

**FEDERATION METHODS AND STATISTICS COMPREHENSIVE EXAM**

Federated Graduate Sociology Program of:  
Texas Woman's University  
University of North Texas

Fall 2007

**GENERAL INSTRUCTIONS FOR TAKING THE EXAM**

Before you begin the exam, it is advisable that you read through all the questions. Plan your time wisely. You have until 5:00 p.m. to complete the exam.

Please **WRITE ONLY ON EVERY OTHER LINE on ONE SIDE OF THE PAPER**. Please answer each question thoroughly. Answer in complete sentences. Write as neatly as possible—you will not get credit for what cannot be read!

**DO NOT PUT YOUR NAME ON THE PAPER**

**PUT ONLY YOUR ASSIGNED NUMBER \_\_\_\_\_**

**Part 1. FEDERATION METHODS COMPREHENSIVE EXAM****Fall, 2007**

(Remember: WRITE ONLY ON EVERY OTHER LINE on ONE SIDE OF THE PAPER).

Please answer A, B, and C.

A. Define and provide an example of **four** of the following:

- a. Grounded theory and case studies
- b. Internal validity and external validity in experimental research
- c. Cross-sectional study and longitudinal study
- d. Guttman scaling and Likert scaling
- e. Ethnography and ethnomethodology
- f. Stratified sampling and multi-stage cluster sampling

B. Select **one** of the following three topics for a quantitative research project:

1. Racial/Ethnic Differences in Health Insurance in the United States
2. Determinants of Poverty Rates in American Cities
3. Explaining Income Inequality: A Cross-National Study

Address the following issues:

- a. identify the dependent variable and one important predictor variable (be sure to define your key concepts, if necessary);
- b. state **one** testable hypothesis and justify it;
- c. describe how you measure the dependent variable and independent variable in your hypothesis;
- d. discuss data collection techniques appropriate for testing your hypothesis;
- e. discuss the appropriate technique(s) of data analysis; and
- f. discuss the limitations of your study.

C. Select **one** of the following three topics for a qualitative research project:

1. Racial/Ethnic Differences in Health Insurance in the United States
2. Employment of Undocumented Mexican Immigrants in Texas
3. Is the Cost for College out of Control?

Address the following issues:

- a. identify the role of theory in qualitative research;
- b. discuss issues of ethics in your research project;
- c. describe the sampling design and recruitment of participants;
- d. discuss data collection;
- e. discuss appropriate technique(s) of data analysis; and
- f. discuss the limitations of your study.

**Part 2. FEDERATION STATISTICS COMPREHENSIVE EXAM****Fall, 2007**

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A. For **six** of the following eight pairs, discuss when it is most appropriate to use which technique in the analysis of data.

1. Tests of statistical significance and measures of association
2. Chi-square test and F test
3. Pearson's  $r$  and Spearman's  $\rho$
4.  $t$  test and Z test
5. Lambda and Gamma
6. PRE and non-PRE measures of association
7. Ordinary least squares regression and logistic regression
8. Event history analysis and hierarchical linear model

B. Answer **one** of the following questions: question 1 **or** question 2.

1. Write a brief essay substantively interpreting the path analysis presented in Figures 1 and 2.
2. Write a brief essay substantively interpreting the logistic regression analysis presented in Table 1.

C. Answer **all** of the questions below.

1. List and briefly explain the assumptions that must be made to use ordinary least squares regression analysis.
2. What does each of the following tell us?
  - a. Unstandardized regression coefficient estimate ( $b$ )
  - b. Standardized regression coefficient estimate ( $\beta$ , or Beta)
  - c. Level of significance ( $\alpha$ , or alpha)
  - d. Coefficient of determination ( $R^2$ )
3. Write a brief essay substantively interpreting Table 2.