

FEDERATION METHODS AND STATISTICS EXAM

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

Fall, 2001

GENERAL INSTRUCTIONS FOR TAKING 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 pm 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 can not be read!

DO NOT PUT YOUR NAME ON THE PAPER

PUT ONLY YOUR ASSIGNED NUMBER_____

Part 1: FEDERATION METHODS**(Fall 2001)**

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

- A. For three of the following populations, select and discuss an appropriate sampling procedure, including type of sample, sampling frame, sampling units:
- a. alcoholics
 - b. marijuana users (pot smokers)
 - c. political editorials
 - d. HIV infected children (under 18 years of age)
 - e. voters of Harris County
- B. Define and provide an example of each of the following:
- a. conceptual and operational definitions
 - b. construct validity and face validity
 - c. Likert scaling
 - d. cohort study
 - e. Probability and nonprobability sampling
- C.
1. List and describe the steps in a qualitative research study. Then select a specific research question of interest to you to illustrate these steps. Be as specific as possible in demonstrating your knowledge of the qualitative research process.

OR

2. Define field research and discuss how it differs from survey research in terms of:
 - a. the role of the researcher
 - b. sampling
 - c. asking questions
 - d. analyzing data
 - e. ethical considerations

Part II: FEDERATION STATISTICS**(Fall 2001)**

- A. For each of the following five relationships, select an appropriate statistical test or measure of association
1. Party affiliation and preference for president
 2. Father's education, own education, and starting salary
 3. Sex differences in GPA's of male and female university students
 4. Each of the following concepts and marital satisfaction
 - a. intimacy
 - b. communication
 - c. trust
 - d. self disclosure
 - e. financial state
 5. Age and frequency of sexual intercourse
- B. Define and relate each of the following terms. To receive full credit for this question it must be shown how all of the terms relate to each other.
- a. research and null hypothesis
 - b. stratified random sample
 - c. one tail and two tail test
 - d. level of measurement
 - e. level of significance and critical region
- C. Answer question 1. Then answer either question 2 or question 3.
1. Answer the following questions about Table 1 below.
 - a. What assumptions must be made to use regression analysis in the analysis of data?
 - b. What do each of the following tell us?
 1. Unstandardized regression coefficients (b)
 2. Standardized regression coefficients (Beta)
 3. level of significance (p)
 4. coefficient of determination (R^2)
 - c. Write a brief essay substantively interpreting the table

Table 1: Factors Affecting Frequency of Contact Between Adult Children and their Parents

| Predictors | <i>Equation 1</i> | | <i>Equation 2</i> | |
|-----------------------------|-------------------|----------|-------------------|----------|
| | <i>Beta</i> | <i>p</i> | <i>Beta</i> | <i>p</i> |
| Satisfaction with family | .33 | .001 | .29 | .001 |
| Closeness to family members | .13 | .045 | -.02 | .458 |
| Proximity of Parents | .17 | .032 | .17 | .000 |
| Age of Child | | | -.09 | .179 |
| Education of Child | | | .11 | .032 |
| Income of Adult Child | | | .04 | .387 |
| R² | .21 | | .25 | |

2. Write a brief essay substantively interpreting Table 2. Identify all of the statistical procedures used and interpret them, including the percentages.

Table 2: Variables Affecting Support for Capital Punishment

| <i>Variable</i> | <i>% in Favor</i> | χ^2 | <i>Significance of χ^2</i> | <i>Phi or V</i> | <i>Significance of Phi or V</i> |
|----------------------|-------------------|----------|--|-----------------|---------------------------------|
| Sex | | 30.4 | .0001 | .11 | .0001 |
| Male | 78.7 | | | | |
| Female | 69.1 | | | | |
| Race | | 135.5 | .0001 | .23 | .0001 |
| White | 78.3 | | | | |
| Black | 49.9 | | | | |
| Other | 63.4 | | | | |
| Family Income | | 22.0 | .0001 | .10 | .0001 |
| <\$25,000 | 67.7 | | | | |
| \$25,000-89,999 | 76.9 | | | | |
| \$90,000 or above | 75.2 | | | | |
| Region | | 7.2 | .065 | .05 | .065 |
| Northeast | 68.7 | | | | |
| Midwest | 74.3 | | | | |
| South | 74.9 | | | | |
| West | 73.9 | | | | |

3. Write a brief essay substantively interpreting Table 3.

Table 3: Scores of Ten Subjects on Frequency of Participation in Sports and Self Reported Anxiety

| Subjects | Frequency Scores | Anxiety Scores |
|-----------------|-------------------------|-----------------------|
| Joe | 22 | 17 |
| Jane | 16 | 18 |
| Janet | 15 | 11 |
| Marsha | 11 | 16 |
| Patsy | 9 | 6 |
| Christine | 8 | 10 |
| Ron | 8 | 8 |
| Phyllis | 5 | 6 |
| Carol | 2 | 3 |
| Karen | 1 | 2 |

$r_s = .57$ $t = 4.56$ $.005 < p < .001$