The American Time Use Survey
Future Work

Jay Stewart
Division Chief
Office of Productivity and Technology
UN Expert Group Meeting
20 June 2018
Response Rates, 2003 - present
Response rate calculation

Completes

Completes + Refusals + Noncontacts + Other + Unknown Eligibility
Initial contact

- Individuals selected for ATUS are mailed info about the survey
  - Letter appealing for participation
  - Brochure about the survey
  - Some people receive a debit card incentive
Improving survey response

- Efforts to improve information about the survey
- Efforts to improve contact
- Efforts to understand survey response and nonresponse
Improving survey information

- Mailed materials revised
  - To convey the importance of the survey and answer common questions
  - To incorporate survey results
  - To show a variety of people doing everyday activities
- Respondent website created
- Interviewer training
Reducing noncontact

- Call time of day examined and adjusted
- Incentive expansions
  - Non-working phone numbers are converted to incentive cases
  - Target difficult to reach populations
  - Expected result: a 1.5 percent increase in the number of interviews completed annually
Call time grid

Call Times

Make at least one call attempt in each Time Slot

<table>
<thead>
<tr>
<th>Weekdays</th>
<th>Saturdays</th>
<th>Sundays</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 AM – 11:59 AM</td>
<td>9 AM – 10:59 AM</td>
<td>11 AM – 12:59 PM</td>
</tr>
<tr>
<td>12 PM – 2:59 PM</td>
<td>11 AM – 12:59 PM</td>
<td>1 PM – 2:59 PM</td>
</tr>
<tr>
<td>3 PM – 4:59 PM</td>
<td>1 PM – 2:59 PM</td>
<td>3 PM – 3:59 PM</td>
</tr>
<tr>
<td>5 PM – 6:59 PM</td>
<td>3 PM – 4:59 PM</td>
<td>4 PM – 4:59 PM</td>
</tr>
<tr>
<td>7 PM – 7:59 PM</td>
<td>5 PM – 6:59 PM</td>
<td>5 PM – 6:59 PM</td>
</tr>
<tr>
<td>8 PM – 8:59 PM</td>
<td>7 PM – 8:59 PM</td>
<td>7 PM – 8:59 PM</td>
</tr>
</tbody>
</table>
Reducing noncontact

■ Analysis of returned mail (2005-07)
  ▶ Mail was undeliverable for:
    – 9 percent of incentive cases
    – 4 percent of non-incentive cases
  ▶ Mail returned for many reasons
  ▶ Receipt of mailed info positively correlated with response
  ▶ Addresses associated with incentive cases now undergo additional review before materials are sent
Understanding response and nonresponse

- Can movers be accurately identified from U.S. Postal Service info stamped on returned mail?
  - Evidence movers were being assigned case outcome codes of: noncontact, other, or unknown eligibility
  - Properly accounting for movers could increase reported response rates by up 1.2 percent
Understanding response and nonresponse

- Cell phone analysis (2009-10)
  - Are interviewers calling cell phones? Yes, 36 percent of the time
  - If so, does this affect survey response?
    - Yes, noncontact is higher for cell phone numbers than landline numbers
    - However, refusal rates are similar
Researching web collection

- ATUS response rates are falling
- Tight budgets
- Could the addition of a web collection mode boost survey response and reduce costs?
Westat study

- Literature review – Studies from Canada, Denmark, Netherlands
- Design Proposal
- Comparability report
- Mock-up of an instrument for collecting time diary info via the web
- No data were collected
Literature review

- Little research on web-collected diaries
  - Time-use data collected via the web is of similar quality to data collected by phone and paper

- Literature on web collection
  - Web surveys achieve lower response than other modes
  - Web has higher breakoff rates than CATI, especially for complex surveys
Survey design proposal

- Sequential mixed-mode: web collection followed by CATI
  - Use CPS data to group respondents by likelihood of responding via web
  - Mail survey info, a token incentive, and a request to respond via web
  - Call to remind respondents
  - Convert to CATI at different times during 8-week fielding period, depending on assigned group
Design consideration: Use CPS dependent data?

- Include CPS dependent data, as the CATI instrument does?
  - Secure log-in requirements were a barrier when tried in other household surveys, especially when logging in using a mobile device
  - Including CPS data in an ATUS collection instrument may be a turn-off to some ATUS respondents
Design consideration: How much detail to collect in the diary?

- Collect activity verbatims or have respondents identify their activities on a list?
- Capture activities for fixed time periods (e.g., 15-minute increments) versus allow any range of time?
- Should we continue to ask, Who?, Where?, and secondary childcare times?
- Include probes within the diary?
Design consideration: Mobile devices

- Web data collection means that respondents will be completing the survey on different types of devices with different screen sizes.

- Limited screen space on smartphones can make it difficult to perform some survey tasks such as complex grids.
Other web collection design considerations

- Should we allow web respondents to report their activities in real time?
- What is the optimal timing, number, and type of contacts for communicating with potential respondents?
- What is the best sequencing for converting selected individuals from web to CATI?
Web collection concerns: Major change to ATUS

- Incorporating Web collection would likely require an overhaul of the ATUS
  - Require simplification
  - Possibly affect our ability to add modules
  - Eliminate use of dependent CPS data in data collection
How might ATUS be impacted?

- Data quality: Unknown
  - Could improve if respondents reply in real-time on the Web
  - Interviewer role in data quality is not clear
- Survey response: Positive impact
  - Hold at current levels or improve
- Survey cost: Unknown
How might ATUS be impacted?

- **Respondent burden:** Positive impact, especially if survey is simplified and shortened
- **ATUS products:** Negative impact
  - Potential loss in comparability within a given year and compared to previous years
  - Potential breaks in thousands of data series
  - Less data for research
Web Collection Instrument Layout
## Summary of Diary Day

Here is a summary of your activity on Wednesday, February 4. Please verify that this information is correct. You may add, delete, or edit activity by clicking the buttons on the left.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Start Time</th>
<th>End Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleeping</td>
<td>4:00 AM</td>
<td>7:00 AM</td>
<td>Personal Care</td>
</tr>
<tr>
<td>Personal Care</td>
<td>7:00 AM</td>
<td>7:30 AM</td>
<td>Eating and Drinking</td>
</tr>
<tr>
<td>Eating and Drinking</td>
<td>8:00 AM</td>
<td>8:30 AM</td>
<td>Travel</td>
</tr>
<tr>
<td>Travel</td>
<td>8:30 PM</td>
<td>12:00 PM</td>
<td>Work</td>
</tr>
<tr>
<td>Work</td>
<td>12:00 PM</td>
<td>5:00 PM</td>
<td>Eating and Drinking</td>
</tr>
<tr>
<td>Eating and Drinking</td>
<td>5:00 PM</td>
<td>5:30 PM</td>
<td>Travel</td>
</tr>
<tr>
<td>Travel</td>
<td>5:30 PM</td>
<td>6:30 PM</td>
<td>Eating and Drinking</td>
</tr>
<tr>
<td>Watching TV</td>
<td>6:30 PM</td>
<td>9:30 PM</td>
<td>Personal Care</td>
</tr>
<tr>
<td>Personal Care</td>
<td>9:30 PM</td>
<td>10:00 PM</td>
<td>Sleeping</td>
</tr>
<tr>
<td></td>
<td>10:00 PM</td>
<td>4:00 AM</td>
<td></td>
</tr>
</tbody>
</table>
You indicated that Jimmy Doe was awake between 7:00 AM and 8:00 PM.

Please indicate during which times or which activities during that time period Jimmy Doe was in your care by checking the box on the right.

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Jimmy Doe in your care?</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM</td>
<td>Personal Care</td>
<td></td>
</tr>
<tr>
<td>7:30 AM</td>
<td>Eating and Drinking</td>
<td></td>
</tr>
<tr>
<td>8:00 AM</td>
<td>Travel</td>
<td></td>
</tr>
<tr>
<td>8:30 PM</td>
<td>Work</td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>Eating and Drinking</td>
<td></td>
</tr>
<tr>
<td>5:00 PM</td>
<td>Travel</td>
<td></td>
</tr>
<tr>
<td>5:30 PM</td>
<td>Eating and Drinking</td>
<td></td>
</tr>
<tr>
<td>6:30 PM</td>
<td>Watching TV</td>
<td></td>
</tr>
</tbody>
</table>

Next
Other Considerations - Probing

Follow-ups can be asked in two locations

▶ Asked as respondent completes the diary
  – May help train respondent not to make mistakes
  – Could add burden to data entry task if too many probes are used – resulting in more breakoffs

▶ Asked on the summary screen
  – Doesn’t interrupt the flow of the instrument
  – Some probes are only relevant after the diary is completed (e.g. probes for missing eating and drinking)
  – Respondent may have made some preventable mistakes that could have been caught earlier
Other Considerations – Changes to Activity Classification

- Drop boxes or search fields can be used
  - Analyzed data to identify most prevalent activities
    - Some categories may need to be reorganized
    - Cognitive testing and card sorting would be helpful
Data Comparability

- Measurement error
  - Are there differences in data quality (e.g. item nonresponse, number of activities reported, etc.) across modes?
  - Are there differences in socially desirable reporting
  - Can use covariates from CPS frame to model out differences in coverage and nonresponse
Contact Information

Jay Stewart
Division Chief
Office of Productivity and Technology
www.bls.gov/dpr/stewart.htm
202-691-7376
Stewart.Jay@bls.gov