ATUS Eating & Health Module

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Time Use Data Access System Workshop
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TIME USE—How does this relate to food and nutrition research?

Decisions individuals make on how they use their 24 hours a day have short-run and long-run implications for income and earnings, health, and other aspects of well-being.

• Food procurement and prep - major category of home production
  – Nutrition issues, food safety issues

• Food assistance and time conflicts

• Time spent eating, exercising or doing other activities has implications for obesity risk
The American Time Use Survey

• Bureau of Labor Statistics survey, conducted by Census
• Continuously collected survey, began 2003
• One designated respondent per household, 15+ years old
• **24-hour recall diary** – core of ATUS (American Time Use Survey)
• 4:00am of previous day to 4:00am interview day
• Primary activity only (self-reported) except for childcare
• Where each activity took place, whom respondent was with
• Demographic, labor participation, and household info; limited geographical info
• Time diary method considered “neutral” method of collecting activity information
2006-08 Eating & Health Module

ERS developed a module of questions to accompany the American Time Use Survey
  – 4-minute Module fielded 2006-08
  – Module funded by ERS and NIH-NCI

Data collected included:
  – Secondary eating and drinking
  – Usual grocery shopper, meal preparer
  – SNAP participation, income
  – School meals for children in household
  – General health, BMI

ERS Report—How Much Time Do Americans Spend on Food?

• ERS EIB-86, Nov. 2011

• Charts and graphs available for downloading

Eating Patterns, Nutrition, Obesity

Motivation:

Are certain patterns of eating and of time use associated with obesity?
Eating Patterns, Nutrition, Obesity

Eating as a secondary activity

“We’re interested in finding out more about how people fit meals and snacks into their schedules. Yesterday, you reported eating or drinking between [fill times]. Were there any other times you were eating yesterday—for example while you were doing something else? About how long would you say you were eating while you were [fill activity]?

Not including plain water, were there any other times yesterday when you were drinking any beverages? About how long would you say you were drinking while you were [fill activity]?”
Eating Patterns, Nutrition, Obesity

Example of secondary eating in diary:

<table>
<thead>
<tr>
<th>start time</th>
<th>end time</th>
<th>primary activity</th>
<th>secondary eating?</th>
<th>how long?</th>
<th>secondary drinking?</th>
<th>how long?</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00pm</td>
<td>10:00pm</td>
<td>watching TV</td>
<td>Yes</td>
<td>15 min.</td>
<td>Yes</td>
<td>45 min.</td>
</tr>
</tbody>
</table>
On an average day 2006-08, men and women spent about the same amount of time in eating and drinking activities.

![Bar chart showing average minutes per day spent in different eating and drinking activities for men and women.](chart)

- **Primary eating & drinking**
  - Men: 69 minutes
  - Women: 65 minutes

- **Secondary eating**
  - Men: 23 minutes
  - Women: 24 minutes

- **Secondary drinking beverages**
  - Men: 59 minutes
  - Women: 67 minutes

- **Associated activities**
  - Men: 8 minutes
  - Women: 7 minutes

- **Total time in eating & drinking**
  - Men: 150 minutes
  - Women: 154 minutes

Age 15 and over. Source: 2006-08 ATUS and EHM data.
Those who report no primary eating and drinking (4% of the population) spent more time in secondary eating and drinking, 2006-08.

Age 15 and over.

Source: 2006-08 ATUS and EHM data.
43% of Americans were eating or drinking between noon and 1pm on an average day, 2006-08.

Source: 2006-08 ATUS and EHM data.
## Eating Patterns, Nutrition, Obesity variables in the ATUS-X

<table>
<thead>
<tr>
<th>ATUS-X name</th>
<th>description</th>
<th>EH Module name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SED_EAT</td>
<td>Total time in secondary eating (minutes)</td>
<td>ERTSEAT</td>
</tr>
<tr>
<td>SED_DRINK</td>
<td>Total time in secondary drinking (minutes)</td>
<td>EUDRKSUM</td>
</tr>
<tr>
<td>PED</td>
<td>Total time in primary eating and drinking (minutes) (ERS definition)</td>
<td>ERTPREAT</td>
</tr>
<tr>
<td>SED_EAT_LN</td>
<td>Time spent during activity on secondary eating (minutes)</td>
<td>EUEDUR24</td>
</tr>
<tr>
<td>SED_DRINK_LN</td>
<td>Time spent during activity on secondary drinking (minutes)</td>
<td>EUDDUR24</td>
</tr>
<tr>
<td>SED_ALL_LN</td>
<td>Duration of time spent during activity on secondary eating and drinking, adjusting for possible overlap</td>
<td>--</td>
</tr>
</tbody>
</table>
Eating Patterns, Nutrition, Obesity variables in the ATUS-X Usage Notes

- “All day” option added to survey instrument in October 2006 ➔ secondary drinking times increased
- ERS definition of primary eating/drinking is different from BLS definition
  - ERS includes 050202, eating/drinking as part of job
  - ERS does not include 1102xx (waiting) or 1811xx (travel)
  - ERS estimates use Module final weight (EHWT in ATUS-X, EUFINLWGT in microdata files), and only respondents who completed Module interview
- Total secondary eating and drinking—adjusting for possible overlap
Eating Patterns, Nutrition, Obesity—gaining insight into context of eating

On an average day in 2008...
The top 3 places for primary eating and drinking were:
• Own home or yard 68.3 percent
• Workplace 12.1 percent
• Restaurant or bar 10.9 percent

The top 3 places for secondary eating or drinking were:
• Own home or yard 50.1 percent
• Workplace 14.6 percent
• Driving a vehicle 14.2 percent

The top 5 activities that accompanied secondary eating or drinking were:
• Relaxing and leisure* 23.8 percent
• Paid work 14.0 percent
• Food and drink preparation and cleanup 5.9 percent
• Personal care, such as grooming 5.7 percent
• Socializing and communicating 4.6 percent

*Watching television accounted for about two-thirds of this category

Source: 2006-08 ATUS and EHM data.
**Eating Patterns, Nutrition, Obesity**

General Health, height and weight

Allows for calculation of body mass index (BMI)

“I’m going to switch topics and ask you a few final questions about your physical health that might affect how you use your time. In general, would you say your physical health is excellent, very good, good, fair, or poor?

How tall are you without shoes?

How much do you weigh without shoes?”

Note: Pregnancy screen for women age 18-50.
About the same amount of time is spent in eating activities among the BMI groups, 2006-08.

Source: 2006-08 ATUS and EHM data.
Obese spent relatively less time in meals and more in snacking than others.

**Ratio of time spent in primary and secondary eating and drinking on an average day over 2006-08, age 20+**

<table>
<thead>
<tr>
<th>Category</th>
<th>Ratio of primary eating/drinking to secondary eating and drinking</th>
<th>Ratio of primary eating/drinking to secondary eating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal weight</td>
<td>4.2</td>
<td>7.8</td>
</tr>
<tr>
<td>Overweight</td>
<td>4.2</td>
<td>7.9</td>
</tr>
<tr>
<td>Obese</td>
<td>3.5</td>
<td>6.6</td>
</tr>
</tbody>
</table>

Source: 2006-08 ATUS and EHM data.
Time spent in sleep by general health status, 2006-08

Average minutes per day

Age 20 and over

Excellent
Very good
Good
Fair
Poor

Men
Women

Source: 2006-08 ATUS and EHM data.
Eating Patterns, Nutrition, Obesity variables in the ATUS-X

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<tr>
<th>ATUS-X name</th>
<th>description</th>
<th>EH Module name</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENHEALTH</td>
<td>General health</td>
<td>EUGENHTH</td>
</tr>
<tr>
<td>HEIGHT</td>
<td>Height (inches)</td>
<td>EUHGT</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>Weight (pounds)</td>
<td>EUWGT</td>
</tr>
<tr>
<td>BMI</td>
<td>Body mass index</td>
<td>ERBMBI</td>
</tr>
</tbody>
</table>
Eating Patterns, Nutrition, Obesity variables in the ATUS-X Usage Notes

- Both height and weight are top coded and bottom coded for confidentiality
  - height: top code = 77” bottom code = 56”
  - weight: top code = 98 lb. bottom code = 330 lb.

- Note that the definitions of overweight and obesity are different for adults (age 20+) than for children/teens

- Pregnant women not asked weight ➔ BMI missing

- Very good cooperation with these questions—only 5.5% missing, of which 1-percentage-point is pregnant women
ERS report—Nonresponse Bias Analysis of BMI Data in the Eating and Health Module

• Finding—any nonresponse bias associated with missing BMI appears to be small and would not affect analyses of BMIs and time-use pattern correlations.

• Missing BMI respondents had higher indicators of being reluctant or uncooperative survey participants.

Food Assistance

• SNAP/Food stamps
• Our research questions:
  • Are food assistance recipients’
    time patterns different from those
    of non-participants?
  • What are the time constraints that
    low-income households face?
  • Does household composition
    matter?

“In the past 30 days, did you or
anyone in your household get
food stamp benefits?”
Persons in SNAP/food stamp households spent more time in grocery shopping and food preparation than income-eligible non-participants, 2006-08.

Age 18 and over.

Source: 2006-08 ATUS and EHM data.
Food Assistance

Household income

*Last month, was your total household income before taxes more of less than [fill] per month?*  
[fill is 185% of poverty threshold]

If less, then

*Was it more or less than [fill] per month?*  
[fill is 130% of poverty threshold]

• Below **185%** poverty threshold is income eligibility for **WIC** and for **reduced-price school meals**.

• Below **130%** poverty threshold is income eligibility for **food stamps** (SNAP) and for **free school meals**.
Food Assistance variables in the ATUS-X

<table>
<thead>
<tr>
<th>ATUS-X name</th>
<th>description</th>
<th>EH Module name</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOODSTAMP</td>
<td>Household received food stamps in past 30 days</td>
<td>EUFSP</td>
</tr>
<tr>
<td>POVERTY130</td>
<td>HH income greater or less than 130% of poverty level</td>
<td>EEINCOME1</td>
</tr>
<tr>
<td>POVERTY185</td>
<td>HH income greater or less than 185% of poverty level</td>
<td>EUINCOME2</td>
</tr>
<tr>
<td>POVERTYLEVEL</td>
<td>Income thresholds used in POVERTY130 and POVERTY185</td>
<td>EUINCLVL</td>
</tr>
</tbody>
</table>
Food Assistance variables in the ATUS-X
Usage notes

- The Food Assistance Program was renamed the Supplemental Nutrition Assistance Program (SNAP) as of October 1, 2008.

- Time use estimates using FOODSTAMP (EUFSP) are: the number of person-days for the civilian population age 15 and older in a household that receives food stamps.
  - NOT the total population receiving food stamps or caseloads
  - NOT the number of households receiving food stamps

This variable is a household characteristic of the respondent.

- EHM estimates of households participating in SNAP are about one-third less than estimates from administrative data—this is less underreporting than in most other household surveys.
Food Assistance variables in the ATUS-X

Usage notes

• Income amounts asked (185% and 130% of the poverty threshold) are asked because they are the income-eligibility thresholds for food and nutrition assistance programs.

• Food assistance income-eligibility thresholds change at the start of the fiscal year, October 1. POVERTYLEVEL (EUINCLVL) will identify the set of thresholds used for the respondent’s interview.

• Very good cooperation to income questions—the original data have about 10% missing, and imputations using household members’ earnings lower the number missing to 4.5% of POVERTY185 (EEINCOME1)
Food Acquisition: Grocery Shopping & Meal Preparation

Motivation—Are grocery shopping and meal preparation times different across different types of households? Do the usual grocery shoppers and usual meal preparers have different time use patterns than others?

“I’d like to ask you a couple questions about food preparation.

“Are you the person who usually does the grocery shopping in your household?

“Are you the person who usually prepares the meals in your household?”

Responses: Yes
No
Split equally
2006-08, women are more likely to report that they do the grocery shopping and meal prep in the household.

Source: 2006-08 ATUS and EHM data.
# Grocery Shopping & Meal Preparation in the ATUS-X

<table>
<thead>
<tr>
<th>ATUS-X name</th>
<th>description</th>
<th>EH Module name</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOODSHOP</td>
<td>Respondent usually does the grocery shopping for the household</td>
<td>EUGROSHP</td>
</tr>
<tr>
<td>MEALPREP</td>
<td>Respondent usually does the meal preparation for the household</td>
<td>EUPRPMEL</td>
</tr>
</tbody>
</table>
Food Acquisition: Meals Obtained at School

• Meals Obtained at School—our research questions:
  – What are the time benefits of school meals?
  – What are the time use patterns of parents whose children participate in school meal programs versus others?
Food Acquisition: Meals Obtained at School

School meals—breakfast

“Please think back over the past week starting last Monday up to today, Monday. In the past week, did [Fill names of children] eat a BREAKFAST that was prepared and served at a school, a paid day care or Head Start center, or a summer day program? This question refers ONLY to BREAKFASTS prepared at the school or center—not meals brought from home.”

“Which children?”

Note: All households with children asked; no income screen.
Food Acquisition: Meals Obtained at School

School meals—lunch

“What about lunch? Please think back over the past week starting last Monday up to today, Monday. In the past week, did [Fill names of children] eat a LUNCH that was prepared and served at a school, a paid day care or Head Start center, or a summer day program? This question refers ONLY to LUNCHES prepared at the school or center—not meals brought from home.”

“How children?”

Note: All households with children asked; no income screen.
Obtaining children’s meals from school/day care is associated with more time spent in paid work, 2007.

Persons age 19 and over with children in the household
Source: 2006-08 ATUS and EHM data.
Teens who obtain meals at school spend more time in educational activities and less in screen time.

Figure 19
Time spent in selected activities, teenagers age 15-18 and in school, on an average day 2006-08

### Food Acquisition: Meals Obtained at School variables in the ATUS-X

<table>
<thead>
<tr>
<th>ATUS-X name</th>
<th>description</th>
<th>EH Module name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANYBRK</td>
<td>HH children ate a breakfast prepared at school</td>
<td>EESCLBRK</td>
</tr>
<tr>
<td>SCHLBRK</td>
<td>Ate breakfast prepared at school</td>
<td>EEBRK</td>
</tr>
<tr>
<td>ANYLNCH</td>
<td>HH children ate a lunch prepared at school</td>
<td>EESCLLCH</td>
</tr>
<tr>
<td>SCHLLNCH</td>
<td>Ate a lunch prepared at school</td>
<td>EELCH</td>
</tr>
</tbody>
</table>
Module variables in the ATUS-X
General Usage notes

• When using EH Module variables, need to use sample weights EHWT (EUFINLWGT) and the corresponding replicate weights, REHWT (EUFINLWGT001-EUFINLWGT160)

• Research note: With EH Module variables, have 3 outcomes—general health, BMI, and income—to analyze with time use patterns.
2014-15 Eating & Health Module

- Funded by ERS-Food Economics Division
- Technical assistance partners: NIH-NCI & USDA-FNS
- Research areas of interest:
  - diet and health
  - food safety
  - food markets
  - food assistance programs
Eating as a secondary activity

“We’re interested in finding out more about how people fit meals and snacks into their schedules. Yesterday, you reported eating or drinking between [fill times]. Were there any other times you were eating yesterday—for example while you were doing something else? About how long would you say you were eating while you were [fill activity]?
Secondary drinking—soft drinks

Not including plain water, were there any other times yesterday when you were drinking any beverages?

• Were any of the beverages soft drinks such as cola, root beer, or ginger ale?

• Was the soft drink diet, regular or did you have both kinds?
Are you the person who usually does the grocery shopping in your household? If so:

Where do you get the majority of your groceries?
- grocery store, supercenter,
- warehouse club, convenience store,
- other?

What is the primary reason you shop there?
- price, location, quality, variety,
- customer service, other?
2014-15 EHM: Food acquisition

Thinking back over the last seven days, did you purchase any: prepared food from a deli, carry-out, delivery food, or fast food?

- How many times?
- Did you purchase prepared food yesterday?
Are you the person who usually prepares the meals in your household? If so:

- In the last 7 days, did you prepare any meals with meat, poultry or seafood? Did you use a food or meat thermometer?

- In the last 7 days, did you drink or serve unpasteurized or raw milk?
2014-15 EHM:
Food sufficiency and food assistance

Which of the following statements best describes the amount of food eaten in your household in the last 30 days—enough food to eat, sometimes not enough to eat, or often not enough to eat?
2014-15 EHM: Food sufficiency and food assistance

- Supplemental Nutrition Assistance Program participation (SNAP)
- Women, Infants, and Children (WIC) participation
- Household income:
  - Above/below 185% poverty threshold?
  - Above/below 130% poverty threshold?

Note: all respondents asked.
2014-15 EHM: Health

• General health: excellent, very good, good, fair, poor
• Height & weight
• Exercise:

  During the past seven days, did you participate in any physical activities or exercises for fitness and health such as running, bicycling, working out in a gym, walking for exercise, or playing sports? How many times?
2014-15 EHM: Data release

2014 Eating & Health Module data and estimates expected to be released Winter 2015/16.

2015 Eating & Health Module data and estimates expected to be released Winter 2016/17.
Contact Information

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UK WWI war poster