

# Data Analysis Project

## Directions:

Please use the data file provided in the Project Module to answer the research questions. **You must recode variables, conduct the appropriate univariate and bivariate analysis, and then enter your answers in Canvas.** For each research question, you will also be required to provide a Word document showing your work (this can be your pivot tables from Excel). The last section of this assignment requires you to provide a short summary of your findings.

To complete the assignment, you must type your answers in the Data Analysis Project assignment/quiz. Questions are either multiple choice or fill in the blank (**please round to two decimal places – e.g., 10.35**). You **MUST** complete the assignment in Canvas. I will **NOT** accept answers typed into this document and sent via email.

The data analysis project will open in Canvas on April 5th. The assignment is due on **Wednesday, April 28 at 5:00 pm.**

# Data Analysis Project

## Data Analysis Research Project (30 points)

Researchers and policy makers are interested in identifying the factors that influence violent crime in U.S. states and whether or not these are the same across different parts of the country. Two factors are being considered as potential causes of violent crime are discussed: poverty and whether the death penalty is legal. Therefore, you have been asked to conduct a study to answer the following research questions:

Does poverty influence violent crime among US states?

Does having the death penalty influence violent crime among US states?

Are there specific areas of the country (i.e., region) where the death penalty is more common?

Does the region of the country influence violent crime?

Does region of the country influence poverty among US states?

To answer these questions, the concepts have been conceptualized/operationalized as:

- Violent crime = the violent crime rate per (100,000) residents in 2014
  - The data came from the UCR and includes all violent crimes reported to the police
- Death penalty legalization = whether or not a state has the death penalty
  - This information was pulled from BJS
  - Coded 0 = no, 1 = yes
- Poverty = the percent of the population in each state that lived below the poverty line in 2014
  - This information came from the U.S. Census Bureau
- Region of the Country = region of the country as defined by the U.S. Census Bureau
  - Four regions coded as:
    - 1 = North
    - 2 = Midwest
    - 3 = West
    - 4 = South

This means that you will need four variables: region of the country, death penalty, violent crime rate (per 100,000), and the percent of the population living below the poverty line.

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## Project Questions:

1. Please choose the statement that best describes your sample:
2. Please choose the statement that best describes the unit of analysis:
3. The percent of the population that lives below the poverty line is a \_\_\_\_ variable; whether a state has the death penalty is a \_\_\_\_ variable; the violent crime rate (per 100,000) is a \_\_\_\_ variable; the region of the country is a \_\_\_\_ variable.

### **R1: Does the percent of the population living below the poverty line influence the violent crime rate among US states?**

4. The independent variable is \_\_\_\_; the dependent variable is \_\_\_\_.
5. The appropriate univariate statistics that I will use to describe my independent variable are \_\_\_\_\_. The appropriate univariate statistics that I will use to analyze my dependent variable are \_\_\_\_\_.
6. The appropriate bivariate analytic technique to examine the association among the percent living below the poverty line and the violent crime rate (per 100,000) is:
7. Describe the results of the univariate analysis of the independent variable in 1-2 sentences:
8. Describe the results of the univariate analysis of the dependent variable in 1-2 sentences:
9. Describe the results of the bivariate analysis using complete sentences:

\*Please upload a Microsoft Word document showing your work (screen shot or output).

### **R2: Does having the death penalty influence the violent crime rate (per 100,000) among U.S. states?**

10. The independent variable is \_\_\_\_; the dependent variable is \_\_\_\_.
11. The appropriate univariate statistics that I will use to describe my independent variable are \_\_\_\_\_. The appropriate univariate statistics that I will use to analyze my dependent variable are \_\_\_\_\_.
12. The appropriate bivariate analytic technique to examine the association among the legalization of the death penalty and the violent crime rate (per 100,000) is:
13. Describe the results of the univariate analysis of the independent variable in 1-2 sentences:
14. Describe the results of the univariate analysis of the dependent variable in 1-2 sentences:
15. Describe the results of the bivariate analysis using complete sentences:

\*Please upload a Microsoft Word document showing your work (screen shot or output).

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## **R3: Are there specific regions of the county where the death penalty is more common?**

16. The independent variable is \_\_\_\_\_; the dependent variable is \_\_\_\_\_.

17. The appropriate univariate statistics that I will use to describe my independent variable are \_\_\_\_\_. The appropriate univariate statistics that I will use to analyze my dependent variable are \_\_\_\_\_.

18. The appropriate bivariate analytic technique to examine the association among the region of the country and the legalization of the death penalty is:

19. Describe the results of the univariate analysis of the independent variable in 1-2 sentences:

20. Describe the results of the univariate analysis of the dependent variable in 1-2 sentences:

21. Describe the results of the bivariate analysis using complete sentences:

\*Please upload a Microsoft Word document showing your work (screen shot or output).

## **R4: Does the region of the country influence the violent crime rate (per 100,000)?**

22. The independent variable is \_\_\_\_\_; the dependent variable is \_\_\_\_\_.

23. The appropriate bivariate analytic technique to examine the association among the violent crime rate and region of the country is:

24. Describe the results of the bivariate analysis using complete sentences:

\*Please upload a Microsoft Word document showing your work (screen shot or output).

## **R5: Does region of the country influence the percent of residents that live below the poverty line?**

25. The independent variable is \_\_\_\_\_; the dependent variable is \_\_\_\_\_.

26. The appropriate bivariate analytic technique to examine the association among region of the country and the percent of the population living below the poverty line is:

27. Describe the results of the bivariate analysis using complete sentences:

\*Please upload a Microsoft Word document showing your work (screen shot or output).

28. Essay (2 pts): Please summarize your results below. Make sure to answer the research questions. Did you find a relationship between the violent crime rate and the poverty rate? The violent crime rate and the legalization of the death penalty? Was the direction of association among region of the country and the violent crime rate similar to the variation in the poverty rate and the death penalty across region of the country? What do your results tell you about how these factors influence the violent crime rate?