

**Florida State University College of Criminology and Criminal Justice
Ph.D. Comprehensive Examination in Research Methods, Spring 2011**

Instructions:

There are four sections to the exam. Answer one question from each section; for the data interpretation section, select one of the identified articles and address each of the issues listed in the question. You have until 4:00 PM to finish. If you have problems with the exam, you may consult with faculty proctoring the exam: Dan Mears (Room 308), 8:00-10:00 AM; Eric Baumer, (Room 305), 10:00 AM to Noon; Brian Stults (Room 317), Noon to 2:00 PM; Gary Kleck (Conference Room), 2:00-4:00 PM. Please notify Margarita Frankeberger (Room 216) when you are finished and ready to have your exam answers printed out. Please note: Once a student takes possession of the examination at the start of the exam period, this constitutes an attempt at taking the exam, regardless of whether the student completes the exam, hands in any answers, or remains for the full exam period.

I. RESEARCH DESIGN

1. Please provide an overview of the problem of differential selection/sample selection bias and how the problem bears on the credibility of estimated effects. Use a criminological or criminal justice example to illustrate your discussion. Also, provide recommendations about how one may overcome this problem. Finally, indicate what method(s) you think the field should adopt to address it.
2. Describe the “file drawer problem” in reviewing past research on a topic, explain how it can distort the conclusions of the review, describe ways the problem can be avoided or minimized, and how its potential impact can be assessed. Provide an example from the criminological literature where you believe this problem might exist.

II. DATA GATHERING METHODS

3. Validity, reliability, and non-response are three central concerns in survey research. Describe in detail how the following three aspects of survey design and administration can influence validity, reliability, and non-response. Be sure to discuss in detail the problems that may arise, how they influence each of the three central concerns, and what we might do to minimize their effects.
 - a. question wording
 - b. question structure and ordering
 - c. interviewer bias
 - d) social desirability bias

4. With quantitative data of various types, there exist ways to assess the reliability and validity of measures. This question directs your attention to assessing such issues for qualitative research. First, how do you assess the reliability and validity of measures collected using qualitative methods? Second, describe the data that you would need to collect in a qualitative study to help ensure that your measures were reliable and valid? Third, describe the types of analyses that you would conduct to demonstrate the reliability and validity of the qualitative data measures.

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III. STATISTICS

5. You suspect that the relationship between X (the independent variable) and Y (the dependent variable) is nonlinear. Describe how you would go about testing the following suspected nonlinear relationships, including descriptions of any mathematical transformations of variables that would be required, and how you would interpret resulting coefficients.

(a) As X increases, Y also increases, but then after X passes a certain level, Y decreases.

(b) As X increases, Y decreases, but gradually the effect of X weakens such that each additional increase in X produces a smaller decrease in Y. Further increases in X, however, never cause Y to increase.

(c) As X increases, Y increases, then as X increases further, Y decreases, then as X increases still further, Y increases again.

6. Heteroskedasticity, autocorrelation, and multicollinearity are always concerns when conducting ordinary least squares regression. Thoroughly describe each of these concepts. What impact do they have on parameter estimates and hypothesis tests? What methods might we use to detect each of them, and how might we correct or account for them?

IV. DATA INTERPRETATION

7. Interpret the findings of the attached article by Pogarsky and Piquero. This means that you should tell what the results mean with respect to the goals of the researchers and what they were trying to find out, just as if you were writing the Results and Discussion/Conclusion sections of the journal article. Do not merely repeat in words what is already shown in numbers in the tables. What conclusions

would follow from the results? What problems with the methods might undermine or weaken these conclusions?

8. Interpret the findings of the attached article by Holtfreter, Reisig, and Pratt. This means that you should tell what the results mean with respect to the goals of the researchers and what they were trying to find out, just as if you were writing the Results and Discussion/Conclusion sections of the journal article. Do not merely repeat in words what is already shown in numbers in the tables. What conclusions would follow from the results? What problems with the methods might undermine or weaken these conclusions?