

**DEPARTMENT OF SOCIOLOGY  
UNIVERSITY OF COLORADO AT BOULDER  
COMPREHENSIVE EXAM  
METHODS  
AUGUST 2001**

Please answer **three questions**. There are choices in the first question -- you should answer **either** Question 1a **or** Question 1b. Everyone must answer Questions 2 and 3. Our recommended time allocations for each question are in parentheses.

Please read the **entire exam** before you begin. Also, books have been written on at least some of these questions. Please write a succinct and brief answer that encompasses some of the major points.

**1. Answer one of the following two questions (about 60 minutes).**

1a. It is extremely common in sociological research to find that our data can best be expressed as categorical. Please answer the following questions regarding this type of data.

- What are categorical data?
- How do they differ from other kinds of information?
- Why are categorical data perhaps more important in sociology than in other fields?
- Briefly discuss three quantitative methods that can be used for analyzing categorical data. What can be learned from each of these three methods?
- Give a short example of how each method for analyzing categorical data might be used.
- Discuss how continuous or non-categorical data can be transformed into categorical data.

1b. The type of sampling used is critical to interpretation of empirical sociological research. Four types of sampling commonly used in sociology are

- \* cluster sampling,
  - \* quota sampling,
  - \* snowball sampling, and
  - \* systematic sampling.
- Briefly describe each of these sampling types and specify which yield probability samples
  - Contrast each of these sampling types with simple random sampling.
  - Discuss the pros and cons of each type and, for each one, provide a very brief example (no more than 3 sentences) of a research problem where its use would be appropriate.
  - Is it important to have a probability sample when doing sociological research? Why?

**2. Answer the following question (about 90 minutes).**

Increasingly, researchers are combining quantitative and qualitative approaches in a single study. Choose a topic of your own or one of the following:

- \* transitions into retirement;
- \* causes of drug use;
- \* how mothers on welfare subsist;
- \* racial and ethnic segregation in central cities; or
- \* consequences of teenage pregnancy for public policy.

Design a study based on one of the topics listed that has both qualitative and quantitative components.

- Briefly describe the samples, measures, and analysis procedures for both components.
- Briefly discuss the strengths and weaknesses of the samples, measures, and analysis procedures you chose. For example, if you chose a quantitative approach, what are the strengths and weaknesses, especially in relation to a qualitative approach.
- Consider the potential similarities and differences in conclusions that may come from the integrative design as compared to a either a purely qualitative or purely quantitative approach.
- Discuss several unique contributions of the purely qualitative approach. Similarly, discuss several unique contributions of the purely quantitative approach.

### 3. Answer the following question (about 60 minutes).

The table on the accompanying page contains multiple linear regressions examining the association between adult depression and parental divorce in a person's childhood (from Mirowsky 1999). The depression index is the arithmetic mean of responses to seven questions about depression, including "How many days in the past week did you feel unable to get going?" and "How many days in the past week have you felt sad?" Thus, the index assesses the number of symptom days during the past week. Its range is 0-49 (every symptom every day). Using the table, answer the following questions:

- For individuals with scores of 0 on the independent variables, what is the average level of depression?
- What is the most important finding that can be drawn from this table?
- Overall, what is the impact of parental divorce in childhood on depression? How important is this variable? How much is this variable influenced by other variables?
- How much of an influence does mother's and father's education have on a person's depression?
- How much of an influence does the respondent's education have on his or her depression? Compare the impact of parent's to respondent's education on depression.
- In Model 4, interpret the coefficient "1.921." What does it mean in plain English?
- Summarize the progression from Model 1 to 5 and highlight the main findings that this progression uncovers.

Table 1. Regressions Relating Parental Divorce or Separation in Childhood to Showing Adult Depression<sup>a</sup>, Adjusting Progressively for Socioeconomic Origins and Consequences of the Breakup.

Regressor	Model 1	Model 2	Model 3	Model 4	Model 5
Parents divorced (1= parents separated when respondent was child; 0 otherwise)	.236***	.244***	.170*	.149*	.066
Minority (1=black, Hispanic, Native American, or Asian; 0 otherwise)		.156*	.157*	.050	-0.025
Mother's education -- 12 <sup>b</sup>		-0.012	.003	.007	.003
Father's education -- 12 <sup>b</sup>		-0.021*	-0.008	-0.007	-0.009
Person's education -- 12 <sup>b</sup>			-0.090***	-0.069***	-0.047***
Unable to work <sup>c</sup> (1=unable to work; 0 otherwise)				1.921***	1.657***
History of long unemployment <sup>d</sup> (1=history of unemployment; 0 no history of unemployment)				.557***	.374***
Current unemployment (1=unemployed; 0 not unemployed)				.569***	.392**
Economic hardship ever <sup>e</sup> (1=economic hardship ever; 0 never)					.015*
Recent economic hardship <sup>f</sup> (1=recent economic hardship; 0 no recent hardship)					.470***
Intercept	.889***	.837***	.995***	.827***	.611***
R <sup>2</sup>	.157	.189	.211	.226	.233

\* p < .05, \*\* p < .01, \*\*\* p < .001, one-tailed t test

<sup>a</sup> To measure depression, respondents were asked how many days in the past week they experienced each of seven symptoms. The index is the sum of the days for each symptom and can range from 0 to 49 (all 7 symptoms every day).

<sup>b</sup> Education is measured as the difference between the person's actual years of formal education and 12 years.

<sup>c</sup> Unable to work because of a disability, having been unemployed for 6 months or more during adulthood, and being currently unemployed."

<sup>d</sup> Long unemployment: person experienced at least one period of 6 months or more during adulthood when she/he was looking for a job or wanted a job but could not find one

<sup>e</sup> Economic hardship ever: person experienced at least one period as an adult of difficulty paying bills or buying food, clothing, medicine, or other necessities

<sup>f</sup> Recent economic hardship: 0= no difficulties in past 12 months, 1= some difficulties but not very often, 2 = difficulties fairly often, 3= difficulties very often

Note: The regressions in this table use data from a 1995 U.S. survey of 2,539 adults ages 18 through 95, contacted by random-digit-dialing and interviewed over the telephone.