, household management as well as repairs, collect fuel	AV10 + 14, largely similar to current MTUS version
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	AV7, largely similar to current MTUS version, missing household management (in maintain)	AV8, significant differences, includes pet care, elder care, household management as well as repairs, collect fuel	AV10 + 14, largely similar to current MTUS version
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	AV7, largely similar to current MTUS version, missing household management (in maintain)	AV8, significant differences, includes pet care, elder care, household management as well as repairs, collect fuel	AV10 + 14, largely similar to current MTUS version

Version of MTUS and surveys adapted from this verion	Garden Gardening, hunt, fish, forage	Petcare Pet care, includes walk dogs	Eldcare Look after adult needing care
W5.53 (from 2006)	AV9, only gardening, no hunt, fish or forage	Not distinguished for these surveys	Not distinguished for these surveys
W5.52 (from 2000)	AV9, only gardening, no hunt, fish or forage	Not distinguished for these surveys	Not distinguished for these surveys
W50 (pre 2000)	AV9, only gardening, no hunt, fish or forage	Not distinguished for these surveys	Not distinguished for these surveys

Version of MTUS and surveys adapted from this verion	Pkidcare Physical, routine child care	Ikidcare Interactive child care	Religion Worship, religion, and prayer
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	AV11, covers all child care	Not distinguished for these surveys	AV22, largely similar to current MTUS version
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	AV11, covers all child care	Not distinguished for these surveys	AV22, largely similar to current MTUS version
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	AV11, covers all child care	Not distinguished for these surveys	AV22, largely similar to current MTUS version

Version of MTUS and surveys adapted from this verion	Volorgwk Voluntary, organisational act	Commute Travel to/from work or school	Travel Other travel
W5.53 (from 2006)	AV23, largely similar to current MTUS version	AV5, largely similar to current MTUS version	AV12 + 17, largely similar to current MTUS version
W5.52 (from 2000)	AV23, largely similar to current MTUS version	AV5, largely similar to current MTUS version	AV12 + 17, largely similar to current MTUS version
W50 (pre 2000)	AV23, largely similar to current MTUS version	AV5, largely similar to current MTUS version	AV12 + 17, largely similar to current MTUS version

Version of MTUS and surveys adapted from this verion	Sportex Sport or exercise	TVradio Watch TV, listen to radio	Read Read
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	AV19 + 21, largely similar to current MTUS version, but includes hunt and fish	AV30 + 31 + 32, largely similar to current MTUS version	AV34 + 35, largely similar to current MTUS version
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	AV19 + 21, largely similar to current MTUS version, but includes hunt and fish	AV30 + 31 + 32, largely similar to current MTUS version	AV34 + 35, largely similar to current MTUS version
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	AV19 + 21, largely similar to current MTUS version, but includes hunt and fish	AV30 + 31 + 32, largely similar to current MTUS version	AV34 + 35, largely similar to current MTUS version

Version of MTUS and surveys adapted from this verion	Compint E-mail, web, program, games	Sppart Time with spouse or partner
W5.53 (from 2006)	Not distinguished for these surveys	Not distinguished for these surveys
W5.52 (from 2000)	Not distinguished for these surveys	Not distinguished for these surveys
W50 (pre 2000)	Not distinguished for these surveys	Not distinguished for these surveys

Version of MTUS and surveys adapted from this verion	Goout Away from home leisure	Leisure Other free time leisure	Missing No activity reported
W5.53 (from 2006) Denmark 1964, 1987 Germany 2001-02 Italy 2002-03	AV18 + 20 + 24 + 25 + 26 + 27 + 28, largely similar to current MTUS version	AV29 + 36 + 37 + 38 + 39 + 40, largely similar to current MTUS version	AV41, largely similar to current MTUS version
W5.52 (from 2000) Canada 1971, 81, 86, 92, 98 Norway 1971, 81, 1990, 2000 Slovenia/Yugoslavia 2000 United Kingdom 1961	AV18 + 20 + 24 + 25 + 26 + 27 + 28, largely similar to current MTUS version	AV29 + 36 + 37 + 38 + 39 + 40, largely similar to current MTUS version	AV41, largely similar to current MTUS version
W50 (pre 2000) France 1965, 1974-75 Germany 1965 Italy 1979-90 Slovenia/Yugoslavia 1965	AV18 + 20 + 24 + 25 + 26 + 27 + 28, largely similar to current MTUS version	AV29 + 36 + 37 + 38 + 39 + 40, largely similar to current MTUS version	AV41, largely similar to current MTUS version

Propwt, the weight variable, was the same in the W552 and W553 versions as it remains in the current version. The weight is a renamed Sedwt2 weight (see Chapter 2 for an explanation).