



Time-use statistics

An overview

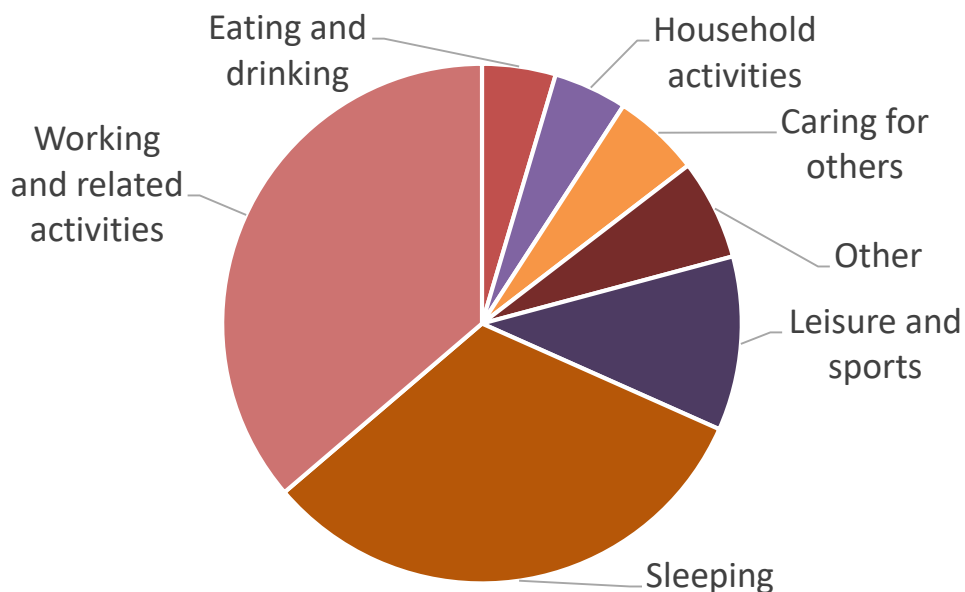
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What are Time Use Statistics?



- Amount of time individuals “spend” or allocate on specific activities (typically over 24 hours)
- They shed light on:
 - What individuals in the reference population do or the activities they engage in
 - How much time is spent doing each of these activities

Time use on an average work day for employed persons, age 25-54, with children



NOTE: Data include employed persons on days they worked, ages 25-54, who lived in households with children under 18. Data include non-holiday weekdays and are annual averages for 2009.

Source: USA - Bureau of Labour Statistics

Time-use statistics and policy relevance



- **Unpaid Work**

- All productive activities
- Satellite accounts
- Volunteering

- **Gender**

- Women's contributions to economy
- Work distribution
- Work/Life balance

- **Quality of Life**

- Leisure
- Life balance
- Time poverty
- Well-being
- Learning
- ICT use

- **Leisure**

- Access/Consumption
- Culture
- Media Use
- Sports

- **Employment**

- Hours of work
- Unemployment
- Underemployment

- **Health**

- Exposure
- Physical activity
- Sleep

- **Travel**

- Commuting
- Patterns and modes

- **Populations**

- Children
- Low income households
- Older people

- **Care**

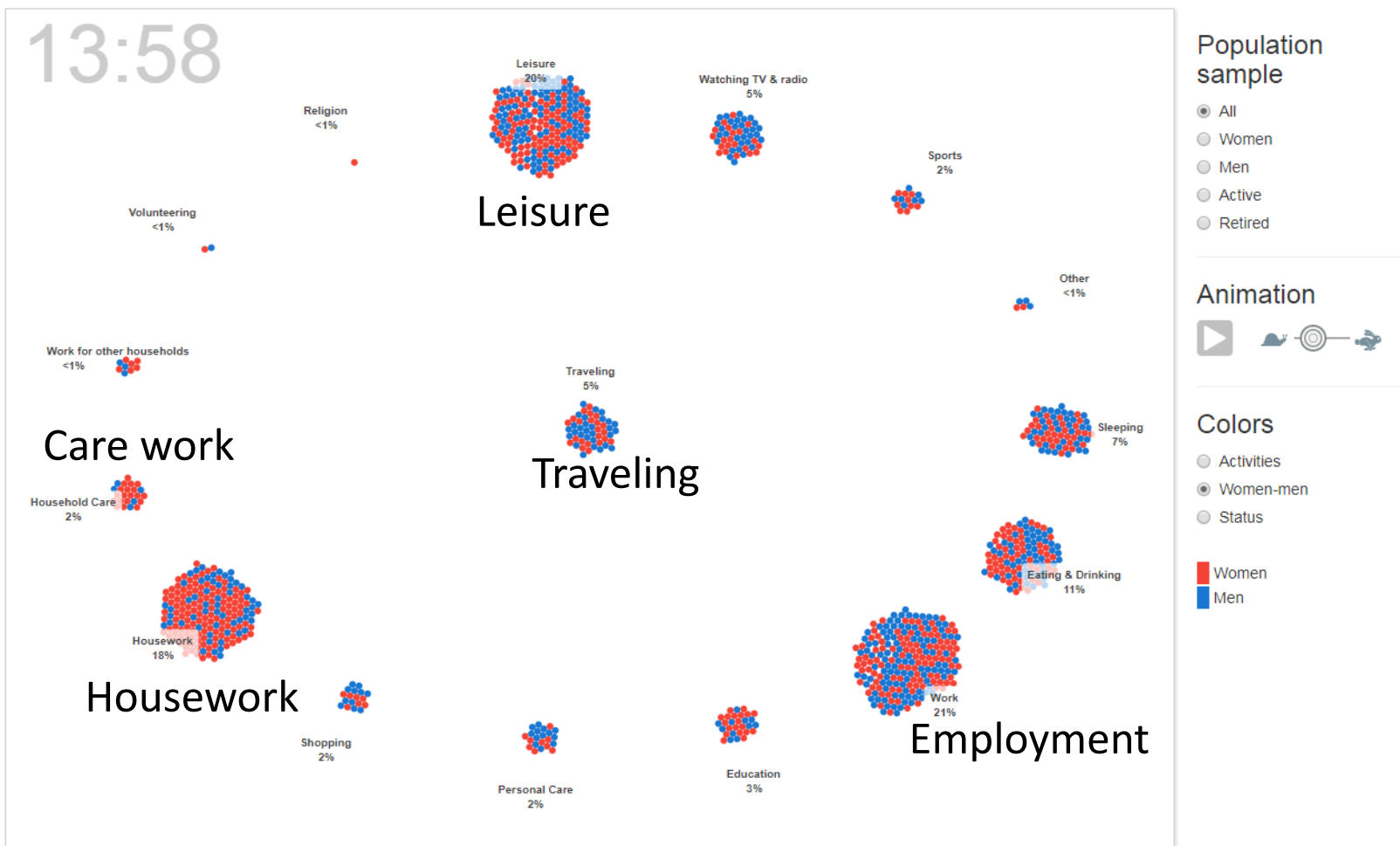
- Adult Care
- Child Care
- Pet Care



Visualization example: Hungary 2009/2010



Timeuse 2009/2010



https://www.ksh.hu/interaktiv/idomerleg/animacio.html#!lang=en&colors=sex&dataset=FULL_POPULATION&stopped=true&time=598

From objectives/policies to time use surveys specifications



Require decisions to be taken on:

1. Survey content
 - i. Level of details required => ≠ instruments
2. Population coverage
 - i. Age limits?; more than 1 person/HH?
3. Time coverage
 - i. One day? One week?
4. Dissemination strategy
 - i. Consultative process with stakeholders

Time-use surveys = TUS



Type of household survey

- Independent / dedicated /standalone survey
- Module or set of questions incorporated in another survey

More commonly used Instruments

- A. 24 hour diary
 - i. Full time diary
 - ii. Light time diary
- B. Stylized questions

TUS – Information collected



- Activity: what the person was doing
- Duration of activity: starting and ending times / total duration
- Contextual variables: Where or mode of transportation / with whom / for pay or profit / for whom / etc.
- Background information:
 - Household questionnaire
 - Individual questionnaire

A.i Full time diary



Definition

- Designed for writing verbatim descriptions of activities that are coded later on to an activity classification.

Mode of data collection

- Leave behind with instructions for the respondent
- Recall interview (eg. on phone)

Full time diary with fixed intervals



Starting time	What was your main activity? (Please record all activities, even if they only lasted a few minutes)	Whom did you do this for?	What else were you doing at the same time?	Where were you?	Who was with you at home, or with you away from home?
04:00					
04:10					
04:20					
...					9

A.i Full time diary



Advantages

- Data can be used for different types of analysis given their granularity
- Provide more reliable and accurate data
- Allows to record simultaneous activities

Challenges

- Burden on respondent (affecting participation rates)
- More costly in terms of data collection and data coding
- Require high degree of literacy and capacity of measuring time “with a clock” in respondents



Recording of time

Fixed intervals

- Length of interval decision
- Less precise measure of time
- Not as well suited to measuring activities of very short duration
- Ensures coverage of the 24-hour-a-day lag



More used for leave-behind

Open intervals

- More complicated data editing and processing



More used in telephone-based interviews

Recording of time



Length of interval

- Shorter rather than longer
 - Report short-duration activities

- The longer the interval => the greater the number of activities reported in the interval
=> more complicated editing and processing of diaries



A.ii Light time diary

Definition

- Restricts activity descriptions to a comprehensive but limited categorization of “pre-coded” activities (around-max 30).
- Recording of selected activities by marking the relevant time intervals

Light time diary



Activities		04.00-05.00	05.00-06.00	06.00-07.00	07.00-08.00	08.00-09.00	09.00-10.00
Sleeping and resting	1						
Eating	2						
Personal care	3						
School (also homework)	4						
Work as employed	5						
Own business work	6						
Farming	7						
Animal rearing	8						
Fishing	9						
Shopping/getting services	10						
Weaving, sewing, other textile care	11						
Cooking	12						
Domestic work (washing, cleaning)	13						
Care for children/adults/elderly	14						
Commuting	15						
Travelling	16						
Watching TV	17						
Reading	18						
Sitting with family	19						
Exercising	20						
Social visits	21						
Practising hobbies	22						
Other, specify	23						

A.ii Light time diary



Advantages

- More manageable for respondent
- Less time consuming
- Less expensive
- Require lower levels of literacy among respondents

Challenges

- Pre-defined list conditions respondent's answer
- Loss of less frequent activities



B. Stylized questions

Definition

- Questions on time spent on certain activities
- Require the respondents to recall the amount of time they spent on specified activities in a specific period of time (longer than diary)
- May target specific activities or be designed to be as exhaustive as possible to capture a complete period of time (24 hours, a week)

Examples

- Over the last week, how much time did you spend preparing meals?
- During the past week, how much time have you spent reading/watching TV,..?

B. Stylized questions



Advantages

- Less costly than diary data
- Less burden on respondent
- Can measure incidence of activities that occur infrequently

Challenges

- Analysis of data (total time might exceed 24 hours because of simultaneous activities)
- Higher error in data → underreport or overreport
- Recalling issues with long reference periods
- Wording of questions can affect the responses
- Difficult to measure simultaneous activities: => gender bias

Other important decisions to be made



1. Mode of data collection (interview PAPI, CAPI, CATI; self reported=left behind diaries, experience sampling; direct observation)
2. Sample design and selection (HHs; individuals; time)
3. Field operations: allocation of diaries; QL control procedures
4. Data processing procedures: huge granularity => very complex (data editing rules; coding; agreed outputs)
5. Activity classification



Activity classification

Classification of all activities a person can spend time on, during a 24H period

Coding activities is a very important step in the collection of time-use data

- Activity classification:
 - Hierarchical in nature
 - Defines the framework for analysis of the time-use survey data
 - Structure determined by a number of detailed activities and how we aggregate them in groups to produce meaningful time use statistics
 - Usually with numerical codes

Activity classifications



- International Classification of Activities for Time Use Statistics (ICATUS) 2016
- Activity coding list for the Harmonized European Time Use Surveys (HETUS) (Eurostat)
- CAUTAL in Latin America
- Nationally developed classifications

Time-use indicators



	Numerator		
Denominator	Total duration of activity	Total number of episodes of activity	Total number of participants
Total number of persons (population)	(1) Average time spent by pop	(2) Average number of episodes	(3) Proportion of 'doers' = particip rate
Total number of participants	(4) Average time spent by "doers"	(5) Average number of episodes	
Total number of episodes of activity	(6) Average duration per episode		



THANK YOU!

<http://unstats.un.org/unsd/gender/default.html>