

Measurement Exercise in SPSS Using the 2016 General Social Survey

In this module we will be using the statistical software SPSS to examine different ways of measuring information in the 2016 General Social Survey. We will explore levels of measurement, units of analysis, and question wording.

Open your web browser and go to the homepage for the Association of Religion Data Archives (www.theARDA.com).

Begin by locating the *General Social Survey, 2016* on the ARDA website. For assistance locating a data file on the ARDA, click [here](#).

Click on the link for the dataset, then click on the “Download” tab and then “Continue” to accept the conditions of downloading the dataset. We want to download the file for SPSS (extension .SAV). Click on “Download” next to this file and open it in SPSS to complete the below exercises.

1. Run frequencies on the following variables, paying attention to the variable descriptions and category labels. Indicate the level of measurement for each variable by circling the appropriate category.

a. AGE	Nominal	Ordinal	Interval/Ratio
b. AGER	Nominal	Ordinal	Interval/Ratio
c. AGED	Nominal	Ordinal	Interval/Ratio
d. COLRAC	Nominal	Ordinal	Interval/Ratio
e. TUMBLR	Nominal	Ordinal	Interval/Ratio
f. INTWKDYM	Nominal	Ordinal	Interval/Ratio
g. GENDEREQ	Nominal	Ordinal	Interval/Ratio
h. MNTLHLTH	Nominal	Ordinal	Interval/Ratio
i. MARCOHAB	Nominal	Ordinal	Interval/Ratio

2. Different research questions require different units of analysis. For the following research questions, circle **Yes** if it would be appropriate to use *individuals* as the *units of analysis*, or **No** if it would not be appropriate.



a. Is the rate of violent crime in the United States related to the number of convicted murderers who are executed?

Yes No

b. Are people who are religiously liberal also politically liberal?

Yes No

c. Do states with higher per capita incomes spend more or less on social welfare programs?

Yes No

d. Are Latinx Americans more likely to vote Democratic, Republican, or Independent?

Yes No

e. Is personal trust higher or lower among females than males?

Yes No

3. The Canadian General Social Survey conducted by Statistics Canada asks the following question:

Other than on special occasions, such as weddings, funerals, or baptisms, how often did you attend services or meetings connected with your religion in the last 12 months? Was it...

At least once a week?

At least once a month?

A few times a year?

At least once a year?

Not at all

a. Using the 2016 GSS data file, record the variable description and response categories for “ATTEND”.

Description:

Response categories:

b. What concept is being measured by these two variables?

c. Compare the strengths and weaknesses of the GSS variable with the variable used by Statistics Canada. Which variable allows for the measurement of greater variation? (Circle one.)

The GSS variable

The Statistics Canada variable

d. Which variable is to better at measuring the frequency with which people ordinarily attend religious services? (Circle one.)

The GSS variable

The Statistics Canada variable

e. Which of these variables is the better overall indicator? (Circle one.)

The GSS variable

The Statistics Canada variable

4. Find the valid percentage of survey respondents who would support the right to an abortion in the situations specified by these GSS variables measuring attitudes toward abortion.

ABDEFECT _____ %
ABNOMORE _____ %
ABHLTH _____ %
ABPOOR _____ %
ABRAPE _____ %
ABSINGLE _____ %
ABANY _____ %

a. Examine the results for these variables of attitudes toward abortion. Based on the data what would be the appropriate response to the question, “Where do Americans stand on the issue of abortion?” Explain your answer.

5. One concern we have with measuring concepts is how alternate wordings can impact people’s responses to survey questions (do alternate wordings for the same concept actually measure that concept).

a. The full variable description for the variable “NATENVIR” reads:

We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. Improving and protecting the environment.

Complete the following table with the appropriate frequencies and percentages for “NATENVIR”.

	Frequency	Valid Percentage
Too little	_____	_____%
About right	_____	_____%
Too much	_____	_____%

b. The full variable description for the variable “NATENVIR” reads:

We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. The environment.

Complete the following table with the appropriate frequencies and percentages for “NATENVIR”.

	Frequency	Valid Percentage
Too little	_____	_____%
About right	_____	_____%
Too much	_____	_____%

c. Compare the results for these two variables. Do you think it is legitimate to consider these two variables as indicators of the same concept? (circle one)

Yes No

d. Explain why you think the variables are or are not measuring the same concept.

e. Now let's examine the relationship between political views and attitudes toward the environment using the variable "LIBCONR" to operationalize political views and the variable "NATENVIR" from above. Do you think that those who are politically conservative or those who are politically liberal will be more likely to say that the too little is being spent on improving and protecting the environment? (Circle one.)

Political conservatives Political liberals

f. Run a cross-tab (Analyze | Descriptive Statistics | Crosstabs) with these two variables, completing the following table (remember to specify the appropriate Statistics and Cell options):

	Conservative	Moderate	Liberal
Too little	_____ %	_____ %	_____ %
About right	_____ %	_____ %	_____ %
Too much	_____ %	_____ %	_____ %

g. What is the Chi-square value? _____

h. What is the correlation coefficient? _____

i. What is the probability level? _____

j. Do these results support your hypothesis?

Yes No

6. Examine the relationship between "LIBCONR" and "NATENVIR," testing the hypothesis that political liberals will be more likely to report that we're spending too little money on the environment.

a. Run a cross-tabulation and complete the following table:

	Conservative	Moderate	Liberal
Too little	_____ %	_____ %	_____ %
About right	_____ %	_____ %	_____ %
Too much	_____ %	_____ %	_____ %

b. What is the Chi-square value? _____

c. What is the correlation coefficient? _____

d. What is the probability level? _____

e. Do these results support the hypothesis?

Yes

No

f. Did it make a difference in the results which indicator (NATENVIR vs. NATENVIY) was used in the analysis?

Yes

No

g. Explain your answer below.
