Assignment 1 Instructions

The purpose of the three data analysis assignments in this class is to examine a research question through conducting univariate, bivariate, and multivariate analysis, and to write a clear and accessible research brief. This semester, we will examine the question of racial and ethnic salary equity among public sector analysts.

To do so, we will analyze data from the 2016 American Community Survey (ACS). The ACS is a large, national survey of adults in the United States that collects data on type of work and demographic characteristics. We will use a subset of the ACS respondents that includes public sector employees who work as analysts. Additionally, they must have worked at least 35 hours a week, and at least 48 weeks in the prior year.

The first assignment will require conducting univariate analyses describing the sample of analysts in terms of socio-demographics, work setting, and salary. This type of descriptive analyses is always the starting point for more complex data analysis, and is typically the first table in a research paper.

The second assignment will focus on bivariate analyses examining whether race/ethnicity is related to salary among public sector analysts, and whether the other demographic and work setting characteristics are associated with salary. For this assignment, you will also be asked to revise your write up of Assignment 1 based upon feedback.

For the final assignment you will create the full research brief. It will require conducting multivariate analysis, in which you will examine the relationship between race/ethnicity and salary, controlling for other factors that may be related to both key variables. The results section of the brief will combine your revised Assignments 1 & 2, as well as the multivariate findings. To complete the brief, you will add introduction, methods, and discussion sections.

Assignment 1 Components:

- A 2 paragraph write up of findings
- A completed table (blank table is at end of the assignment)
- If you opt to use coding for SPSS, a screenshot of your coding.

Steps:

<u>Data Analysis</u>

- Examine the blank table and the codebook to determine what type of analyses you will need to conduct to complete Table 1.
- Conduct appropriate SPSS analyses based upon the type (numerical or categorical) of the variables.
- The ACS dataset is posted on Blackboard in the Assignment 1 section.

<u>Complete Tables</u>

- Enter the SPSS results into Table 1
    - Use 1 decimal point for the results, except for salaries, which should be rounded to the nearest dollar or cents.

    - All numbers that are one thousand or larger should have a comma between the hundred's and thousand's place.
    - Fill in the sample size (n=).
    - Make sure the table fits on one page.

- Make sure that your numbers are in the center of the column
    - Use decimal aligning in Word (https://support.office.com/en-us/article/Line-up-numbers-with-decimal-points-b824fb68-8b2a-4e9b-a858-e7f3cfc61bc7)
        - Two essentials for decimal aligning:
            - The column must be left aligned.
            - There can only be one tab in the column.

Writing the Results

- This is the first 2 paragraphs of the results section, in what will be a research brief.
    - Assignment 3 will have you create a methods section so please do not include information about the data source in your write up.
    - Also implications do not belong in the results section, since there will also be a discussion section in the final research brief.

- Write up your findings in 2 paragraphs, using the principles we have discussed in class.
    - The first paragraph should describe the managers' demographics.
        - Since race/ethnicity is the IV for the research brief, it makes sense to lead with it.
    - The second paragraph should describe the managers' work setting.
        - Since salary is the DV, it should be included (you do not need to lead with it).

- I am flexible about the format of the write up, as long as the font is at least size 12. You can single or double space, as you like.

- A few other reminders about how to make your write up clear for readers:
    - Read your write up out loud several times to check how clear and straightforward the writing is.
    - Remember, the goal is to tell a narrative to the reader- highlighting the main findings from the table, not provide a listing of all the results.
        - For variables with a lot of categories, no need to write about each category. There may be a way to summarize the results to make it intuitive for the reader (combining categories, not reporting on all categories).
        - Do not feel you must include all variables in the write up.
    - Be consistent with decimals in your write up. You can round to the nearest percentage or use 1 decimal point, but do so consistently.
    - If you start a sentence with a number, write it out.

Details:

- Live Class 4: I will answer any questions

- Peer Review with at least one person from your breakout group (for most that should be the one person you have not yet met with).
- Before Class 5: Assignment is due in Blackboard by 5pm
  - Please include 1) your write up of the results, and 2) the completed tables. (No need to hand in the instructions or the rubric)
  - If you used coding to conduct the SPSS analysis, please also hand in a print out of the coding page.
- You may work with one other student conducting the analysis, but your write up must be **entirely your own**.

Codebook

Wagp. Salary

Female
- 0 Male
- 1 Female

Race
- 1 White non-Hispanic
- 2 Black non-Hispanic
- 3 Hispanic/Latino
- 4 Asian
- 5 Other

Agegroup
- 1 18-35 years old
- 2 36-45
- 3 46-55
- 4 56-70

Educat
- 1 Associate's Degree
- 2 Bachelor's Degree
- 3 Master's Degree +

COW: Class of Worker
- 3 Local Government
- 4 State Government
- 5 Federal Government

OCCP: Type of Analyst
- 710 Management Analysts
- 820 Budget Analysts
- 840 Financial Analysts
- 1006 Computer Systems Analysts
- 1220 Operations Research Analysts

Division: Geographic Area
- 1 New England
- 2 Mid-Atlantic
- 3 East North Central
- 4 West North Central
- 5 South Atlantic
- 6 East South Central
- 7 West South Central
- 8 Mountain
- 9 Pacific

Table 1. Characteristics of Public Sector Analysts

Characteristics	Percentage or Mean (n=)
Demographic Characteristics	
Race/Ethnicity (%)	
White (non-Hispanic)	
Black (non-Hispanic)	
Hispanic	
Asian	
Other	
Gender (%)	
Female	
Male	
Age (in years) (%)	
18-35	
36-45	
46-55	
56-70	
Education level (%)	
Associate's Degree	
Bachelor's Degree	
Master's Degree or higher	
Work Characteristics	
Type of Analyst (%)	
Management analyst	
Budget analyst	
Financial analyst	
Computer systems analyst	
Operations research analyst	
Level of Government (%)	
Federal	
State	
Local	
Geographic Area (%)	
New England	
Mid-Atlantic	
East North Central	
West North Central	
South Atlantic	
East South Central	
West South Central	
Mountain	
Pacific	
Annual salary (mean)	

Assignment 1
Assessment Form

	Poor (1 pt)	Fair (2 pt)	Good (3 pt)	Excellent (4 pt)
Data Analysis (1-4 pts)	Results are not correct	Results are partially correct	Results are mostly correct	Results are entirely correct
Data Display (1-4 pts)	Tables are incorrectly labeled, formatted, and/or presented	Tables are partially labeled, formatted, and/or presented correctly	Tables are mostly labeled, formatted, and presented correctly	Tables are very clearly labeled, formatted, and presented
Data Interpretation (1-4 pts)	Findings are incorrectly interpreted	Findings are partially interpreted correctly	Findings are mostly interpreted correctly	Findings are correctly interpreted
Synthesis of Results (2-8 pts)	Results are not described in clear, non-technical language	Results are somewhat described in clear, non-technical language	Results are mostly described in clear, non-technical language	Results are described in clear, non-technical language, and write up flows well.
Additional Comments				

1 extra credit point will be given for using SPSS programming, and attaching your programming file.