



STUDYDADDY

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This lab introduces you to quantitative data analysis. For this lab, you will access a resource at the University of Michigan, where data sets are stored. Under most circumstances, if the federal government has paid for research, the researchers must make the data available to the public after just a few years. Most data sets are sent to this resource.

This lab requires that you very carefully follow all of the instructions. You must complete each step in the order presented:

1. Go to the website: <http://www.icpsr.umich.edu/icpsrweb/ICPSR/index.jsp>
2. Enter “3580” into the “Find Data” field
3. Select “# 3580: National Household Survey on Drug Abuse, 2001”
4. Click “Analyze Online (1)”
5. Click “SDA”
6. Scroll down to “Create Account,” and set up an account

We are ready to begin our quantitative data analysis. We will do two steps: univariate and bivariate analysis. When a data set is entered into a computer program, variables or questions must be given short names – 8 or fewer characters. So, for each of the variables that we are going to examine, there will be a short name and a longer “question” that explains it.

Univariate analysis allows us to look at one variable at a time, as the name implies. With discrete or non-continuous variables (nominal and ordinal), the most common statistics that we use are the frequency and the percent. Neither of these statistics works well with continuous variables, as there are too many attributes (possible responses). Instead, with continuous variables (interval and ratio), we use measures of central tendency such as the mean, median, and mode. For this lab and this course, we will examine only nominal variables.

Bivariate analysis allows us to examine the relationship between two variables. In addition to the frequency and percent of the variables, we can see if there is an association between the variables (examine %). It is difficult to establish causality using bivariate analysis, since relationships among social variables are complex and rarely reduced to simply two variables. This is an important step to determine if and how variables are related to one another.

Univariate Analysis

The first step in doing data analysis is to find out how subjects (people in this case) responded to our questions. We are using a survey conducted by the National Institutes of Health (NIH), but the same procedures are involved with any quantitative data set that you will use.

As you can tell by the title of the study, the researchers asked a very large sample (over 55,000) of Americans about their drug-use behaviors. There are many variables in this study, but we will focus only on a few, so that you can get an idea of what goes into data analysis.

- Under “SDA Frequency/Crosstabulation Program” complete the following:

1. In the box “Row” list the following variable short names (all caps or all lower case) with only a space between each variable: cigever alcever mjever cocever crkever herever irsex.

***Notice there are no upper/lower case and no commas – this is important*

2. Under “TABLE OPTIONS: Percentaging” click only “Total” (remove any other checks from “Column” and “Row”)

3. Click “Run the Table”

You have just created a lot of information, most of which we are going to ignore! If you closely examine the line that begins with “Row” in the “Variables” table, you will find the variable short name and a longer explanation.

Just below that is a “Frequency Distribution” table. You can see what percentage of the subjects answered “yes” or “no” to each of the questions you listed in the prior step.

1. Examine your data and complete the following:

SHORT NAME	LONG NAME % Yes
CIGEVER	Ever smoked a cigarette 67.0%
ALCEVER	
MJEVER	
COCEVER	
CRKEVER	
HEREVER	

The sample in this study is _____ % male and _____ % female.

2. Describe the pattern of drug use by those surveyed in this study.

***Hint: Which drugs are more frequently used than others? Try using the data (%) in your description*

That’s it! You have just completed a brief univariate data analysis! Now continue on to bivariate analysis.

Bivariate Analysis

As noted above, bivariate analysis begins to let us examine relationships between variables and answer some basic research questions. For example, just using the variables listed in the univariate analysis, we can compare drug use between males and females.

That is exactly what we are going to do using the “crosstabulation” command. This statistical technique allows us to test if there is a relationship between sex of respondents and whether they ever tried the drugs listed in our study. At this stage, we can begin to develop hypotheses as to what we expect to find.

Example:

H1: Females are more likely than males to have ever smoked a cigarette.

***My independent variable is sex (male, female) and my dependent variable is ever smoked a cigarette (yes, no)*

3. Now, write one hypothesis using sex and one of the other dependent variables.

You should still have the univariate tables on your screen. Minimize the screen and you should return to the analysis page, where you listed the short names in the row. If not, backtrack until you are at this place. Now, do the following on the analysis page:

1. In the box “Row” delete only the variable short name “irsex” – leave the other short names here
2. In the box “Column” list “irsex”
3. Under “TABLE OPTIONS: Percentaging” click only “Column” (remove any other checks from “Row” and “Total”)
4. Click “Run the Table”

Once again you have created a lot of information. Now, you can see that we learn what percentage of males and females have ever tried the various drugs in our study.

4. Using the data from the tables you just created, complete the following:

***Be very careful to extract the correct information*

	% “yes” male	% “yes” female
CIGEVER	72.2	62.2
ALCEVER		
MJEVER		
COCEVER		
CRKEVER		
HEREVER		

5. Reexamine the hypothesis you wrote in the earlier step. Were you right? Explain.

6. Are there any patterns that you can find in this data on sex and drug use? Explain using the data, comparing the percents.

You did it! You just completed bivariate analysis!



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