

**Florida State University  
College of Criminology and Criminal Justice**

**PhD Comprehensive Examination in Research Methods & Statistics**

**Spring 2008**

**Instructions:**

There are four sections to the exam. Answer one question from each section. You have until 4:00pm to finish. If you have problems with the exam, you may consult with faculty proctoring the exam. Return your completed exam to the proctor on duty when you are finished.

Kevin Beaver (Room 322A), 8:00am – 10:00am;  
Brian Stults (Room 3317), 10:00am – 12:00pm;  
Gary Kleck (Room 306), 12:00pm – 2:00pm;  
Bill Bales (Room 324), 2:00pm – 4:00pm

**SECTION I: RESEARCH DESIGN**

1. Select a research topic based on your knowledge of the literature in criminology and criminal justice. Identify a research question that needs to be addressed and hypotheses that need to be tested. Develop a research design that addresses the research question and tests the hypotheses. Describe your design in a way that can be understood by those with a thorough understanding of research methodology, but who may not have a specialized knowledge of the particular area of research you have chosen. Be sure to discuss and justify the methods of data collection and operationalization of variables. What are the strengths and limitations in the research design you have proposed relative to previous studies in the literature?
  
2. Significant changes in punishment policies have occurred in Florida over the past 25 years. Parole was eliminated in 1983 with the enactment of sentencing guidelines. However, liberal gain-time awards resulted in a punishment system that was far from the goal of “truth-in-sentencing.” Early prison release from 1987 to 1994 further reduced time served and percentage of sentence served. New guidelines in 1994 and the minimum 85% law in 1995 made Florida’s punishment system truly deterministic and maybe one of the toughest in the U.S. Explain what methodological approach you would use to study the impact of these changing punishment policies on public safety, including your research design, data requirements, and measurement issues you would need to address. Make an argument for why you believe your methodological approach is superior to other methods. Also, explain the potential theoretical and policy implications of your research.

## **SECTION II: DATA GATHERING METHODS**

3. Discuss the strengths and weaknesses of simple random sampling, stratified random sampling, cluster sampling, and snowball sampling. Discuss a research scenario for when each of these would be the most appropriate.
4. Explain (a) the concepts of response rate and response bias as they relate to survey research, (b) how to maximize response rates and (c) how to assess the nature and severity of response bias in your survey results.

## **SECTION III: STATISTICS**

5. Suppose you hypothesize that the generally positive effect of X on Y depends on the level of a third variable, C, such that as C gets larger, the effect of X on Y gets less positive. Explain two major ways you could test for this interaction. Then for each technique state what results you would expect if the interaction worked the way you hypothesized.
6. Model criticism is an important process for determining the adequacy of a statistical model. Part of that process with regard to ordinary least squares (OLS) regressions involves determining whether you have violated any of the method's core assumptions. Describe each of those regression assumptions and, for each one, address the following questions: What effect does violating the assumption have on your regression model? How can we determine whether the assumption has been violated (if possible)? If we have violated the assumption, name without describing in detail a procedure that can remedy the situation?

## **SECTION IV: DATA INTERPRETATION**

7. Interpret the findings of the attached article by Antonaccio and Tittle. 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 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 Piquero et al. 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 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?

