**Independent Practice**

Instructions: Submit this lab report to BlackBoard by 5PM on November 7. You should upload two files: one MS Word file with answers, and a Stata .do with replication code. In particular, questions must be properly numbered, and include graphs or tables as appropriate. Don't forget to include identifying information (Name, PUID, Section). The total possible point for this report is 10.

**Q1. Use "relig\_attend3", "female", "dem\_educ3" to answer following questions.**

(1) Generate a cross-tab to analyze the effect of gender on an individual's attendance on religious services. Provide Chi-Square and Cramer's V. " (1pt)

(2) According to the result, which gender is more likely to attend religious services? Why? [Use the table output ] (1pt)

(3) Is the relationship statistically significant? Why? [Use Chi-Square] (1pt)

(4) Is the relationship strong? [Use Cramer's V] (1pt)

(5) Can we use Somers' D to evaluate the extent that the gender variable provides helpful information to improve our prediction? If so, how much? If not, why? [Use Somers' D] (1pt)

(6) Generate a cross-tab to analyze the effect of level of education on an individual's attendance on religious services. Provide Chi-Square, Cramer's V, and Somers' D. (1pt)

(7) Evaluate the following alternative hypothesis based on Chi-Square, Cramer's V, and Somers' D. (1pt)

Ha: The more the person get educated, the person is more likely to attend religious services.  
H0: Education level is not related to individual's attendance on religious services.

Ha is [true / false] because Somers' D is [positive / negative]. This relationship is statically [significant / insignificant] because p-value for Chi-Square is [greater/smaller] than 0.05. The strength of association is [weak / moderate / strong] because Cramers' V is [ ]. We can improve our prediction by [ ]% by analyzing the information about [ ].

(8) Does gender explain an individual's attendance on religious services better than education level? Why? (1pt)

(9) Evaluate the alternative hypothesis above after controlling for gender factor. [Use Chi-Square, Cramer's V, and Somers'D.] (2pt)

For males, Ha is [true / false] because Somers' D is [positive / negative]. This relationship is statically [significant / insignificant] because p-value for Chi-Square is [greater/smaller] than 0.05. The strength of association is [weak / moderate / strong] because Cramer’s V is [ ]. We can improve our prediction by [ ]% by analyzing the information about [ ]. The improvement is statistically [significant/insignificant].

For females, Ha is [true / false] because Somers' D is [positive / negative]. This relationship is statically [significant / insignificant] because p-value for Chi-Square is [greater/smaller] than 0.05. The strength of association is [weak / moderate / strong] because Cramer’s V is [ ]. We can improve our prediction by [ ]% by analyzing the information about [ ]. The improvement is statistically [significant/insignificant].

[Females / Males] show the stronger relationship between education level and attendance in religious services than the others.