Soc 3155 Spring, 2012 Homework #5 45 Points

**ATTACH ALL SPSS OUTPUT TO THIS ASSIGNMENT**

**Part I. Measures of Association**

1. Would you still calculate a measure of association if your test statistic generated a “p” value (or “sig” value) of .15 and your alpha was .05? Why or why not? (**2 pts)**

2. In what way do test statistics (e.g, t, F, chi-square) tell you something about the strength of a relationship? Why do we still need to calculate separate (e.g., Cramer’s V) measures of association then? Use chi-square as an example to answer this question. (**3 pts)**

**Part II. Association for Nominal and Ordinal Variables**

1. What is the advantage of Cramer’s V over phi as a measure of association? (**2 pts)**

2. How is Lambda different from Chi-square-based measures of association? Explain. **(2pts)**

| **PEOPLE HELPFUL OR LOOKING OUT FOR SELVES \* RS HIGHEST DEGREE Crosstabulation** |
| --- |
|  |
|  |  | RS HIGHEST DEGREE | Total |
|  |  | LT HIGH SCHOOL | HIGH SCHOOL | JUNIOR COLLEGE | BACHELOR | GRADUATE |
| People Are… |  |  |  |  |  |  |  |
|  | HELPFUL | 97 | 392 | 83 | 187 | 108 | 867 |
| LOOKOUT FOR SELF | 180 | 483 | 81 | 129 | 51 | 924 |
| DEPENDS | 29 | 98 | 16 | 33 | 18 | 194 |
| Total | 306 | 973 | 180 | 349 | 177 | 1985 |

| **Chi-Square Tests** |
| --- |
|  | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 64.047a | 8 | .000 |
| Likelihood Ratio | 64.913 | 8 | .000 |
| Linear-by-Linear Association | 34.312 | 1 | .000 |
| N of Valid Cases | 1985 |  |  |
| a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.30. |

3. The SPSS output above examines the relationship between highest degree earned and how people view others (generally speaking) in the world. Based on this output, answer the following questions:

 a. What is the IV? (**1 pt)**

 b. What is the DV? (**1 pt)**

c.What is the null hypothesis? **(1 pt)**

d. Describe the relationship within the data using the appropriate percentages. **(2pts)**

e. Is there a significant relationship between these variables with alpha set at .01? **Explain**. (**2 pts)**

 f. If appropriate, calculate and report a chi-square based measure of association and explain how the strength of this relationship in as much detail as you can. If it is not appropriate, explain why it is not appropriate **(3 pts).**

g. If appropriate, calculate and report Lambda and explain the strength of this relationship in s much detail as you can. If it is not appropriate, explain why it is not appropriate **(2 pts).**

4. Use SPSS and the 2010 GSS data to see whether a persons’ satisfaction with their financial status (SATFIN) predicts whether their level of confidence in major companies (CONBUS). **Attach SPSS output to this assignment.**

 a. What is the IV? What is the level of measurement for this variable? **(1 pt)**

 b. What is the DV? What is the level of measurement for this variable? **(1 pt)**

 **c.** Describe the relationship between these variables using the correct percentages. **(1 pts).**

d. Is this relationship statistically significant (alpha = .05)? Explain. **(2 pts)**

 e. Describe the strength of the relationship using Gamma, and being as specific as possible. **(2 pts).**

**Part III. Association for Interval-Ratio Variables**

1. In your own words, explain what a regression line is and how it is used. **(3 pts)**

2. Why is Pearson’s r a better measure of association among interval-ratio variables than the “slope” (b) of the regression line? **(1 pts)**

3. Use SPSS and the GSS data to examine the relationship between the age of respondent and the number of weeks she/he worked in the past year (weekswrk). Analyze🡪Regression🡪Linear. **Attach SPSS output to the assignment.**

 a. What is the slope of the regression line? **(1 pt)**

 b. What is the y-intercept? **(1 pt)**

 c. Using the regression equation, if someone is 30 years old, how many weeks would you predict that they worked in the past year? How does this compare with somebody who is 70 years old? **(2 pts)**

d. Interpret (in a sentence) the strength of the relationship between the variables using “Pearson’s r.” For this analysis, “beta” will be the same as “r.” **(2pts)**

e. Interpret (in a sentence) the coefficient of determination for the relationship between the variables being as specific as possible. **(2 pts)**

4. Use SPSS and the GSS data to examine a relationship between two interval-ratio level variables that makes theoretical (or “common”) sense. **Attach the SPSS output to your assignment.**

 a. List independent variable

 b. List dependent variable

 c. Based on the SPSS output, write the regression equation that describes the relationship between the two variables **(2 points).**

d. Describe (in a couple of sentences) the strength of the relationship between the variables using both “r” (beta in your output) and the coefficient of determination. **(3 points).**