

Minnesota Population Center

Training and Development

IPUMS – CPS Extraction and Analysis

Exercise 1

OBJECTIVE: Gain an understanding of how the IPUMS dataset is structured and how it can be leveraged to explore your research interests. This exercise will use the IPUMS dataset to explore associations between health and work status and to create basic frequencies of food stamp usage.

Research Questions

What is the frequency of food stamp reciprocity in the US? Are health and work statuses related?

Objectives

- Create and download an IPUMS data extract
- Decompress data file and read data into SPSS
- Analyze the data using sample code
- Validate data analysis work using answer key

IPUMS Variables

- PERNUM: Person number in sample unit
- FOODSTMP: Food stamp receipt
- AGE: Age
- EMPSTAT: Employment status
- AHRSWORKT: Hours worked last week
- HEALTH: Health status

SPSS Code to Review

Code	Purpose
compute	Creates a new variable
freq	Displays a simple tabulation and frequency of one variable
crosstabs	Displays a cross-tabulation for up to 2 variables and a control
~=	Not equal to

Review Answer Key (page 7)

Common Mistakes to Avoid

1 Excluding cases you don't mean to. Avoid this by turning off weights and select cases after use, otherwise they will apply to all subsequent analyses

2 Terminating commands prematurely or forgetting to end commands with a period (.) Avoid this by carefully noting the use of periods in this exercise

Registering with IPUMS

Go to <http://cps.ipums.org>, click on Register with IPUMS and apply for access. On login screen, enter email address and password and submit it!

Step 1

Make an Extract

- Go to <http://cps.ipums.org>, click on Register with IPUMS and Apply for access
- On login screen, enter email address and password and submit
- Go back to homepage and go to Select Data
- Click the Select Samples box, check the box for the 2011 ASEC sample, click the Submit sample selections box
- Using the drop down menu or search feature, select the following variables:

PERNUM: Person number in sample unit

FOODSTMP: Food stamp receipt

AGE: Age

EMPSTAT: Employment status

AHRSWORKT: Hours worked last week

HEALTH: Health status

...

Step 2

Request the Data

- Click the VIEW CART button under your data cart
- Review variable selection. Click the Create Data Extract button
- Review the 'Extract Request Summary' screen, describe your extract and click Submit Extract
- You will get an email when the data is available to download
- To get to the page to download the data, follow the link in the email, or follow the Download and Revise Extracts link on the homepage

Getting the data into your statistics software

The following instructions are for SPSS. If you would like to use a different stats package, see: http://cps.ipums.org/cps/extract_instructions.shtml

Step 1

Download the Data

- Go to <http://cps.ipums.org> and click on Download or Revise Extracts
- Right-click on the data link next to extract you created
- Choose "Save Target As..." (or "Save Link As...")
- Save into "Documents" (that should pop up as the default location)
- Do the same thing for the SPSS link next to the extract

...

Step 2

Decompress the Data

- Find the "Documents" folder under the Start menu
- Right click on the ".dat" file
- Use your decompression software to extract here
- Double-check that the Documents folder contains three files starting "cps_000..."
- Free decompression software is available at

<https://www.7-zip.org>

- Double click on the ".sps" file, which should automatically have been named "cps_000....."

...

Step 3

Read in the Data

- The first two lines should read:

```
cd "."  
data list file = 'cps_000.../'
```
- Change the first line to read: cd (location where you've been saving your files). For example:

```
cd "C:\Documents".
```

- Change the second line to read:

```
data list file = "C:\Documents\cps_000...dat"/
```

- Under the "Run" menu, select "All" and an output viewer window will open
- Use the Syntax Editor for the SPSS code below, highlight the code, and choose "Selection" under the Run menu

Analyze the Sample – Part I Frequencies of FOODSTMP

Section 1

Analyze the Data

...

Step 2

Weighting the Data

A) On the website, find the codes page for the FOODSTMP variable and write down the code value, and what category each code represents. _____

B) What is the universe for FOODSTMP in 2011 (under the Universe tab on the website)? _____

C) How many people received food stamps in 2011? _____

D) What proportion of the population received food stamps in 2011? _____

```
weight by asecwt.  
freq foodstmp.
```

Using household weights (ASECWTH)

Suppose you were interested not in the number of people living in homes that received food stamps, but in the number of households that were food stamp participants. To get this statistic you would need to use the household weight.

In order to use household weight, you should be careful to select only one person from each household to represent that household's characteristics. You will need to apply the household weight (ASECWTH). To identify only one person from each household, under the Data menu, click "Select Cases", choose "If condition is satisfied", and click "If". In the top box type "PERNUM = 1" and select Continue and then Ok.

A) How many households received food stamps in 2011?

B) What proportion of households received food stamps in 2011?

```
weight by asewth.  
freq foodstmp.
```

Analyze the Sample – Part II Relationships in the Data

Section 1

Analyze the Data

A) What is the universe for EMPSTAT in 2011?

B) What are the possible responses and codes for the self-reported HEALTH variable? _____

C) What percent of people with 'poor' self-reported health are at work? _____

D) What percent of people with 'very good' self-reported health are at work? _____

```
weight by asecwt.  
crosstabs  
/tables = health by empstat  
/cells=count row.
```

E) In the EMPSTAT universe, what percent of people:

i. self-report 'poor' health and are at work? _____

ii. self-report 'very good' health and are at work? _____

```
Select filter "EMPSTAT ~= 00".  
weight by asecwt.  
crosstabs  
/tables = health by empstat  
/cells=count row.
```

Note: both `age>=15` and `empstat!=00` will ensure that you are in the EMPSTAT universe.

Analyze the Sample – Part III Relationships in the Data

Section 1

Analyze the Data

...

Section 2

Complete!
Check
your
Answers!

A) What is the universe for AHRSWORKT?

B) What are the average hours of work for each self-reported health category? _____

weight by asecwt.

means tables = ahrrworkt by health.

ANSWERS: Analyze the Sample – Part I Frequencies of FOODSTMP

Section 1

Analyze the Data

A) On the website, find the codes page for the FOODSTMP variable and write down the code value, and what category each code represents. 0 NIU; 1 No; 2 Yes

B) What is the universe for FOODSTMP in 2011 (under the Universe tab on the website)? All interviewed households and group quarters. Note the NIU on the codes page, this is a household variable and the NIU cases are the vacant households.

C) How many people received food stamps in 2011? 39,030,579

D) What proportion of the population received food stamps in 2011? 12.8%

```
weight by asewt.
```

```
freq foodstmp.
```

...

Step 2

Weighting the Data

Using household weights (ASECWTH)

Suppose you were interested not in the number of people living in homes that received food stamps, but in the number of households that were food stamp participants. To get this statistic you would need to use the household weight.

In order to use household weight, you should be careful to select only one person from each household to represent that household's characteristics. You will need to apply the household weight (ASECWTH). To identify only one person from each household, under the Data menu, click "Select Cases", choose "If condition is satisfied", and click "If". In the top box type "PERNUM = 1" and select Continue and then Ok.

A) How many households received food stamps in 2011?

12,663,648 households

B) What proportion of households received food stamps in 2011?

10.7% of households

ANSWERS: Analyze the Sample – Part II Relationships in the Data

Section 1

Analyze the Data

A) What is the universe for EMPSTAT in 2011?

1967 – 1987 age 14+; 1988 – 2011 age 15+

B) What are the possible responses and codes for the self-reported HEALTH variable? 1 Excellent; 2 Very good; 3 Good; 4 Fair; 5 Poor

C) What percent of people with ‘poor’ self-reported health are at work? 11.5%

D) What percent of people with ‘very good’ self-reported health are at work? 51.6%

```
weight by asecwt.  
crosstabs  
/tables = health by empstat  
/cells=count row.
```

E) In the EMPSTAT universe, what percent of people:

i. self-report ‘poor’ health and are at work? 11.7%

ii. self-report ‘very good’ health and are at work? 64.2%

```
Select filter “EMPSTAT ~= 00”.  
weight by asecwt.  
crosstabs  
/tables = health by empstat  
/cells=count row.
```

Note: both `age>=15` and `empstat!=00` will ensure that you are in the EMPSTAT universe.

```
weight by asewth.  
freq foodstmp.
```

ANSWERS: Analyze the Sample – Part III Relationships in the Data

Section 1

Analyze the Data

A) What is the universe for AHRSWORKT?

Civilians age 15+, at work last week

B) What are the average hours of work (even if they did not work last week) for each self-reported health category? Excellent – 38.4; Very Good – 38.66; Good – 37.78; Fair – 35.67; Poor – 32.41

weight by aseawt.

means tables = ahrsworkt by health.