

479613R025825634972846961  
25...12569321437  
...121934598  
928386...38927...5793121  
34791427293842...39634  
152842118766392894...8289  
6914872 52529174676...465  
5362593 217875927823...137  
7195728 85323729457...53  
8647381 13595872165983...1  
325214...6274181421539...8  
941982...9181436346197...7  
836169...64715273948...4  
192...045881  
684...1953612144  
563...14239428652587  
72919...565417649172...2  
3874291562789679316431...5  
5938724619628951479257...6

# IPUMS TIME USE

## Workshop Exercises and Answers

PAA Pre-Conference Workshop

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Austin, TX

**IPUMS**





# Lab Exercise #1: Time Use Variables

## Learning goals

- Become familiar with time use variable documentation in ATUS-X and MTUS-X
- Learn different ways to create customized time use variables
- Browse the time diary characteristics that you can use to create time use variables

## Summary

In addition to offering a broad set of time use variables, IPUMS also allows you to create your own, more complex time use variables. In this exercise, you will explore the IPUMS Time Use feature that allows you to create customized time use variables based on the underlying time diary data. You will identify the different components of the time diary that you can use to build time use variables and become familiar with the associated documentation describing the components.

### Part 1: Browse the system-defined time use variables in ATUS-X

1. How many “Activity coding structure” time use variables are available through IPUMS ATUS? \_\_\_\_\_
2. What activities are included in the time use variables ACT\_CAREHH and ACT\_CARENHH? What is the key difference between ACT\_CAREHH and ACT\_CARENHH? Hint: see the description and the list of activities included for each.

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3. Navigate to the “person” drop-down menu and select “Eldercare” to learn more about person-level measures of elder care available in the ATUS. What three variables provide information about elder care provision? How do these measures differ from those in the system provided time use variables ACT\_CAREHH and ACT\_CARENHH?

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### Part 2: Browse the system-defined time use variables in MTUS-X

4. How many “Activity coding structure” time use variables are available through IPUMS MTUS? \_\_\_\_\_
5. What three activities are included in ACT\_CIVIC? *Hint: click on the ACT\_CIVIC link to view the characteristics of this variable.* \_\_\_\_\_

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6. Is there any information in the ACT\_CIVIC documentation about timing information? For example, using only ACT\_CIVIC could you compare adult care in the morning with adult care in the afternoon? \_\_\_\_\_

7. If you have navigated away from the activities that are included in ACT\_CIVIC, return to the list of activities that ACT\_CIVIC includes. Click on the “Adult care” link to learn more about country-specific details regarding adult care activity coding. How comparable is adult care for the United States 2003, United Kingdom 2000, and Spain 2002?

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### Part 3: Learn more about time use variables

8. Navigate to the ATUS home page and click on "ABOUT ATUS-X". Click on "Creating and selecting time use variables." What are the three main actions related to time use variables? \_\_\_\_\_  
\_\_\_\_\_
9. After navigating back to the ATUS home page, click on "Get Data" then click on "Create Time Use Variable." For creating a new time use variable, you can either load an existing one and use it as a template or create one from scratch. How do you use an existing time use variable as a template? How do you create a time use variable from scratch?  
\_\_\_\_\_  
\_\_\_\_\_
10. Create a time use variable from scratch. What are the activity-level characteristics you can use to create time use variables? *Hint: tabs represent different activity-level characteristics you can use to create a time use variable.* \_\_\_\_\_  
\_\_\_\_\_
11. What filters do you need to create a time use variable that captures time spent in adult care from 8 am to noon? \_\_\_\_\_



## Part 1: Browse the system-defined time use variables

1. How many “Activity coding structure” time use variables are available through IPUMS ATUS? 17
2. What activities are included in the time use variables ACT\_CAREHH and ACT\_CARENHH? What is the key difference between ACT\_CAREHH and ACT\_CARENHH? Hint: see the description and the list of activities included for each. Caring for and helping children and adults. The key difference between ACT\_CAREHH and ACT\_CARENHH is whether children and adults are household members or non-household members.
3. Navigate to the “person” drop-down menu and select “Eldercare” to learn more about person-level measures of elder care available in the ATUS. What three variables provide information about elder care provision? How do these measures differ from those in the system provided time use variables ACT\_CAREHH and ACT\_CARENHH? ECYEST, ECPRIOR, & ECFREQ provide information about elder care provision. The difference between these measures and ACT\_CAREHH AND ACT\_CARENHH is the person-level variables have different temporal reference points and are not linked to specific activities on the diary day.

## Part 2: Browse the system-defined time use variables in MTUS-X

4. How many “Activity coding structure” time use variables are available through IPUMS MTUS? 12
5. What three activities are included in ACT\_CIVIC? *Hint: click on the ACT\_CIVIC link to view the characteristics of this variable.* Adult care; voluntary, civic, organizational act; worship and religion
6. Is there any information in the ACT\_CIVIC documentation about timing information? For example, using only ACT\_CIVIC could you compare adult care in the morning with adult care in the afternoon? No, adult care is not separable from volunteering or worship and is not differentiated by time of day.
7. If you have navigated away from the activities that are included in ACT\_CIVIC, return to the list of activities that ACT\_CIVIC includes. Click on the “Adult care” link to learn more about country-specific details regarding adult care activity coding. How comparable is adult care for the United Kingdom 2000 and Spain 2002? UK 2000 includes help to both household and non-household adults while Spain 2002 only includes help to adult



household members. These do not appear to be directly comparable. UK 2005 includes help to both household and non-household adults, and seems comparable to UK 2000.

### Part 3: Learn more about time use variables

8. Navigate to the ATUS home page and click on "ABOUT ATUS-X". Click on "Creating and selecting time use variables." What are the three main actions related to time use variables? Selecting an existing one; modify an existing one; create a new one
9. After navigating back to the ATUS home page, click on "Get Data" then click on "Create Time Use Variable." For creating a new time use variable, you can either load an existing one and use it as a template or create one from scratch. How do you use an existing time use variable as a template? How do you create a time use variable from scratch? To use an existing time use variable as a template, click on "Load" next to the time use variable name that you want to use as your starting point. To create a new one from scratch, click on "Create Variable From Scratch."
10. Create a time use variable from scratch. What are the activity-level characteristics you can use to create time use variables? *Hint: tabs represent different activity-level characteristics you can use to create a time use variable.* Activity, time of day, secondary activity, location, with whom
11. What filters do you need to create a time use variable that captures time spent in adult care from 8 am to noon? Activity and time of day





# Lab Exercise #2: ATUS Variable Documentation

## Learning goals

- Become familiar with ATUS-X documentation
- Learn about differences in eldercare data available in the ATUS
- Learn the difference between variables with and without the `_CPS8` suffix

## Summary

In this exercise, you will browse the ATUS variable-level documentation for several different variables. You will explore various features of the documentation to help you become familiar with where different kinds of variable-level information are located in the IPUMS system.

### Part 1: Browse the available variables

1. Which level (drop-down menu) contains information about the time diary? \_\_\_\_\_
2. Which level (drop-down menu) contains information about the individuals who completed the time diaries? \_\_\_\_\_
3. Which level (drop-down menu) contains information about date of the ATUS interview? \_\_\_\_\_
4. Which level (drop-down menu) contains information about date of the final CPS interview? \_\_\_\_\_

### Part 2: Reviewing variable details

5. Review the documentation for EDUC and EDUCYRS, both of which are available under Person à Education. What is the difference between EDUC and EDUCYRS? Using these variables is it possible to construct measures of education for all household members?  
\_\_\_\_\_  
\_\_\_\_\_
6. Find the RACE variable, which is under Person à Core Demographic. Is it possible to construct measures that indicate reporting of more than one race for all persons in all years? \_\_\_\_\_

Review the GENHEALTH variable under Person à Core Demographic. For which samples (survey years) is GENHEALTH available? Is GENHEALTH available for all ATUS respondents? How many respondents in 2016 reported being in "poor" health?

7. Review the documentation about ELDERCARE under Person à Eldercare. What variables can be used to identify ATUS eldercare providers? How many respondents report providing elder care in ECYEST and ECPRIOR in 2017?  
\_\_\_\_\_  
\_\_\_\_\_





8. Review documentation under the ELDERCARE drop-down menu. Which type of data structure is required to use these variables? Why? Which variable can be used to determine the relationship of eldercare recipients and ATUS eldercare providers? Is it possible to determine the coresidential status of all eldercare recipients in ATUS?

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9. How do the person-level measures of elder care differ from the elder care time use variables included in ACT\_CAREHH and ACT\_CARENHH used in Exercise #1?

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### Part 3: Browse differences between variables with and without the \_CPS8 suffix

10. Navigate to the "person" drop-down menu and select "work status" to learn more about person-level measures of employment available in the ATUS. What is the description of EMPSTAT?

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11. When is EMPSTAT collected?

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12. What is the universe for EMPSTAT?

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13. When is EMPSTAT\_CPS8 collected?

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14. What is the universe for EMPSTAT\_CPS8?

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## Part 1: Browse the available variables

1. Which level (drop-down menu) contains information about the time diary? activity
2. Which level (drop-down menu) contains information about the individuals who completed the time diaries? person
3. Which level (drop-down menu) contains information about date of the ATUS interview? person à technical person
4. Which level (drop-down menu) contains information about date of the final CPS interview? household à technical household

## Part 2: Reviewing variable details

5. Review the documentation for EDUC and EDUCYRS, both of which are available under Person à Education. What is the difference between EDUC and EDUCYRS? Using these variables is it possible to construct measures of education for all household members? EDUC indicates the highest level of education completed whereas EDUCYRS indicates total years of education constructed from questions about time in specific educational programs the highest level of education completed. Because the universe for the variables is CPS household members age 15+, it is possible to construct measures of education for household members age 15+.
6. Find the RACE variable, which is under Person à Core Demographic. Is it possible to construct measures that indicate reporting of more than one race for all persons in all years? The category two or more races was not available from January to May of 2003, so it not possible to construct measures about reporting more than one race for all persons in all years.
7. Review the GENHEALTH variable under Person à Core Demographic. For which samples (survey years) is GENHEALTH available? Is GENHEALTH available for all ATUS respondents? How many respondents in 2016 reported being in "poor" health? GENHEALTH is available in the 2006-2008 and 2010-2016 samples. GENHEALTH is available only for individuals who participated in Eating and Health Module in 2006-2008 and 2014-2016, the 2010, 2012, and 2013 Well-being Module, and the 2011 Leave Module. 380 respondents in 2016 reported being in "poor" health. This information is on the "codes" tab and is visible by selecting "case-count view" option.



8. Review the documentation about ELDERCARE under Person à Eldercare. What variables can be used to identify ATUS elder care providers? How many respondents report providing elder care in ECYEST and ECPRIOR in 2017? All four variables included in Person à Eldercare can be used to identify ATUS eldercare providers by coding those with values >=1 as providers. In 2017, 489 respondents report providing elder care using the ECYEST variable and 1,965 report providing elder care using the ECPRIOR variable. This information is on the "codes" tab and is visible by selecting "case-count view" option.
9. Review documentation under the ELDERCARE drop-down menu. Which type of data structure is required to use these variables? Why? Which variable can be used to determine the relationship of eldercare recipients and ATUS elder care providers? Is it possible to determine the coresidential status of all elder care recipients in ATUS? Hierarchical data structure is required because the variables refer to specific elder care recipients and ATUS elder care providers can report care for more than one recipient. This information is shown under "Add to cart" information. RELATER is the variable that indicates the relationship of ATUS elder care recipients and ATUS elder care providers. It is possible to determine the coresidential status of all elder care recipients in the ATUS using the HH\_EC variable.
10. How do the person-level measures of elder care differ from the elder care time use variables included in ACT\_CAREHH and ACT\_CARENHH used in Exercise #1? The person-level measure of elder care refer to different temporal reference periods whereas the elder care time use variables included in ACT\_CAREHH AND ACT\_CARENHH refer to specific time diary activities that are coded as elder care.

### Part 3: Browse differences between variables with and without the \_CPS8 suffix

11. Navigate to the "person" drop-down menu and select "work status" to learn more about person-level measures of employment available in the ATUS. What is the description of EMPSTAT? person
12. When is EMPSTAT collected? At the time of the ATUS interview
13. What is the universe for EMPSTAT? ATUS respondents
14. When is EMPSTAT\_CPS8 collected? At the time of the final CPS interview, 2 to 5 months before the ATUS interview
15. What is the universe for EMPSTAT\_CPS8? Civilian CPS household members age 15+





# Lab Exercise #3: MTUS Variable Documentation

## Learning goals

- Explore the information available in different variable-level tabs
- Explore the weight variables available in MTUS

## Summary

In this exercise, you will browse the MTUS variable-level documentation for several different variables. You will explore various features of the documentation to help you become familiar with where different kinds of variable-level information are located in the IPUMS system.

### Part 1: Browse the available variables

1. Which level (drop down menu) contains information about the time diary? \_\_\_\_\_
2. Which level (drop down menu) contains information about the individuals who completed the time diaries? \_\_\_\_\_

### Part 2: Reviewing variable details

3. Browse the documentation for the weights available in MTUS (PROPWT and OCOMBWT under Person → Weights). Which weight is appropriate for creating estimates comparing two or more countries? \_\_\_\_\_
4. Review the documentation for EDTRY and EDUCA, both of which are available under Person → Core Demographic. What is the difference between EDTRY and EDUCA? Which is best for comparing the relationship between education and time use between Hungary in 2009 and Spain in 2009? \_\_\_\_\_  
\_\_\_\_\_
5. Find the AGE variable, which is under Person → Core Demographic. Do any datasets report respondent ages in bins instead of reporting specific ages? If so, which country and year? \_\_\_\_\_
6. Review the HEALTH variable under Person → Health. How many respondents from Bulgaria 2001 reported being in "poor" health? \_\_\_\_\_
7. Respondents can report being with a child as part of their time diary. This information is available to users in the variable CHILD, available under Activity → Who Else is Present during Activity. Does being with a child in the time diary mean the same thing in the most recent US data as it does in the UK 2014 data? Why?  
\_\_\_\_\_  
\_\_\_\_\_



## Part 1: Browse the available variables

1. Which level (drop down menu) contains information about the time diary? activity
2. Which level (drop down menu) contains information about the individuals who completed the time diaries? person

## Part 2: Reviewing variable details

3. Browse the documentation for the weights available in MTUS (PROPWT and OCOMBWT under Person à Weights). Which weight is appropriate for creating estimates comparing two or more countries? PROPWT
4. Review the documentation for EDTRY and EDUCA, both of which are available under Person à Core Demographic. What is the difference between EDTRY and EDUCA? Which is best for comparing the relationship between education and time use between Hungary in 2009 and Spain in 2009? EDTRY is harmonized across countries while EDUCA has labels specific to each country. EDTRY is a better variable for cross-country comparisons.
5. Find the AGE variable, which is under Person à Core Demographic. Do any datasets report respondent ages in bins instead of reporting specific ages? If so, which country and year? Canada 2010
6. Review the HEALTH variable under Person à Health. How many respondents from Bulgaria 2001 reported being in "poor" health? 1,697. This information is on the "codes" tab and is visible by selecting "case-count view" option.
7. Respondents can report being with a child as part of their time diary. This information is available to users in the variable CHILD, available under Activity à Who Else is Present during Activity. Does being with a child in the time diary mean the same thing in the most recent US data as it does in the UK 2014 data? Why? No. In the most recent US data, a child is defined as someone under 18. In the UK 2014 data, a child is someone who is age 7 or under.





# Lab Exercise #4: Using Weights

## Learning goals

- Become familiar with documentation on ATUS weights
- Learn which weights to use and when to use them
- Learn why to use weights in ATUS

## Summary

In this exercise, you will browse the ATUS variable-level documentation for the different weight variables. You will explore various features of the documentation to help you become familiar with the different weights. You will create an extract to compare unweighted and weighted estimates of the percentage of respondents with weekend and weekday diaries.

## Part 1: Browse the weight variables in ATUS-X

1. Using the person drop-down menu, what weight variables are available?  
\_\_\_\_\_
2. Which weight variable should be used for creating time use variables from 2003 to 2017?  
\_\_\_\_\_  
\_\_\_\_\_
3. Which replicate weights should be used for WT06?  
\_\_\_\_\_
4. Which weight variable should be used for creating time use variables for Eating and Health Module Respondents?  
\_\_\_\_\_
5. Which weight variable should be used for creating time use variables for Well-being Module Respondents?  
\_\_\_\_\_

## Part 2: Understanding how to use weight variables in ATUS-X

6. Create an extract that includes the following samples: 2003 and 2017 and the following variables: ACT\_SPORTS (TUV), DAY, YEAR. In this exercise, you will compare unweighted and weighted estimates of the number and percentage of respondents in 2003 and 2017 with weekday and weekend diaries. You will use ACT\_SPORTS (TUV) in a later exercise
7. Determine the total number of cases in each sample by getting a frequency on the year of participation in the ATUS (YEAR).
  - a. How many individuals are in the 2003 sample? \_\_\_\_\_
  - b. How many individuals are in the 2017 sample? \_\_\_\_\_
8. Create a weekday variable to distinguish between diary days reported on weekdays and diary days reported on weekends. Obtain frequencies of your weekday variable by sample.
  - a. How many survey respondents completed the survey on a weekday during each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_





- b. What percentage of survey respondents completed the survey on a weekday during each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
  - c. How many survey respondents completed the survey on a weekend during each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
  - d. What percentage of survey respondents completed the survey on a weekend during each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
9. Redo the analysis in #8 using the weight variable (WT06) to obtain accurate estimates. Because ATUS has a complex survey design, use the survey commands in your statistical package.
- a. Using weights, what percentage of survey respondents completed the survey on a weekday during each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
  - b. Using weights, what percentage of survey respondents completed the survey on a weekend during each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_



## Part 1: Browse the weight variables in ATUS-X

1. Using the person drop-down menu, what weight variables are available?  
WT06, RWT06, WT04, WT03, BWT, RBWT, EHWT, REHWT, WBWT, RWBWT, LVWT, RLVWT
2. Which weight variable should be used for creating time use variables from 2003 to 2017?  
WT06
3. Which replicate weights should be used for WT06? RWT06
4. Which weight variable should be used for creating time use variables for Eating and Health Module Respondents? EHWT
5. Which weight variable should be used for creating time use variables for Well-being Module Respondents? WBWT

## Part 2: Understanding how to use weight variables in ATUS-X

6. Create an extract that includes the following samples: 2003 and 2017 and the following variables: ACT\_SPORTS (TUV), DAY, YEAR. In this exercise, you will compare unweighted and weighted estimates of the number and percentage of respondents in 2003 and 2017 with weekday and weekend diaries. You will use ACT\_SPORTS (TUV) in a later exercise
7. Determine the total number of cases in each sample by getting a frequency on the year of participation in the ATUS (YEAR).
  - a. How many individuals are in the 2003 sample? 20,720
  - b. How many individuals are in the 2017 sample? 10,223
8. Create a weekday variable to distinguish between diary days reported on weekdays and diary days reported on weekends. Obtain frequencies of your weekday variable by sample.
  - a. How many survey respondents completed the survey on a weekday during each sample year?  
2003 10,223                      2017 5,079
  - b. What percentage of survey respondents completed the survey on a weekday during each sample year?  
2003 49.34                      2017 49.68



- c. How many survey respondents completed the survey on a weekend during each sample year?  
2003 10,497                      2017 5,144
- d. What percentage of survey respondents completed the survey on a weekend during each sample year?  
2003 50.66                      2017 50.32
9. Redo the analysis in #8 using the weight variable (WT06) to obtain accurate estimates. Because ATUS has a complex survey design, use the survey commands in your statistical package.
- a. Using weights, what percentage of survey respondents completed the survey on a weekday during each sample year?  
2003 71.51                      2017 71.23
- b. Using weights, what percentage of survey respondents completed the survey on a weekend during each sample year?  
2003 28.49                      2017 28.77





# Lab Exercise #5: Weekday and Weekend Time Diaries

## Learning goals

- Become familiar with documentation about the ATUS interview day
- Learn how to analyze time diary variables by type of day
- Learn how and when to use weights to analyze time diary variables

## Summary

In this exercise, you will browse the ATUS variable-level documentation about the ATUS interview day to help you become familiar with creating day type indicators. You will create an extract to compare unweighted and weighted time in Sports, Exercise and Recreation on weekdays and weekends in 2003 and 2017.

## Part 1: Browse the ATUS interview variables available in ATUS-X

1. Review the documentation for DAY available under Person → Technical Variables. How are diaries distributed across days of the week?  

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2. Review the documentation for the ACT\_SPORTS time use variable available under Time Use → Activity Coding Structure. What three activities are included in the ACT\_SPORTS variable?  

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3. Using the weekday and weight variables you used in Exercise 4, get the *unweighted* mean number of minutes reported in ACT\_SPORTS on WEEKDAYS and WEEKEND days.
  - a. Mean number of minutes on weekdays in each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
  - b. Mean number of minutes on weekends in each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
4. Using the weekday and weight variables you used in Exercise 4, get the *weighted* mean number of minutes reported in ACT\_SPORTS on WEEKDAYS and WEEKEND days.
  - a. Mean number of minutes on weekdays in each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
  - b. Mean number of minutes on weekends in each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
5. Redo the analysis to produce *weighted* means, excluding respondents who did not report any time in ACT\_SPORTS on their diary day.
  - a. Mean number of minutes on weekdays in each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_
  - b. Mean number of minutes on weekends in each sample year?  
2003 \_\_\_\_\_ 2017 \_\_\_\_\_



## Part 1: Browse the ATUS interview variables available in ATUS-X

1. Review the documentation for DAY available under Person → Technical Variables. How are diaries distributed across days of the week?  
Diaries are not equally distributed across days of the week. Weekend days are oversampled, accounting for about half of all diaries.
2. Review the documentation for the ACT\_SPORTS time use variable available under Time Use → Activity Coding Structure. What three activities are included in the ACT\_SPORTS variable?  
Sports, Exercise, and Recreation
3. Using the weekday and weight variables you used in Exercise 4, get the *unweighted* mean number of minutes reported in ACT\_SPORTS on WEEKDAYS and WEEKEND days.
  - a. Mean number of minutes on weekdays in each sample year?  
2003 16.45                      2017 15.68
  - b. Mean number of minutes on weekends in each sample year?  
2003 23.68                      2017 23.23
4. Using the weekday and weight variables you used in Exercise 4, get the *weighted* mean number of minutes reported in ACT\_SPORTS on WEEKDAYS and WEEKEND days.
  - a. Mean number of minutes on weekdays in each sample year?  
2003 17.44                      2017 16.43
  - b. Mean number of minutes on weekends in each sample year?  
2003 25.31                      2017 25.38
5. Redo the analysis to produce *weighted* means, excluding respondents who did not report any time in ACT\_SPORTS on their diary day.
  - a. Mean number of minutes on weekdays in each sample year?  
2003 93.75                      2017 82.97
  - b. Mean number of minutes on weekends in each sample year?  
2003 139.77                      2017 127.48





# Lab Exercise #6: Weekday and Weekend Time Diaries

## Learning goals

- Use time of day filter to build time use variables
- Use who with filter to build time use variables
- Understand when the diary day begins and ends and the implications for night time activities
- Practice using an existing time use variable as a template for a new time use variable

## Summary

In this exercise you will create several time use variables of time spent exercising by time of day and whether the person was alone or in the company of others. You will get experience creating new time use variables, practice applying time of day and who with filters, and understand implications of diary start and end times for time use variables near the beginning and end of the time diary. You will generate estimates of average time per day spent exercising for men and women aged 25 to 64 during 2006.

## Part 1: Browse time use variable documentation and create time use variables in ATUS-X

1. Begin creating a time use variable and review documentation. *Hint:* click on the "create time use variable" button in the extract system.
2. What is the default time range for a time use variable?

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3. Is it possible to create a single time use variable that includes time spent between 6pm and 6am?

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4. How might you create a time use variable that spans the 6pm to 6am period?

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5. Is "any" or "all" the appropriate choice to make if you want to create a time use variable that is done with someone, but it does not matter who?

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6. Create an extract using 2006 data, respondent age and sex, day of the week, and WT06. You will also need to create a minimum of eight time use variables to indicate the timing of exercise alone and with others. For the purposes of this exercise, exercise includes any activity in the activity category of "Participating in Sports, Exercise, or Recreation" (second tier activity category 130100). The time use variables you should create, *distinguishing between exercise done alone and exercise done with others*, are:
  - Morning exercise (6am to noon)
  - Afternoon exercise (noon to 6pm)
  - Night exercise (6pm to 6am) (note that two time use variables must be created and summed)
    - Exercise between 6pm and 4am
    - Exercise between 4am and 6am





## Part 2: Generate estimates and populate table

Minutes per day spent exercising, by sex, day of week and time of day, 2006

Sex, Day and Time of Day	Minutes per Day Spent Exercising		
	Total	Alone	With Others
<b>Men (age 25-64)</b>			
Total			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			
Monday-Friday			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			
Saturday			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			
Sunday			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			
<b>Women (age 25-64)</b>			
Total			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			
Monday-Friday			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			
Saturday			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			
Sunday			
Morning (6 a.m. to noon)			
Afternoon (noon to 6 p.m.)			
Night (6 p.m. to 6 a.m.)			



## Part 1: Browse time use variable documentation and create time use variables in ATUS-X

1. Begin creating a time use variable and review documentation. *Hint*: click on the “create time use variable” button in the extract system.
2. What is the default time range for a time use variable? 4am to 4am
3. Is it possible to create a single time use variable that includes time spent between 6pm and 6am? No. The time diary only goes from 4am to 4am.
4. How might you create a time use variable that spans the 6pm to 6am period? You must create two time use variables and add them together. The first should span 6pm to 4am and the second should span 4am to 6am.
5. Is “any” or “all” the appropriate choice to make if you want to create a time use variable that is done with someone, but it does not matter who? any
6. Create an extract using 2006 data, respondent age and sex, day of the week, and WT06. You will also need to create a minimum of eight time use variables to indicate the timing of exercise alone and with others. For the purposes of this exercise, exercise includes any activity in the activity category of “Participating in Sports, Exercise, or Recreation” (second tier activity category 130100). The time use variables you should create, *distinguishing between exercise done alone and exercise done with others*, are:
  - Morning exercise (6am to noon)
  - Afternoon exercise (noon to 6pm)
  - Night exercise (6pm to 6am) (note that two time use variables must be created and summed)
    - Exercise between 6pm and 4am
    - Exercise between 4am and 6am



## Part 2: Generate estimates and populate table

### Minutes per day spent exercising, by sex, day of week and time of day, 2006

Sex, Day and Time of Day	Minutes per Day Spent Exercising		
	Total	Alone	With Others
<b>Men (age 25-64)</b>			
Total			
Morning (6 a.m. to noon)	5.25	2.93	2.32
Afternoon (noon to 6 p.m.)	6.52	2.35	4.17
Night (6 p.m. to 6 a.m.)	5.69	1.84	3.86
Monday-Friday			
Morning (6 a.m. to noon)	4.23	2.69	1.54
Afternoon (noon to 6 p.m.)	4.73	2.26	2.47
Night (6 p.m. to 6 a.m.)	6.03	2.14	3.89
Saturday			
Morning (6 a.m. to noon)	7.92	3.58	4.35
Afternoon (noon to 6 p.m.)	11.02	2.81	8.21
Night (6 p.m. to 6 a.m.)	7.04	1.54	5.50
Sunday			
Morning (6 a.m. to noon)	7.63	3.46	4.17
Afternoon (noon to 6 p.m.)	10.90	2.28	8.62
Night (6 p.m. to 6 a.m.)	2.63	0.60	2.02
<b>Women (age 25-64)</b>			
Total			
Morning (6 a.m. to noon)	3.77	1.77	1.99
Afternoon (noon to 6 p.m.)	3.61	0.97	2.64
Night (6 p.m. to 6 a.m.)	3.08	0.86	2.22
Monday-Friday			
Morning (6 a.m. to noon)	3.62	1.91	1.72
Afternoon (noon to 6 p.m.)	2.89	0.99	1.89
Night (6 p.m. to 6 a.m.)	3.42	1.04	2.38
Saturday			
Morning (6 a.m. to noon)	4.24	1.43	2.81
Afternoon (noon to 6 p.m.)	4.77	0.66	4.11
Night (6 p.m. to 6 a.m.)	2.46	0.23	2.23
Sunday			
Morning (6 a.m. to noon)	3.99	1.47	2.52
Afternoon (noon to 6 p.m.)	6.10	1.18	4.92
Night (6 p.m. to 6 a.m.)	1.99	0.62	1.37





# Lab Exercise #7: Understanding Affect Data from the Well-Being Module

## Learning goals

- Work with affect measures using activity-level data from the well-being module
- Understand that only a subset of activities contain affect data
- Generate activity-level estimates of well-being during sports and paid work
- Generate person-level estimates of well-being during paid work by gender for individuals ages 25-65

## Summary

In this exercise, you will become familiar with the data from the well-being module. You will also compare estimates of well-being during sports (activity codes 130101 - 139999) and paid work and work-related activities (activity codes 050101 - 059999) and you will examine gender differences in affect during paid work activities for individuals ages 25-65.

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## Exercises

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1. Create an extract *rectangularized at the activity level* that includes 2010 data, an indicator of the activity being performed, activity-level well-being data, and AWBWT, the activity-level estimation weight. Also include person-level characteristics to make age and gender comparisons in affect during sports and paid work.
2. Examine the frequencies of the six subjective well-being items. In how many *activities* do respondents report being very happy? Very stressed?
  - a. Very happy: \_\_\_\_\_
  - b. Very stressed: \_\_\_\_\_
3. Why are so many records coded as NIU (Not in universe)?  
\_\_\_\_\_
4. Recode affect data coded as NIU to missing.
5. How many activity records have non-missing subjective well-being data on happiness?  
\_\_\_\_\_
6. When should you use AWBWT and WBWT for your analyses?  
\_\_\_\_\_
7. Generate weighted means for the six subjective well-being items using AWBWT. Interpret the mean for happiness.
  - a. Stress: \_\_\_\_\_
  - b. Happiness: \_\_\_\_\_
  - c. Sadness: \_\_\_\_\_
  - d. Fatigue: \_\_\_\_\_
  - e. Meaning: \_\_\_\_\_
  - f. Pain: \_\_\_\_\_
  - g. Interpret: \_\_\_\_\_
8. Generate weighted activity-level estimates of happiness and stress during sports, exercise, and recreation and during work and work-related activities.
  - a. Sports, exercise, recreation: Happiness: \_\_\_\_\_ Stress: \_\_\_\_\_
  - b. Paid work: Happiness: \_\_\_\_\_ Stress: \_\_\_\_\_
9. Generate weighted person-level estimates using WBWT of average stress and happiness during paid work and work-related activities, separately by gender, for men and women



ages 25-65. *Hint:* You need to create average stress and happiness for each person during paid work and work-related activities.

- a. Men, stress: \_\_\_\_\_
- b. Men, happiness: \_\_\_\_\_
- c. Women, stress: \_\_\_\_\_
- d. Women, happiness: \_\_\_\_\_



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Answers

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1. Create an extract *rectangularized at the activity level* that includes 2010 data, an indicator of the activity being performed, activity-level well-being data, and AWBWT, the activity-level estimation weight. Also include person-level characteristics to make age and gender comparisons in affect during sports and paid work.
2. Examine the frequencies of the six subjective well-being items. In how many *activities* do respondents report being very happy? Very stressed?
  - a. Very happy: 11957
  - b. Very stressed: 1397
3. Why are so many records coded as NIU (Not in universe)?  
Only three activities per person are included in the well-being module and the extract contains all activity records for all 2010 respondents.
4. Recode affect data coded as NIU to missing.
5. How many activity records have non-missing subjective well-being data on happiness?  
37935
6. When should you use AWBWT and WBWT for your analyses? AWBWT should be used for analyses where the activity is the unit of analysis; WBWT should be used for analyses where people are the unit of analysis.
7. Generate weighted means for the six subjective well-being items using AWBWT. Interpret the mean for happiness.
  - a. Stress: 1.50
  - b. Happiness: 4.26
  - c. Sadness: .66
  - d. Fatigue: 2.29
  - e. Meaning: 4.26
  - f. Pain: .94
  - g. Interpret: The average happiness score of all types of activities across all of the well-being module respondents is 4.26 on a scale of 0 to 6.
8. Generate weighted activity-level estimates of happiness and stress during sports, exercise, and recreation and during work and work-related activities.
  - a. Sports, exercise, recreation: Happiness: 4.27 Stress: .94

- b. Paid work: Happiness: 3.88 Stress: 2.46
9. Generate weighted person-level estimates using WBWT of average stress and happiness during paid work and work-related activities, separately by gender, for men and women ages 25-65. *Hint:* You need to create average stress and happiness for each person during paid work and work-related activities.
- a. Men, stress: 2.19
  - b. Men, happiness: 3.91
  - c. Women, stress: 2.62
  - d. Women, happiness: 3.85







## Lab Exercise #8: Combining Module Data

### Learning goals

- Learn how to identify years of data on the sample selection page in which specific modules were fielded
- Select appropriate weights for use with modules
- Combine weights from more than one module for analysis

### Summary

In this exercise, you will analyze the relationship between health and watching television (using a TUV based on a BLS definition). You will create an extract containing Well-Being and Eating and Health module data, including appropriate weights. You will generate a new variable to create a single weight for analysis and generate estimates of the relationship between health and watching television.

## Part 1: Create an extract that combines Well-Being and Eating and Health Module data from ATUS-X

1. Which years of data should be included in your dataset if you want all Well-Being and Eating and Health Module data?

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2. Which weights should you include in your extract? *Hint*: see exercise 4 to determine which weights you should include.

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3. Which module variables allow you to know whether an ATUS respondent completed the Well-Being or Eating and Health Modules?

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4. Create an extract that includes Well-Being and Eating and Health Module data and the following variables: BLS\_LEIS\_TV (TUV), SEX, GENHEALTH, appropriate weights, and flags for whether respondents participated in the module (see questions 1-3 for years of data, weights, and module flags).

## Part 2: Understand the data

5. How many ATUS respondents were in the survey when the modules were fielded but did not participate?

- a. Well-Being Module: \_\_\_\_\_

- b. Eating and Health Module: \_\_\_\_\_

6. Please list the module and number of module respondents in each of the following years:

- a. 2013: \_\_\_\_\_

- b. 2014: \_\_\_\_\_

7. Are any ATUS respondents in both the Well-Being Module and the Eating and Health Module? Explain.

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8. Do all module respondents provide information about their self-reported health? What does this mean for your analysis?

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### Part 3: Construct and recode variables for analysis

9. Create a self-reported health variable that excludes missing data (refused, don't know, or not in universe). How many respondents have non-missing information on self-reported health? \_\_\_\_\_

10. What weight will you use since data come from both the Well-Being and Eating and Health Modules? *Hint*: you may need to create a new variable.

---

11. Using weights, estimate the average amount of time spent watching television by self-reported health status. Because ATUS has a complex survey design, use the survey commands in your statistical package.

Excellent: \_\_\_\_\_

Very Good: \_\_\_\_\_

Good: \_\_\_\_\_

Fair: \_\_\_\_\_

Poor: \_\_\_\_\_

12. ATUS data are cross-sectional. What are the implications of this for the direction of the relationship between health and television watching?

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## Part 1: Create an extract that combines Well-Being and Eating and Health Module data from ATUS-X

1. Which years of data should be included in your dataset if you want all Well-Being and Eating and Health Module data? Well-Being: 2010, 2012, 2013; Eating and Health: 2006-2008, 2014-2016
2. Which weights should you include in your extract? *Hint*: see exercise 4 to determine which weights you should include. WBWT and EHWT
3. Which module variables allow you to know whether an ATUS respondent completed the Well-Being or Eating and Health Modules? WB\_RESP and EH\_RESP
4. Create an extract that includes Well-Being and Eating and Health Module data and the following variables: BLS\_LEIS\_TV (TUV), SEX, GENHEALTH, appropriate weights, and flags for whether respondents participated in the module (see questions 1-3 for years of data, weights, and module flags).

## Part 2: Understand the data

5. How many ATUS respondents were in the survey when the modules were fielded but did not participate?
  - a. Well-Being Module: 2522
  - b. Eating and Health Module: 1024
6. Please list the module and number of module respondents in each of the following years:
  - a. 2013: Well-Being Module, 10378
  - b. 2014: Eating and Health Module, 11212
7. Are any ATUS respondents in both the Well-Being Module and the Eating and Health Module? Explain. None because the modules were fielded in different years and ATUS respondents are only ever surveyed one time.



8. Do all module respondents provide information about their self-reported health? What does this mean for your analysis? No, not all module respondents report their health. This means that respondents missing data on health should be omitted from analyses.

### Part 3: Construct and recode variables for analysis

9. Create a self-reported health variable that excludes missing data (refused, don't know, or not in universe). How many respondents have non-missing information on self-reported health? 103648
10. What weight will you use since data come from both the Well-Being and Eating and Health Modules? *Hint: you may need to create a new variable.* Create a new variable that takes the value of WBWT if the respondent participated in the Well-Being Module and takes the value of EHWT if the respondent participated in the Eating and Health Module.
11. Using weights, estimate the average amount of time spent watching television by self-reported health status. Because ATUS has a complex survey design, use the survey commands in your statistical package.  
Excellent: 126.2  
Very Good: 149.0  
Good: 169.1  
Fair: 215.6  
Poor: 283.3
12. ATUS data are cross-sectional. What are the implications of this for the direction of the relationship between health and television watching? We must be careful about assuming causality and acknowledge the reciprocal relationship between health and time use. It could be that health influences the way people spend their time and the way people spend their time influences their health.



# Lab Exercise #9: A Comparison of Stylized and Diary Reports of Meal Preparation among Same-Sex and Different-Sex Couples

## Learning goals

- Learn why MARST may not be the best variable to use to determine whether an ATUS respondent is married or partnered
- Locate and include spouse/partner characteristics in ATUS-X
- Compare stylized and diary reports of meal preparation

## Summary

In this exercise, you will analyze the relationship between gender, relationship type, and meal preparation as well as a comparison of individual reports of who usually does the meal preparation and the amount of time spent preparing meals on the diary day. To complete the exercise, you will need to find variables describing characteristics of the spouse or partner in the ATUS respondent households, include a measure of who usually prepares meals from the Eating and Health module, and include a time use variable (pre-created or that you create) to represent the number of minutes per day spent preparing meals. You will conduct a visual comparison between stylized and time diary estimates of the division of labor between couples.

## Part 1: Browse data and create an extract

1. What pieces of information do you need to distinguish between (married or partnered) same-sex and different-sex couples?  

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2. Do the variables you need to distinguish same-sex and different-sex couples exist in ATUS-X? If so, what are the variable name(s)?  

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3. Is MARST the best variable to use to determine whether an ATUS respondent is married or partnered? Explain.  

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4. What activity code(s) represent meal preparation? Does a time use variable exist that is exclusively preparing meals?  

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5. Which weight should you include in your extract? Why? *Hint*: see exercise 4 to determine which weight you should include.  

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6. Which Eating and Health Module variable allows you to know whether an ATUS respondent completed the Eating and Health Module?  

---
7. Which Eating and Health Module variable asks about who usually does the meal preparation?  

---
8. Create an extract that includes Eating and Health Module data from all years it is available and the following variables: variables to distinguish same and different-sex couples (see questions 2 and 3), a time use variable that indicates time spent preparing meals ONLY, appropriate weight (see question 5), a flag for whether respondents participated in the module (see questions 6), a stylized question about who usually does the meal preparation (question 7).



## Part 2: Understand the data, construct and recode variables

9. How many ATUS respondents completed the Eating and Health Module?

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10. Of the Eating and Health Module respondents, how many were partnered? Of those, how many were in same-sex arrangements and how many were in different-sex arrangements?

- a. Partnered: \_\_\_\_\_
- b. Same-Sex Partner: \_\_\_\_\_
- c. Different-Sex Partner: \_\_\_\_\_
- d. Men with Same-Sex Partner: \_\_\_\_\_
- e. Women with Same-Sex Partner: \_\_\_\_\_
- f. Men with Different-Sex Partner: \_\_\_\_\_
- g. Women with Different-Sex Partner: \_\_\_\_\_

11. Recode variable about who usually does the meal preparation to eliminate missing data. How many Eating and Health Module respondents who were partnered had non-missing data?

---

12. Using weights, complete the table below showing who usually does the meal preparation by the sex and couple arrangement of the ATUS respondent. Because ATUS has a complex survey design, use the survey commands in your statistical package to generate weighted row percentages for usual meal preparation and weighted time spent preparing meals.

	Usual Meal Preparer			Minutes Spent Preparing Meals
	Yes	No	Split Evenly	
Man, Same-Sex Partner				
Man, Different-Sex Partner				
Woman, Same-Sex Partner				
Woman, Different-Sex Partner				

13. Individuals in which type of couple report the most equal sharing of meal preparation in the stylized question about how this labor is divided? Individuals in which type of couple report the most unequal sharing of meal preparation? Is this consistent with what we observe in the minutes spent preparing meals?

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## Part 1: Browse data and create an extract

1. What pieces of information do you need to distinguish between (married or partnered) same-sex and different-sex couples? Sex of respondent and spouse/partner
2. Do the variables you need to distinguish same-sex and different-sex couples exist in ATUS-X? If so, what are the variable name(s)? SPOUSESPRES
3. Is MARST the best variable to use to determine whether an ATUS respondent is married or partnered? Explain. MARST is collected 2-5 months prior to the ATUS interview during the last CPS interview. SPOUSEPRES is collected at the time of the ATUS interview, so it captures changes that may have occurred since the CPS.
4. What activity code(s) represent meal preparation? Does a time use variable exist that is exclusively preparing meals? 020201; no
5. Which weight should you include in your extract? Why? *Hint: see exercise 4 to determine which weight you should include.* EHWT; the stylized measure of who usually prepares the meals is from the Eating and Health Module
6. Which Eating and Health Module variable allows you to know whether an ATUS respondent completed the Eating and Health Module? EH\_RESP
7. Which Eating and Health Module variable asks about who usually does the meal preparation? MEALPREP
8. Create an extract that includes Eating and Health Module data from all years it is available and the following variables: variables to distinguish same and different-sex couples (see questions 2 and 3), a time use variable that indicates time spent preparing meals ONLY, appropriate weight (see question 5), a flag for whether respondents participated in the module (see questions 6), a stylized question about who usually does the meal preparation (question 7).

## Part 2: Understand the data, construct and recode variables

9. How many ATUS respondents completed the Eating and Health Module? 69880
10. Of the Eating and Health Module respondents, how many were partnered? Of those, how many were in same-sex arrangements and how many were in different-sex arrangements?



- a. Partnered: 36332
- b. Same-Sex Partner: 232
- c. Different-Sex Partner: 36100
- d. Men with Same-Sex Partner: 98
- e. Women with Same-Sex Partner: 134
- f. Men with Different-Sex Partner: 17149
- g. Women with Different-Sex Partner: 18951

11. Recode variable about who usually does the meal preparation to eliminate missing data. How many Eating and Health Module respondents who were partnered had non-missing data? 36084

12. Using weights, complete the table below showing who usually does the meal preparation by the sex and couple arrangement of the ATUS respondent. Because ATUS has a complex survey design, use the survey commands in your statistical package to generate weighted row percentages for usual meal preparation and weighted time spent preparing meals.

	Usual Meal Preparer			Minutes Spent Preparing Meals
	Yes	No	Split Evenly	
Man, Same-Sex Partner	<u>34</u>	<u>53</u>	<u>13</u>	<u>10.9</u>
Man, Different-Sex Partner	<u>19</u>	<u>62</u>	<u>19</u>	<u>19.0</u>
Woman, Same-Sex Partner	<u>47</u>	<u>27</u>	<u>25</u>	<u>29.2</u>
Woman, Different-Sex Partner	<u>77</u>	<u>11</u>	<u>12</u>	<u>46.8</u>

13. Individuals in which type of couple report the most equal sharing of meal preparation in the stylized question about how this labor is divided? Individuals in which type of couple report the most unequal sharing of meal preparation? Is this consistent with what we observe in the minutes spent preparing meals? Women in same-sex couples report most even division of labor. Women in different-sex couples report the most uneven division of meal preparation. This is consistent with what we see in the means where women in different-sex couples spend the most time in meal preparation.

