Florida State University College of Criminology and Criminal Justice
PhD. Comprehensive Examination in Research Methods and Statistics, Fall 2016
Day One of the Exam, March 29, 2017 – 8:30am to 12:45pm

INSTRUCTIONS

Answer one question from each of the two sections below.   Please notify the proctor when you are finished. 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 the any answers, or remains for the full exam period.

I. RESEARCH DESIGN

1. Present a study that uses survey data from a representative sample and interview data from a non-representative sample. Justify how your study provides a scientifically credible assessment of your topic and how the two sources of data can be combined to yield greater insight than one or the other data source. In addition, explain the limitations of your study and how the results of it can, or cannot, be used to inform theory and policy.

2. A local middle school plans to add to its curriculum a week-long component designed to reduce incidents of bullying. They have asked you to design a study to test its effectiveness, but they have told you that, for ethical reasons, all students in the middle school must be exposed to the curriculum. Describe two general research designs that could be used to test the program effect, and that you consider to be strong alternatives to randomly assigning students to the treatment. For each approach, explicitly note the design elements that strengthen the approach given the inability to conduct an experiment with random assignment. Also, explain why you believe each is a strong approach, and describe the key weaknesses that remain.

II. DATA GATHERING METHODS

3. Many data collection strategies exist and have advantages and disadvantages. (1) Describe the advantages of hard-mail surveys, e-mail surveys, and telephone surveys. (2) Describe the disadvantages, or limitations, of each type of survey. (3) Identify credible strategies that can be taken to improve the representativeness of each data collection strategy.

4. Researchers are often concerned with the issues of validity and reliability. Describe these concepts as they relate to survey research. Why are they a concern? How can we assess them? What can we do to maximize them?

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III. STATISTICS

5. The use of various matching methods to derive equivalent control and experimental groups such as, Exact (or precise) Matching, Propensity Score Matching (PSM), and Coarsened Exact Matching (CEM) are becoming more popular in our field over traditional multivariate modeling techniques such as Ordinary Least Squared Regression, Logistic Regression, etc. Explain how you would employ at least two of the matching methods listed above in a research project and why the findings may or may not have been different if you had used one or more multivariate methods.

6. Most theories of offending seem to imply that a causal force (X) exerts a linear effect on offending (Y). Describe the problems with failing to model nonlinear relationships. To answer this question, (1) select a theory, (2) identify problems with failing to take nonlinearity between X and Y into account, (3) argue for a particular type of nonlinearity between X and Y, (4) describe how you would test for it, and (5) describe the implications of a positive test (one showing nonlinearity) for the theory.

IV. DATA INTERPRETATION

7. Interpret the findings of the attached article by Nix, Campbell, Byers, and Alpert (2017). 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 Restivo and Lanier (2015). 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?