



# Introducing Time Use Research

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# What is time use research?

- Study of people's daily activities
  - What they do
  - Where
  - When (time of day, month, year, season)
  - With whom
  - Under what conditions (on smartphone or on paper, whether they pay for the activity or location someone else pays or the activity takes place as a public good, what mode of transport, what type & level of energy/resources used; how physically (in)active they are at the time)



# Why care about time use

- Daily behaviour is the Sociological atom of social research (Jonathan Gershuny)
- Daily activities and routines of each person use resources & influence behaviour of others
- What people think they do & what they actually do differs
- Time is a shared resource – even though some people can buy better means to do some activities, we all have 24 hours, 1440 minutes per day



# Uses of MTUS & AHTUS Include

- Adult care (valuation, time cost, who performs care but does not identify as a carer)
- Child care (valuation, trends, participation of fathers, balance of physical/interactive care)
- Education (homework, parental involvement)
- Environment (transport modes, time at home/inside)
- Leisure (trends, physical activity, quality)
- Paid work (hours of work, scheduling)
- Sleep (hours per week, deprivation, trends)
- Unpaid work (women's total economic contribution, hours, trends, sharing in households)
- Volunteering (valuation, trends)
- Work-life Balance



# Modes of collecting time use data

- Observation (in person or over video link)
- Administrative data (entry/exit records; GPS tracking of location of devices; public records of service use; formal workplace diaries)
- Experience Sampling Methods (ESM)
- Monitoring devices (wearable technology)
- Unstructured diaries (paper, blog, twitter feeds, Facebook, video)
- Structured time use diaries



# Modes of collecting time diaries

- Paper & pencil/pen (left with diarist or completed with interviewer present)
- Telephone or Skype interviews
- Tablet / computer (in person or on-line)
- Smartphone / app
- Wearable technology (can be done as a stand-alone survey or in conjunction with another mode)



# Analysing activity patterns

- Distinguishing activities by context (reading on a train differs from reading in bed or on a beach)
- Allows flexibility to restructure data by interest in activity domains (work, personal & household care; leisure); physical activity, environmental impact
- Multi-tasking and simultaneous activities
- Distinguish impact of sequence variation on quality of different experiences



# Time use research – the early years

- Earliest surveys 1890s, early large scale surveys from 1920s
- Key early theorists
  - George Bevans
  - Hildegarde Kneeland
  - George Lundberg
  - Maud Pember-Reeves
  - Margaret Gilpin Reid
  - Pitirim Sorokin
- **Early topics**
  - Plight of poor
  - Peasant & farm labour
  - Radio & Television
  - Document days in times of change
  - Economic contributions of home production

Early countries: France, Germany, Japan, Russia, UK, USA



# Radical challenges of time use

- Human behaviour occurs in cycles aligned to both natural and cultural rhythms
- To understand behaviour, you must consider activity patterns in total – the focus on isolated elements distorts and obscures the picture
- All activities by all groups of people are important research subjects
- **Challenge to prevailing policy & social science assumptions of last century**



# Time Use Data Underused

- Long-standing prejudice against time use data
  - Data was difficult to process pre-1990s, myth that diary data too difficult to process persists
  - Resistance to challenges to core assumptions – particularly in fights for **gender equality** & **environmental stewardship**
  - Established, larger constituencies fighting for retention of other surveys in austerity era
  - Few time use text books or taught courses
  - Many people in field still sidelined
  - Limited accessible archives



# Key time use archives

- **Centre for Time Use Research**
  - **[www.timeuse.org](http://www.timeuse.org)**
  - Most comprehensive collection of time use information; included 2 harmonised datasets, the American Heritage Time Use Study (AHTUS) and the Multinational Time Use Study (MTUS)
- **ATUS-X <https://www.atusdata.org/index.shtml>**
- **Consolidated Human Activity Database (CHAD)**
  - **<http://www.epa.gov/heasd/chad.html>**
  - Collection of USA state & region level surveys + some national surveys



# Key USA time use surveys

- Kneeland USDA 1920s & 1930s
- **1965-66 Multinational Time-Budget Project**
- **1975-76 American's Use of Time: Economic & Social Accounts**
- **1985 American's Use of Time**
- **1992-95 National Human Activity Pattern Survey**
- **1998-01 FISCT & National Survey of Parents**
- 2006 Princeton Affect & Time Survey (PATS)
- **2003-14 American Time Use Survey**



# Key USA time use surveys

- Presently included in the American Heritage Time Use Study (AHTUS) and Multinational Time Use Study (MTUS); being added to TUS-X
  - 1965-66 MCTBRP; 1975-76 American's Use of Time: Economic & Social Accounts; 1985 American's Use of Time; 1992-95 NHAPS; 1998-99 FISCT; 1999-01 National Survey of Parents; 2003-12 American Time Use Survey (unharmonised ATUS already in TUS-X)
- Data being processed at CTUR for future release
  - USDA 1920s/30s; 2006 PATS, 2013 ATUS, future ATUS years also will be added



# USDA 1920s/30s surveys

- Organised by Hildegard Kneeland at USDA to measure unpaid production in economy
- 1500 farm, town & college-educated women in several states, including California, Michigan, Montana & Oregon
- 7-day own words diaries; individual week summary sheets of total time in 60 activities
- Data stored in boxes as USDA & substations; CTUR collecting, digitising, & coding diaries



# Multinational Comparative Time-Budget Research Project

- Part of Szalai pioneering comparative (10 East & West European countries, USA, Peru) project
- 2 samples; Jackson Michigan & contiguous states
- Collected by Univ of Michigan & Harvard Univ
- 1 diarist aged 18-64 in households with at least 1 employed person not working in agriculture
- Small (759 Jackson + 1262 national diaries)
- Own words paper diary collected 1965-1966
- 82% response Jackson; 74% national



# American's Use of Time: Economic & Social Accounts

- Early & rare longitudinal survey; 4 points 1975-76, 1981 follow-up of subsample
- Contiguous state sample of 1 person aged 18+; reduced diary & questionnaire also asked of spouse when sample person in a couple
- 1<sup>st</sup> survey collecting activity category affect data
- Combination of own words paper diaries & CATI
- 72% response Wave 1; 45% response 4 waves
- 4584 main respondent diaries across 4 waves
- Univ of Michigan collected survey



# American's Use of Time

- Univ of Michigan collected survey in 1985
- 3 samples; personal interview, CATI, paper self-completion own words post-back diaries
- Post-back main part of sample, only existing episode data
- All people aged 10+ completed diaries
- Included own-words reporting & affect data
- 55% response across samples; 51% post-back
- 3339 post-back diaries



# National Human Activity Pattern Survey (NHAPS)

- Survey of exposure to environmental pollutants, random digit dial sample, phone interview, 1 diarist per household, collected by University of Maryland for Environmental Protection Agency
- Main survey 1992-94; diaries from all ages (0+); omitted health, couple status, household income
- 1994-95 extension collected omitted variables from people age 18+
- 63% response; 7,514 diaries main sample
- 65% response; 1,199 diaries 94-95



# FISCT and NSP

- 2 University of Maryland CATI surveys of people aged 18+ often analysed together
- 1998-99 Family Interaction, Social Capital, & Trends in Time Use (national sample)
  - National Science Foundation funding; 56% response
- 1999-01 National Survey of Parents
  - Sloane Foundation funding; 64% response
  - Sample of parents of children aged <18
- 2,351 total diaries (1,891 have actual age; age imputed in other cases)



# Princeton Affect & Time Survey

- Alan Krueger & Daniel Kahneman at Princeton University designed and organised the survey, collected by Gallup Organization with funding from National Institute of Aging
- 1 person per household, 24 yesterday diary, included 6 affect questions for 3 moments in day
- 5981 diaries, 75% response from phone numbers reached by random-digit dialling sample
- Survey provided model for 2010; 2012 affect supplements of ATUS