**GENDER4G: Exercise Using SPSS to Explore Gender Differences on Gun Control by Adding Control Variables**

Author:   Ed Nelson  
Department of Sociology M/S SS97  
California State University, Fresno  
Fresno, CA 93740  
Email:  [**ednelson@csufresno.edu**](mailto:ednelson@csufresno.edu)

**Note to the Instructor:** The data set used in this exercise is gss14\_subset\_for\_classes\_GENDER\_DIFFERENCES.sav which is a subset of the 2014 General Social Survey.  Some of the variables in the GSS have been recoded to make them easier to use and some new variables have been created.  The data have been weighted according to the instructions from the National Opinion Research Center.  This exercise uses CROSSTABS to explore the relationships among variables.  In CROSSTABS students are asked to use percentages, Chi Square, and an appropriate measure of association.  A good reference on using SPSS is *SPSS for Windows Version 23.0 A Basic Tutorial* by Linda Fiddler, John Korey, Edward Nelson (Editor), and Elizabeth Nelson.  The online version of the book is on the [**Social Science Research and Instructional Center's website**](http://ssric.org/node/582).  You have permission to use this exercise and to revise it to fit your needs.  Please send a copy of any revision to the author. Included with this exercise (as separate files) are more detailed notes to the instructors, the SPSS syntax necessary to carry out the exercise (SPSS syntax file), and the SPSS output for the exercise (SPSS output file). Please contact the author for additional information.

I’m attaching the following files.

* [**Data subset**](http://ssric.org/files/gss14_subset_for_classes_GENDER_DIFFERENCES.sav) (.sav format).
* [**Extended notes for instructors**](http://ssric.org/files/Extended_Notes_for_Instructors_for_GENDER4G.docx). MS Word (.docx) format.
* [**SPSS syntax file**](http://ssric.org/files/SPSS_Syntax_for_GENDER4G.sps) (.sps format).
* [**SPSS output file**](http://ssric.org/files/SPSS_Output_for_GENDER4G.spv) (.spv format).
* [**This page**](http://ssric.org/files/GENDER4G.docx) in MS Word (.docx) format.

**Goals of Exercise**

The goal of this exercise is to explore differences between men and women in their feelings about gun control by adding other variables into the analysis.  The exercise also gives you practice in using CROSSTABS in SPSS to explore relationships among variables.

**Part I—Gun Control**

We’re going to use the General Social Survey (GSS) for this exercise.  The GSS is a national probability sample of adults in the United States conducted by the National Opinion Research Center.  For this exercise we’re going to use a subset of the 2014 GSS survey. Your instructor will tell you how to access this data set which is called gss14\_subset\_for\_classes\_GENDER\_DIFFERENCES.sav.

In Exercise Gender3G we looked three social issues – abortion, capital punishment, and gun control – and compared how men and women felt about these issues.  In this exercise we’re going to focus on gun control and expand our analysis by adding in control variables.  This process of adding other variables into the analysis is often referred to as elaboration.

Let’s start by running CROSSTABS in SPSS to determine how men and women (D5\_SEX) feel about gun control (G1\_GUNLAW)**[[1]](http://ssric.org/node/533/edit" \l "_ftn1" \o ")**.  (See Chapter 5, CROSSTABS, in the online SPSS book mentioned on page 1.)  You’ll need to decide which variable you want to use as your independent variable and which you want to use as your dependent variable.  The dependent variable is what you are trying to explain and the independent variable is the variable that you think will help you explain the variation in your dependent variable.  Put the independent variable in the column and the dependent variable in the row of your table.  If you do this, you will always want to tell SPSS to compute the column percents.  Also tell SPSS to compute Chi Square and an appropriate measure of association.

Write a paragraph describing the relationship between gender and how respondents feel about gun control.  Were males more or less likely than females to favor gun permits and by how much?  Use the percents, Chi Square, and the measure of association to help you describe these relationships.

**Part II – Elaborating a Relationship by Adding Other Variables**

In Part 1 you discovered that women were more likely than men to favor gun permits.  The gender gap was the percent of men who favored gun permits minus the percent of women who favored permits or 66.5% - 77.6% or -11.1 percentage points.

But why were men more likely to oppose gun permits?  One possible explanation is that men are more likely to own guns and those who own guns are more likely to oppose gun permits.  If this explanation is correct then we would expect the gender gap between men and women in opposing gun permits to disappear or at least decrease considerably when we hold gun ownership constant.  In other words, if the gender gap is because men are more likely to own guns then if we compared men and women who owned guns it ought to decrease.  And the same result ought to hold when we compared men and women who didn’t own guns.  This is what we mean by holding gun ownership constant.

But we’re getting ahead of ourselves.  Let’s check to make sure that men are more likely to own guns by running CROSSTABs in SPSS to compare men and women (D5\_SEX) in terms of gun ownership (G2\_OWNGUN).  Make sure you properly select your independent and dependent variables.  If you put your independent variable in the column and your dependent variable in the row you will want to get the column percents.  Also tell SPSS to compute Chi Square and an appropriate measure of association.  Write a paragraph interpreting this table.  Be sure to use the percents, Chi Square, and the measure of association in your interpretation.

Now let’s check to make sure that those who own guns are more opposed to gun permits by running CROSSTABS to compare those who own guns and those who don’t own guns (G2\_OWNGUN) in terms of how they feel about gun permits (G1\_GUNLAW).  Again, put your independent variable in the column and ask for the column percents, Chi Square, and an appropriate measure of association.  Write a paragraph using all this information to interpret the table.

**Part III – Controlling for Gun Ownership**

Recall that in Part 2 we asked why were men more likely to oppose gun permits?  We suggested that one possible interpretation is that men are more likely to own guns and those who own guns are more likely to oppose gun permits.  Now that we have shown sex to be related to gun ownership and gun ownership to be related to how people feel about gun permits we’re ready to see if our interpretation of this relationship is correct.

If this explanation is correct then we would expect that the gender gap between men and women in opposing gun permits ought to disappear or at least decrease considerably when we hold gun ownership constant.  As we said in part 2, if the gender gap is because men are more likely to own guns then if we compared men and women who owned guns the gender gap ought to decrease.  And the same result ought to hold when we compared men and women who didn’t own guns.

We’re going to divide our sample into two groups – those who own guns and those who don’t own guns.  Then we’re going to look at the crosstabulation of D5\_SEX and G1\_GUNLAW separately for both of these two groups.  That means we’ll have two crosstabs – one for those who own guns and one for those who don’t own guns.  We’ll call these partial tables since each table contains part of the data.

Run CROSSTABS in SPSS to determine how men and women (D5\_SEX) feel about gun control (G1\_GUNLAW).  Put the independent variable in the column and the dependent variable in the row of your table.  Then put your control variable (G2\_OWNGUN) in the bottom box of the CROSSTABS dialog box.  You will also want to tell SPSS to compute the column percents, Chi Square, and an appropriate measure of association.

Your three-variable table will have three tables stacked on top of each other.  The top table will contain all those who said they had a gun in their home.  Look at the percents, Chi Square, and measure of association for this table and write a paragraph describing your findings.  What was the gender gap for those who owned guns?  Was this difference statistically significant?  Use your measure of association to estimate the strength of the relationship.

The middle table (i.e., below the top table) will contain all those who said they didn’t have a gun in their home.   Write a paragraph describing your findings following the instructions above.

The bottom table will include all respondents including both those who owned a gun and those who didn’t.  By the way, it will look a little different that the two-variable you ran in Part 1 because SPSS omits all cases with missing values on **any** of the three variables in your table. This means that your table from Part 1 and the three-variable table in Part 3 will be based on a slightly different subset of cases.

**Part IV – Interpreting the Three-Variable Table**

We suggested that one possible explanation for men being more opposed to gun permits is that men are more likely to own guns and those who own guns are more likely to oppose gun permits.  If this explanation is correct then we would expect the gender gap between men and women in opposing gun permits ought to disappear or at least decrease considerably when we hold gun ownership constant.

But did that happen?  It did for one of the partial tables but not for the other partial table.  So what does that mean?  Our explanation turned out to be incorrect but in the process of analyzing the data we discovered something important.  The gender gap decreased markedly for one of the partial tables and increased for the other partial table.  This is referred to as specification.  We have specified the condition under which the gender gap got smaller and the condition under which it got bigger.

Study the three-variable table and write a paragraph explaining precisely what happened and see if you can suggest why this happened.  It might help you to list the percent who favored guns permits for the four subgroups – men who owned guns, women who owned guns, men who didn’t own guns, and women who didn’t own guns.  Try listing these four groups in ascending order of the percent who favored gun permits.  How does this help you understand what is going on in the three-variable table?

**[[1]](http://ssric.org/node/533/edit" \l "_ftnref1" \o ")** Variable names are in all capitals.