

## POL 242Y Final Test (Take Home)

Name \_\_\_\_\_

**Due August 6, 2008**

**The take-home final test should be returned in the classroom (FE 36) by the end of the class on August 6. Students who fail to submit the final test before the deadline will be assigned a mark of zero unless they submit a written explanation and a request for a makeup final test.**

### **Part 1: Multiple Choice (40 points)**

*Identify the choice that best completes the statement or answers the question.*

- \_\_\_\_\_ 1. The formulas for some measures of association can result in coefficients with either positive or negative signs. Under which of the following circumstances can those signs be meaningfully interpreted?
  - a. whenever the data are expressed as frequencies
  - b. when the data are measured at the nominal level
  - c. when the data are measured at the ordinal level
  - d. whenever the data have a modal category
  - e. whenever the data are expressed as percentages
- \_\_\_\_\_ 2. Professor Doner asked you to interpret a gamma of 1.3. You told Doner
  - a. it indicated an exceedingly strong relationship
  - b. it indicated a moderate relationship
  - c. it indicated a positive relationship
  - d. it indicated an error in calculations
  - e. it indicated either a moderate or a strong relationship depending upon the variables that were used
- \_\_\_\_\_ 3. Which of the following statistics can be used to determine whether or not there is a statistically significant relationship between two variables in a cross-tabulation table?
  - a. gamma
  - b. chi square
  - c. lambda
  - d. Pearson's correlation coefficient
  - e. all of these choices are correct
- \_\_\_\_\_ 4. An appropriate measure of association for determining the strength of the relationship between political party affiliation (Liberal, Conservative, NDP, Other) and sex (male, female) is
  - a. gamma
  - b. lambda
  - c. chi square
  - d. Pearson's correlation
  - e. any of these choices would be an appropriate measure for determining the strength of this relationship
- \_\_\_\_\_ 5. Given the following table relating age to confidence in parliament, which of the following conclusion(s) can be drawn?

Confidence in parliament, %

AGE	High	Medium	Low
31-40	10	30	45
41-50	30	50	45
51-60	60	20	10

- a. There is a negative association between age and confidence.
  - b. As age increases confidence decreases.
  - c. There is no association between age and confidence.
  - d. There is a negative association between age and confidence such that as age increases so does confidence
  - e. There is a positive association between age and confidence.
- \_\_\_\_\_ 6. An appropriate measure(s) of association for the data presented in the prior question is(are)
- a. gamma
  - b. lambda
  - c. chi square
  - d. Pearson's correlation
  - e. any one of these choices is an appropriate measure of association for the data in the prior question
- \_\_\_\_\_ 7. Which of the following statements is TRUE?
- a. if a relationship is substantively significant then it is also statistically significant
  - b. if a relationship is statistically significant then it is also substantively significant
  - c. if a relationship is statistically significant then it is an important relationship
  - d. statistical significance does not indicate anything about substantive significance
  - e. if a relationship is statistically significant then it is also substantively significant because a statistically significant relationship is an important relationship
- \_\_\_\_\_ 8. A .05 level of significance means that
- a. there is only a 5% chance that the statistic's value could be obtained as a result of sampling error only
  - b. one is 50% certain that the sample value is representative of the population
  - c. there is only a 5% chance that the variables tested are not independent
  - d. the results can be accepted because the sampling error is only 5%
  - e. the level of confidence is only 5%
- \_\_\_\_\_ 9. Which of the following regression equations represents the strongest relationship between X and Y?
- a.  $Y = 2 + .3X$
  - b.  $Y = 2 + 1.3X$
  - c.  $Y = 2 + 1.8X$
  - d.  $Y = 2 + 3X$
  - e. the strength of the relationship cannot be determined from the regression equation
- \_\_\_\_\_ 10. The regression model can be used to
- a. summarize a relationship between variables
  - b. predict a value of one variable from its relationship to another related variable
  - c. analyze a relationship between two variables
  - d. analyze a relationship between a dummy dependent variable and several independent variables
  - e. all of these choices are correct

- \_\_\_\_ 11. One advantage of the technique of multiple regression is that it allows the \_\_\_\_\_ effects of the \_\_\_\_\_ variables to be investigated.
- combined, dummy
  - separate, independent
  - combined, control
  - separate, dependent
  - logistic, standardized
- \_\_\_\_ 12. A researcher wants to measure the strength of the association between income (measured in dollars per year) and education (measured in number of years of formal schooling). Which of the following would be the most appropriate measure of association?
- the slope ( $b$ )
  - gamma
  - chi square
  - Pearson's  $r$
  - odds ratio
- \_\_\_\_ 13. Using the following regression equation, which of the following statements is FALSE?
- $$Y = b_0 + bX_1 + bX_2 + bX_3$$
- It treats  $b$  as the independent variable.
  - There are three independent variables.
  - There is one dependent variable.
  - It predicts  $Y$  from the  $X$ 's.
  - It treats  $Y$  as the dependent variable.
- \_\_\_\_ 14. A researcher wants to analyze effects of income (measured in dollars per year) and political ideology (measured by 10 point scale) on membership in labor unions (measured as "member" and "non-member"). Which of the following would be the most appropriate research method?
- bivariate regression
  - cross-tabulation
  - binary logistic regression
  - correlation
  - scatterplot
- \_\_\_\_ 15. If social class is a cause of a person's political ideology, then \_\_\_\_\_ is the independent variable and \_\_\_\_\_ is dependent.
- class, ideology
  - ideology, class
  - person, ideology
  - ideology, person
  - information is not sufficient to tell which is independent and which dependent
- \_\_\_\_ 16. For variables measured at the nominal level, measures of association will have a lower limit of \_\_\_\_\_ and an upper limit of \_\_\_\_\_.
- 0; 100
  - 1; +1
  - 0; 1
  - 1; 0
  - 100; 0
- \_\_\_\_ 17. When referring to interval-ratio variables, a commonly used synonym for association is
- probability
  - predictability
  - correlation

- d. causation
- e. statistical significance
- \_\_\_\_\_ 18. In a study of the relationship between ethnic heterogeneity and political freedom, R square is reported as .40. Which of the following would be a correct interpretation?
  - a. Ethnic heterogeneity explains 16% of the variation in political freedom.
  - b. There is a strong positive relationship between ethnic heterogeneity and political freedom.
  - c. As ethnic heterogeneity increases, political freedom decreases.
  - d. Political freedom explains .40 of the variation in ethnic heterogeneity.
  - e. Ethnic heterogeneity explains 40% of the variation in political freedom.
- \_\_\_\_\_ 19. Standardized regression coefficients are also called
  - a. odds ratios
  - b. gammas
  - c. adjusted R squares
  - d. betas
  - e. Nagelkerke R squares
- \_\_\_\_\_ 20. Correlation requires data which is
  - a. nominal
  - b. ordinal
  - c. interval-ratio
  - d. dummy variable
  - e. aggregate

## Part II. SPSS Bivariate Data Analysis (30 points)

*Please answer each of the following questions. Be sure to attach a copy of your SPSS output, formatted in Word. Include only those parts of your SPSS output that are relevant to these questions.*

Select the Canadian survey sample in the 2000 World Values Survey dataset. Make sure to use the weight variable.

1) Formulate a research hypothesis using the following two variables: Interested in politics (v133) and Social class (v235). What is your research hypothesis?

---

---

---

2) What is your dependent variable?

---

3) What is your independent variable?

---

4) List values that you coded or defined as missing in your dependent variable

---

5) List values that you coded or defined as missing in your independent variable

---

6) Run a cross-tabulation Chi-square test between your dependent and independent variables and find all appropriate measures of association. Are there any statistically significant differences? If yes, at which level are they statistically significant?

---

---

---

7) What are the appropriate measures of association for your cross-tabulation? Why?

---

---

8) What are their values? \_\_\_\_\_

---

9) What do these measures tell you about the relationship between your independent and dependent variables?

---

---

---

10) Do results of your cross-tabulation analysis and Chi-square test support your research hypothesis?

---

---

---

### Part III. SPSS Multivariate Analysis (30 points).

*Please answer each of the following questions. Be sure to attach a copy of your SPSS output, formatted in Word. Include only those parts of your SPSS output that are relevant to these questions.*

Use the World dataset for your analysis.

- 1) Transform the Region of the world (region) variable into industrialized countries dummy variable. List values in the industrialized countries dummy variable and corresponding values in the region variable.

Industrialized countries dummy variable		Region of the world variable	
Value	Label	Value	Label

- 2) Formulate research hypotheses using the following variables: Year of independence (indy), Urban population (urban), Political rights score (polrts), and the industrialized countries dummy variable that you created from the region variable. What are your research hypotheses?

---

---

---

---

---

---

3) What is your dependent variable?

---

4) What are your independent variables?

---

---

---

5) Which type of regression analysis is the most appropriate to test your research hypotheses? Why?

---

---

---

---

---

6). Run the most appropriate type of regression analysis between your dependent and independent variables. Are regression coefficients of your independent variables statistically significant? If yes, at which levels are they statistically significant?

---

---

---

---

---

---

---

7) Provide interpretation of **all** regression coefficients of independent variables that are statistically significant.

---

---

---

---

---

---

8) Do results of your regression analysis support your research hypotheses?

---

---

---

---

---

---

---

---

---

---

9) Is there a multicollinearity problem? Explain why or why not.

---

---

---

---

---