

**DEPARTMENT OF POLITICAL SCIENCE
AND
INTERNATIONAL RELATIONS**
Posc/Uapp 816

Assignment 3
CONTINGENCY TABLES AND ODDS RATIOS

Name _____
(Printed)
Student Number _____
(Social Security Number)
E-mail _____

Some more practice interpreting contingency tables and association are in order. Assignment 2 asked you to examine data from the 1996 American National Election Study. Let's continue working with those data but try some different approaches. For example, you can create your own cross-classifications.

1. Go to the course web page and find class data. There are two versions of a data set called "Religion and Politics." One is simply a sample of the other and is to be used if you have the Student Version of MINITAB for Windows (it contains N = 75 cases and 3 variables). (The Student version can only store about 3500 total cells, where as the larger version of the religion data contain many more cases than that.) The large sample contains N = 1713 cases. Pick one depending on whether you are going to work with the full or abbreviated version. These variables pertain to religious and social attitudes.
 - A. Full sample
 - B. Sample of sample

2. The file contains three variables. Here is the "code book" or guide to the data:

c1 Respondent agrees/disagrees: mothers w/ children should not work
"Please tell me how much you agree or disagree with the following statement: Mothers should remain at home with young children and not work."

Column value	Label
1	Agree strongly
2	Agree somewhat
3	Neither agree nor disagree
4	Disagree somewhat
5	Disagree strongly
*	Missing

c2 How frequently does the respondent pray

People practice their religion in different ways. Outside of attending religious services, do you pray: SEVERAL TIMES A DAY, ONCE A DAY, A FEW TIMES A WEEK, ONCE A WEEK OR LESS or NEVER?

Column value	Label
1	Several times a day
2	Once a day
3	A few times a week
4	Once a week or less
5	Never
*	Missing

c3 Respondent's view on whether the Bible is the word of God

Which of these statements comes closest to describing your feelings about the Bible? You can just give me the number of your choice.

Column value	Label
1	Bible is actual word of God
2	Bible is word of God, but not literally
3	Bible is not the word of God
*	Missing

3. View the data and then from the browser choose **Save file...** and store the file on your computer or diskette.
 - A. If you have trouble with this part, refer to Assignments 1 and 2 in the **Posc/Uapp 815** section for general instructions and examples.
4. Once you have copied the data open or start MINITAB.
5. Use MINITAB to “read” these data. If you have the Student version, go **File**, then **Import ascii data...** If you are using the standard version go to **File** and then **Other files and Import special text...**
 - A. In both cases enter **c1-c3** in the “Store data in ...” dialogue box, then **Select file**
 - B. Navigate until you find the file on your disk.
 - C. Highlight the file name and press **Ok**.
 - D. The data should be in the work sheet.
6. Now generate a cross tabulation between attitudes toward women working (c1) and frequency of prayer (c2).

- 7. In both versions go to **Stat** and then **Tables** and then choose **Crosstabulation**.
 - A. Do not select **Chi square** since it refers to something else.
 - B. Enter the row or dependent variable (c1) first in the dialogue box.
 - C. Then enter the column number of the independent variable.
 - D. Check **frequencies, column percents** and **chi square**
 - E. Click **Ok**
 - F. Note you should see a cross-classification table similar to the ones we've been working with.
 - i. Make sure that you have **column** percentages and frequencies.
 - ii. The observed chi square and degrees of freedom will be at the bottom of the table.

Column Percent/ Frequency	Several times a day	Once a day	A few times a week	Once a week or less	Never
Agree strongly					
Agree					
Neither					
Disagree					
Disagree Strongly					
Total					

- iii. Make sure that the column percentages add to 100%.

- 8. Is there a statistical association between frequency of prayer and attitudes toward women working? Explain with both statistical analysis and verbal explanation. (Don't bother with odds ratios for this question.)

9. Now obtain the cross classification between attitudes toward women working (c1) and the respondents' views of the bible (c3). Again, make sure that the attitude responses constitute is the row categories and that beliefs about the bible is the column variable.

Column Percent/ Frequency	Bible is the word of God	Bible is word of God, but not literally	Bible is not the word of god
Agree strongly			
Agree			
Neither			
Disagree			
Disagree Strongly			
Total			

10. Now treat “bible is not the word of God” as a “reference” category. Find the odds of **strong agreement** versus **strong disagreement** that mothers should remain at home and not work
- A. How does this compare with the similar odds of those in the first category (i.e., “Bible is the word of God). That is, compute and report the odds ratio and interpret it.

- B. How do the reference odds calculated above compare with the comparable odds in the second category, the “bible is the word of God, but not literally?”

11. Based on these two odds ratios would you say there is a relationship between the variables? Why?

12. Finally, let's return to the "gender gap." The following data come from the General Social Survey, a national survey of social and political attitudes that has been conducted annually since 1972. We can use the information to see if there is any evidence that supports claims of a growing gap in the political preferences of men and women.
- A. Here are some voting preference data. The numbers are of course frequencies.

1968			1992		
Vote preference	Men	Women	Vote Preference	Men	Women
Humphrey (Democrat)	211	218	Clinton (Democrat)	369	571
Nixon (Republican)	233	245	Bush (Republican)	295	404
Wallace (Independent)	67	26	Perot (Independent)	180	169

- B. In the 1968 election what were the odds of a male voting Democratic compared to Republican? _____ What about a female? _____ What was the odds ratio? _____
- C. Now in 1992 what were the odds of a male voting Democratic compared to Republican? _____ What about a female? _____ What was the odds ratio? _____
- D. What interpretation do you make based on these odds ratios?

Go to Assignment page

Go to Statistics page