In this lab, you will use a simple statistical procedure (cross-tabs) to test hypotheses concerning the relationship between two variables. You will also conduct significance tests as well as calculate a measure of association.

1. Start STATA and download the gssdeath data set.

In the command window, type

```
use http://web.ics.purdue.edu/~ewaltenb/POL300/Data/gssdeath.dta
```

Notice the command you just typed appears in the Review window and variables are listed in the Variables window.

Start a log file

Your data are from a public opinion survey of a random sample of adults in the United States.

a. What is your population? _____________________________________________________

b. What is your unit of analysis? _________________________________________________

2. Codebook

Below is a description of each variable in this new death penalty data set.

- **death** = Does R support the Death Penalty? (0=Anti-Death Penalty; 1=Pro-death penalty)
- **kids** = Does R have children? (0=No; 1=Yes)
- **ideo** = What is R's ideology? (1=Liberal, 2=Moderate, 3=Conservative)
- **party** = What is R's party identification? (1=Democrat; 2=Independent; 3=Republican)
- **black** = What is R's race? (0=white; 1=black)
- **educ** = What is R's highest year of school completed? (i.e., 10, 11, 12 . . .)
- **attend** = How often does R attend church services? (0=never; 1=<once a year; 2=yearly; 3=several times a year; 4=monthly; 5=several times a month; 6=nearly every week; 7=weekly; 8=>once a week)

3. Analysis

a. Construct three (3) research hypotheses that explore an individual's support for the death penalty using these data. You will not need to provide a literature review, but you will need to provide a theoretical justification for your hypotheses. (Review the example below. You may not use the **kids** variable in any of your hypotheses.)

**Hypothesis:** People with children will be more likely to support the death penalty.
Parents are generally concerned about their children's well being. Therefore, they will be supportive of the "law and order" aspect of the death penalty.

b. Test each of your hypotheses using the cross-tab statistical procedure. Present and substantively interpret the results. (Review the example below.)

In the STATA command window, I enter `tab death kids, col chi V`

This produces the following results:

<table>
<thead>
<tr>
<th>children</th>
<th>0</th>
<th>1</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>death</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>0</td>
<td>151</td>
<td>284</td>
<td>435</td>
</tr>
<tr>
<td></td>
<td>36.74</td>
<td>30.34</td>
<td>32.29</td>
</tr>
<tr>
<td>1</td>
<td>260</td>
<td>652</td>
<td>912</td>
</tr>
<tr>
<td></td>
<td>63.26</td>
<td>69.66</td>
<td>67.71</td>
</tr>
<tr>
<td>Total</td>
<td>411</td>
<td>936</td>
<td>1347</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Pearson chi2(1) = 5.3464  Pr = 0.021
Cramer's V = 0.0630

Looking across the columns, we see that there does appear to be a relationship. People without children are a bit less supportive of the death penalty than are people with children (63.3% vs. 69.7%).

Be aware that some of the possible independent variables in the data set do not lend themselves to analysis using cross-tabs. That is, they contain too many categories. To use these variables, you will have to "collapse" them. To do so, create a new variable, and then collapse it. For example, age is the actual age of the respondent. To collapse age, do the following:

! `summ age` (find the mean value of age)
! `gen age2 = .`
! `replace age2 = 1 if age >= [whatever the mean is]`
! `replace age2 = 0 if age < [whatever the mean is]`

Use age2 in the cross-tab analysis.

c. Are the relationships statistically significant? To answer that question, you must examine the Chi² statistic.

! For each relationship, specify the null hypothesis.
! For each relationship, specify the alternative hypothesis.
! Examine the Chi² statistic for each relationship. (Review the example below.)

The Chi² statistic is 5.35. At 1 degree of freedom (this is indicated by the 1 in parentheses), this is highly significant. Indeed, the probability that the relationship displayed in the table is false is about 2% -- i.e., we can be 98% certain that we are not incorrectly rejecting the null hypothesis.

d. How strong are the relationships? To answer that question, you must examine the Cramer's V statistic. Cramer's V is a measure of association. It ranges from 0 to 1.0 (pay no attention to the -/+ sign). The closer V is to 0, the weaker the relationship. The closer V is to 1.0, the stronger the relationship.
4. To turn in (be sure to put your name and SSN on all material you submit):
This completed lab exercise and your log file.

Hypothesis 1
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Theoretical Justification
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Interpretation
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
H0
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Ha
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Significance
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Strength
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Hypothesis 2
______________________________________________________________________________
Interpretation

H0

Ha

Significance

Strength