>Time Use Data: A window into society

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How do you spend your time?

- The answer to this question can help us understand SO MANY THINGS about society.

- Time use survey is used across the social sciences, from urban planning to economics to sociology.

- At its core, time use survey usually asks:
  - What do you do?
  - When did you do it?
  - Who did you do it with?
  - Where did you do it?
  - How did you do it?
  - What was the sequence of the things you did?

Think about it 🤔 :
how to collect people's time use?

- If you want to do a time use survey to collect information regarding how much time respondents spent on various activities in the day before survey day (yesterday), what questions would you ask?

Think about it 🤔 : how to collect people's time use?

"Individual-based"

- How much time did you spend on sleeping?
- Where were you when you were sleeping?
- Who were you with when you were sleeping?

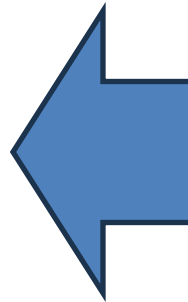- How much time did you spend on … (e.g., working, traveling, socializing)

"Episode-based"

- Think about what you have done yesterday. Let's start from the first activity at 4:00 in the morning:

  - What were you doing at 4:00am?
  - Starting at 4:00 am, how long did this activity last?
  - Where were you?
  - Who were you with?

Think about it 🤔 : how to collect people's time use?

"Individual-based"

- How much time did you spend on sleeping?
- Where were you when you were sleeping?
- Who were you with when you were sleeping?

- How much time did you spend on … (e.g., working, traveling, socializing)

"Episode-based"

- Think about what you have done yesterday. Let's start from the first activity at 4:00 in the morning:
  - What were you doing at **7:35am**?
  - Starting at **7:35am**, how long did this activity last?
  - Where were you?
  - Who were you with?

We choose Episode-based questions. But why?

"Individual-based"

- How much time did you spend on sleeping?
- Where were you when you were sleeping?
- Who were you with when you were sleeping?

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"Episode-based"

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  - What were you doing at **7:35am**?
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  - Where were you?
  - Who were you with?

https://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=assembleInstr&lang=en&Item_Id=1395477

Morning Time, am	What were you doing? Please record your main activity for each 10-minute period. Enter one main activity on each line.	What else were you doing? Write in the most important activity you were doing at the same time e.g. Looking after children, listening to the radio or having a drink	Where were you? e.g. At home, at friends, in car, on bus, train, cycling, walking	Were you with anybody? Please mark the boxes. See example on page 3.				
				Alone or with people you don't know	Children up to 9 living in your household	Children aged 10 to 14 living in your household	Other household members	Other persons that you know
7:00 - 7:10	Sleeping							
7:10 - 7:20	↓							
7:20 - 7:30	Had a shower		At home		X		X	
7:30 - 7:40	Made breakfast							
7:40 - 7:50	Ate breakfast	Read newspaper						
7:50 - 8:00	Did washing up							
8:00 - 8:10	Got my son dressed	Talked with my son					X	
8:10 - 8:20	Walked to school with son		Walking					
8:20 - 8:30	Dropped son off at school				X			
8:30 - 8:40	Walked to bus stop			X				
8:40 - 8:50	Travel by bus to work	Read newspaper	On the bus					
8:50 - 9:00								
9:00 - 9:10								
9:10 - 9:20	Walked from bus stop to main job		Walking					
9:20 - 9:30								
9:30 - 9:40				X				
9:40 - 9:50	Main job							
9:50 - 10:00	↓							

Figure 1: Part of the 2000/1 UK HETUS diary form

Pros:
- More intuitive to respondents (instead of researchers/ investigators!)
- Easily recall
- International comparison
- Continuous 24-hour period

Cons:
- Hard to answer
- Difficulty in coding
- Hard to be digitalized

https://www.timeuse.org/sites/ctur/files/public/ctur_report/4486/timeusesurveysandwellbein_tcm77-232153.pdf

Using time use data in GGR 274

- You will be working with the time use data from Statistics Canada in this course.

- Canada does a national time use survey every five years
  - You can access these datasets at chass.utoronto.ca going back to 1986
  - Most recent: 2022

- Statistics Canada describes the survey in more detail here:
  - https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=1268587

So what data does Statistics Canada Collect?

- Use the episode-based method (but in a digital form)

- Belong to General Social Survey (GSS) every 5 years

- Target population for the survey is non-institutionalized persons 15 years of age or older, living in the 10 provinces across Canada

- Sample size of approximately 20,000 respondents

  - weights computed to help make responses nationally representative

- Overview of 2019 survey from Stats Can:

https://www150.statcan.gc.ca/n1/en/pub/89f0115x/89f0115x2019001-eng.pdf?st=1YxqIEvL

So what data does Statistics Canada Collect?

- Episode File:

One person with 18 episodes (activities) on Saturday.

So what data does Statistics Canada Collect?

- Main (Individual) File (aggregated from episode file):

MAIN FILE - GSS Time Use 2015.csv

The guy with 18 activities but aggregated in duration

Exploring time use data

- The power of these data comes from our ability to explore **aggregate trends**, as well as **individual patterns**

- At the **aggregate level**, we can examine type of time use (let's say unpaid work) and split our dataset using another.

  - World Bank Blog on the importance of time use data:
    - https://blogs.worldbank.org/opendata/why-time-use-data-matters-gender-equality-and-why-it-s-hard-find

Time spent on unpaid work, per day, men vs women

Average minutes spent on unpaid work or study, per day, by sex (ages 15-65). Unpaid work activities include: routine housework; care for household members; child care; adult care; care for non-household members; volunteering; travel related to household activities; other unpaid work. Estimates come from time-use surveys and include both weekdays and weekends. The survey years differ across countries. See the source description for the survey year used for each country.
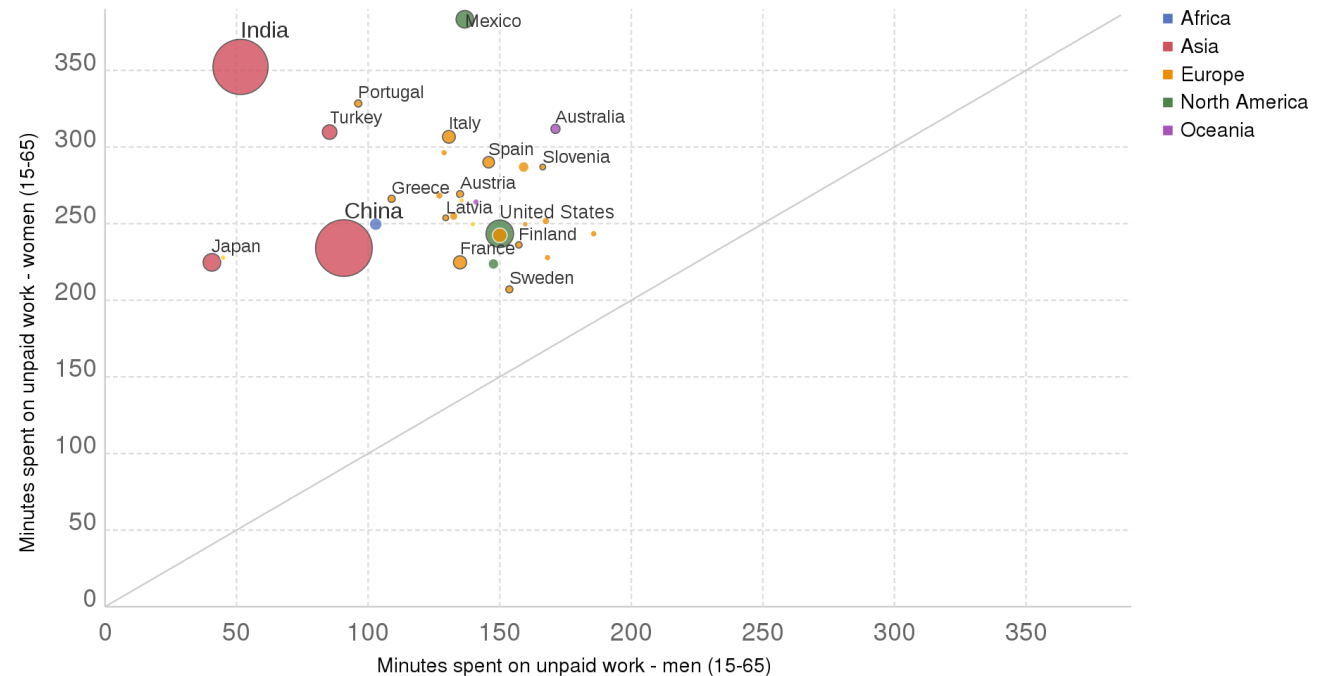
Source: OECD Gender Data (2018), Population (Gapminder, HYDE(2016) & UN (2019))

Exploring time use data

- Statistical Canada provides an interactive tool for 2022 Time Use Survey data (the most recent survey)
- You're welcome to explore!

- https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2025002-eng.htm

Percentage of participants in various activities, by time of day and gender: Total, weekdays and weekends
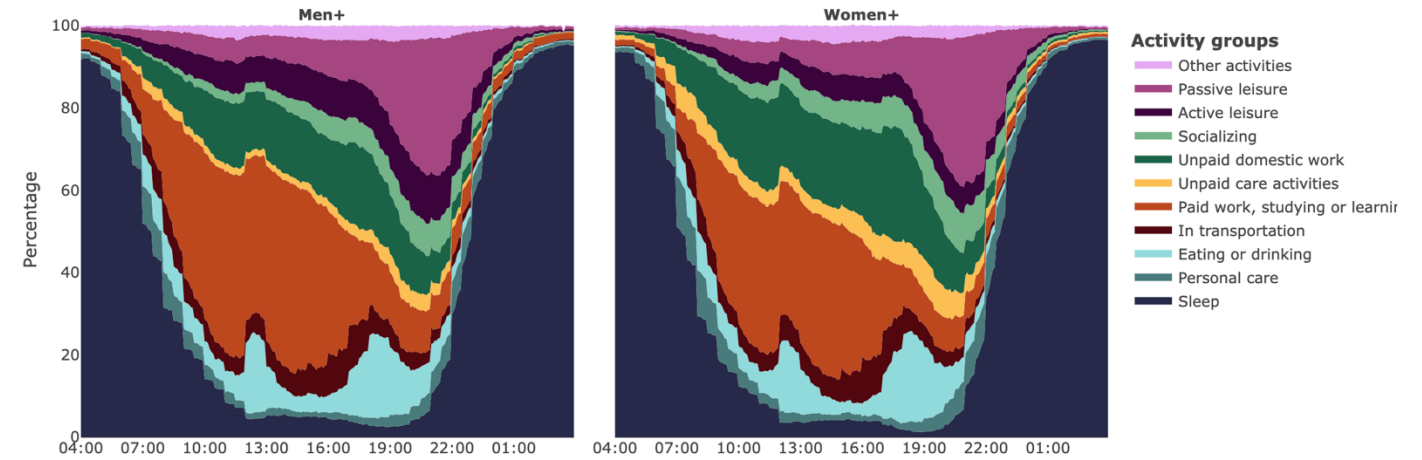
Percentage of participants in various activities, by time of day and gender: Total, weekdays and weekends
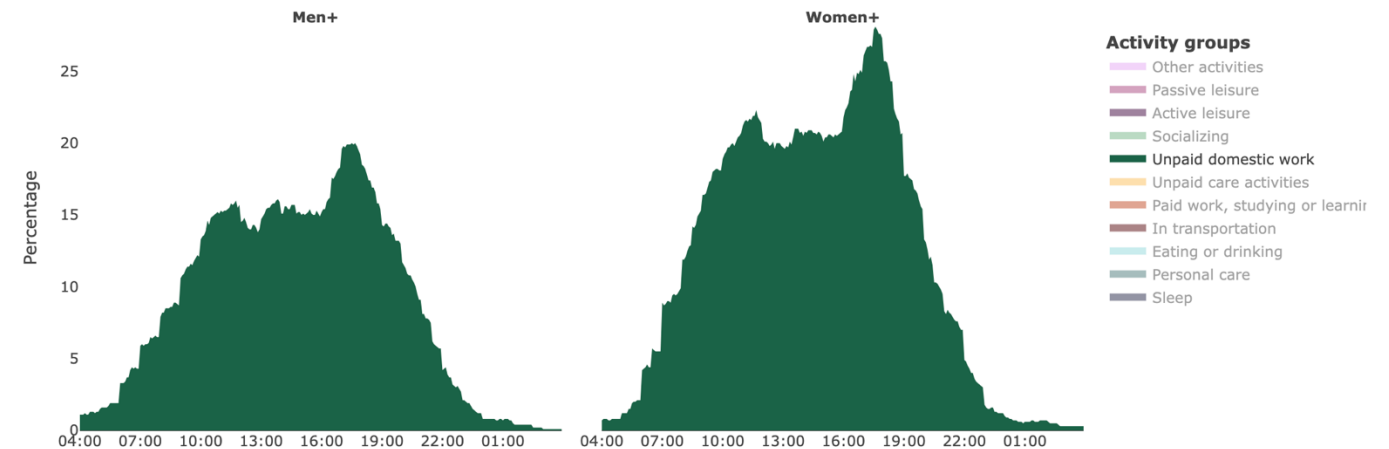
Exploring time use data

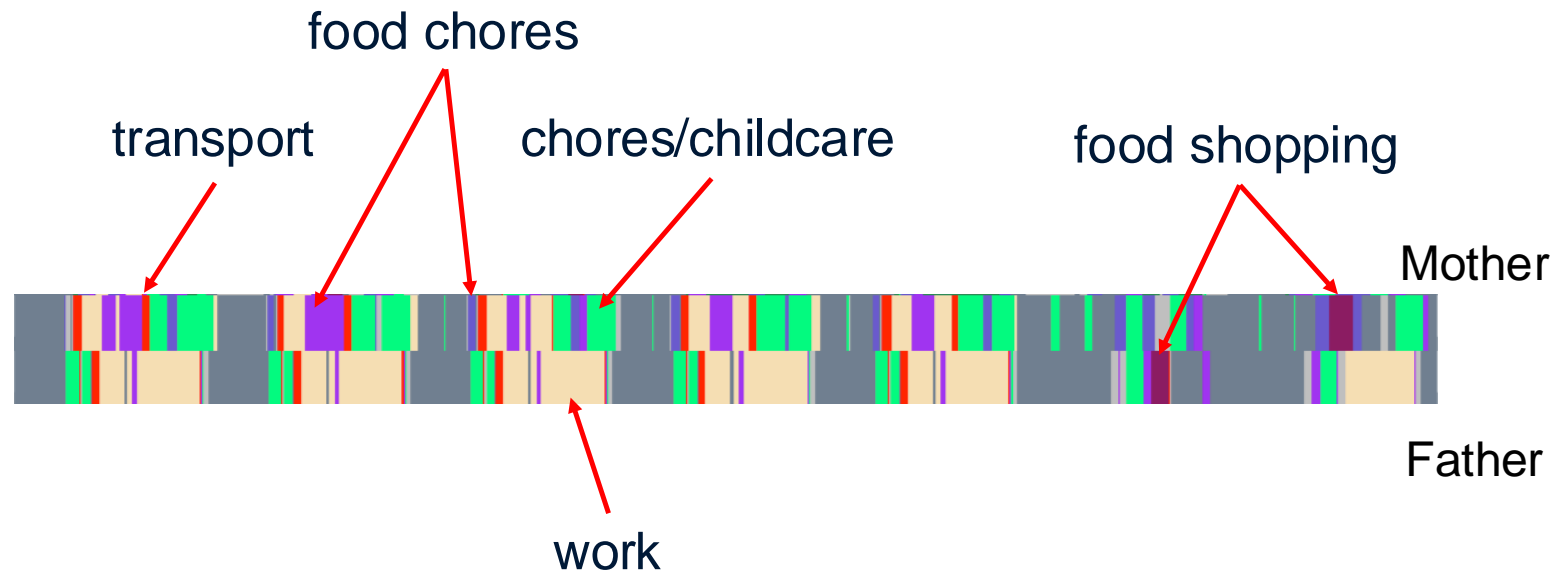- At the **individual level**, we can explore sequences of activities to understand why certain events happen before/after others
    - We can also look at how connected individuals coordinate activities at a household level

food chores

transport   chores/childcare   food shopping

Mother

Father

work

7 days time-use sequences in a household

Questions to think about...

- What type of information is found in Episode File?
  - When do we want to use this data?

- What type of information is found in Main File?
  - How can we link episode file and main file?

- What are some limitations to using time use data?
  - What CAN'T it tell us?