Homework 7, PSYC 3500

Correlation and Regression

Worth 30 points

# FOLLOW THESE DIRECTIONS CAREFULLY.

All homework assignment files submitted must be in MS Word, and must be turned in by the due date and time in order to be graded. Any work not turned in by the due date and deadline time will earn a grade of “0” points. File submissions that are not properly named will also earn a grade of “0” so please follow the directions carefully.

Assignments must be named with the following format: Lastname\_Firstname HWork 5 For example, John Doe would submit: Doe\_John HWork 5

When completing the homework assignment, please copy and paste your SPSS output into MS Word IN ORDER of the steps listed below.

For all inferential tests, use a two-tailed test with a 0.05 alpha level.

# For Homework #7, you should have FOUR major steps. Include steps 1-4 for set #1 then steps 1-4 for set #2 in your MS Word document*. The information necessary to complete this homework successfully is linked in BlazeView Chapter 13.*

**Step 1: SPSS spreadsheet**

1. Put the data into SPSS (data view). You need one column for each variable.
2. Variable view
   1. name the variables
   2. label the variables
   3. set the number of decimal places to match the data
   4. set the measure correctly
3. Use the snipping tool (see link in Content in BlazeView on how to) to paste Variable View & Data View into MS Word.

**Step 2: SPSS Analyses**

1. Run a Pearson R Correlation Analysis in SPSS, including all options used in the tutorial videos.
2. Run a Linear Regression Analysis in SPSS, including all options used in the tutorial videos. Make sure you properly identify the IV & DV in the scenario.
3. Tips when analyzing the data (these will be confusing until you watch the video)
   1. Depending on the version of SPSS you are using some of the required boxes to check shown in the videos linked under content will be under different tabs than the video shows. All the options are there but SPSS moves them around a bit depending on the version.
   2. Do ensure you have the same tables in the output that are shown in the video. If you do not then you missed something.
   3. Note: no follow up tests will be required.
4. Copy the entire output into MS Word.

**Step 3: SPSS Scatterplot Graph**

1. Compute a scatterplot of the data, WITH THE REGRESSION LINE. BE SURE TO ADD THE REGRESSION EQUATION (as demonstrated in the tutorial videos: TYPED, not handwritten).
   1. Y axis starts a 0.
   2. Title both the x & y axis based on scenario.
   3. You should not have a title above the graph.
   4. Regression line with typed Regression Equation.
   5. You do not include error bars.
2. Copy the scatterplot graph into MS Word.

**Step 4: APA write up**

1. APA format Pearson R Correlation analysis write up for the problem set, written in MS Word.
2. APA format Linear Regression analysis write up for the problem set, written in MS Word.

# (Problem Sets start on next page!)

**Set #1**:

A researcher is interested in the correlation between the age of the participant and the number of chronic health score. The chronic health score was created by totaling up out of 9 how many chronic health diagnoses a participant has been given. The 9 chronic health disorders included Kidney Disease, Stroke, Cancer besides skin, COPD, Heart Attack/Myocardial Infraction, Diabetes, Asthma, Arthritis, and Depression. The research randomly approaches people at a local park asking them to participate in the research. A total of 25 participants agreed. Do older participants have more chronic health diagnoses?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Age** | **Health** |  | **Age** | **Health** |
| 85 | 9 |  | 49 | 4 |
| 76 | 9 |  | 92 | 8 |
| 80 | 8 |  | 45 | 4 |
| 63 | 7 |  | 30 | 2 |
| 71 | 7 |  | 39 | 6 |
| 45 | 5 |  | 66 | 4 |
| 52 | 6 |  | 22 | 0 |
| 51 | 6 |  | 28 | 7 |
| 25 | 0 |  | 37 | 1 |
| 29 | 5 |  | 46 | 1 |
| 37 | 3 |  | 69 | 8 |
| 41 | 4 |  | 70 | 5 |
| 31 | 1 |  |  |  |

# Set #2:

That same researcher is interested in further learning about chronic health diagnoses, specifically its relation to body mass index. The researcher uses the same 25 participants and calculates their body mass index (BMI). Are higher body mass indexes related to more chronic disorder diagnoses?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **BMI** | **Health** |  | **BMI** | **Health** |
| 31.87 | 9 |  | 24.41 | 4 |
| 29.99 | 9 |  | 31.32 | 8 |
| 36.28 | 8 |  | 43.90 | 4 |
| 35.95 | 7 |  | 30.90 | 2 |
| 32.28 | 7 |  | 29.27 | 6 |
| 20.63 | 5 |  | 25.06 | 4 |
| 19.67 | 6 |  | 19.53 | 0 |
| 19.80 | 6 |  | 41.60 | 7 |
| 18.88 | 0 |  | 20.53 | 1 |
| 22.48 | 5 |  | 21.93 | 1 |
| 26.94 | 3 |  | 45.17 | 8 |
| 29.26 | 4 |  | 37.20 | 5 |
| 23.73 | 1 |  |  |  |