Homework assignment 03

Use black text (if possible) for everything you include in this document. Keep both your answers and the original questions. Save this document in PDF format and submit it on Canvas. Include your last name, the course number and the module number in the name of your file.

The first set of questions relates to Disney World. Dr. Gaddis Loves Disney World! So – Inspired by a question in the Field Textbook, this question uses the setting of Disney World to ask about a “medical” topic.

On average, more than 100,000 people visit Disney World per day! Imagine the census of those who must visit one of the infirmaries in the 4 parks! One of the services provided is Free band aids!

The Magic Kingdom released their free band aid numbers for a two-week period in July. The daily numbers are: 2051, 3450, 5340, 4443, 4230, 2211, 4700, 3209, 3211, 3422, 3843, 4010, 3900, and 5122.

Q1. Lay out the numbers in a single column from lowest to highest. Circle and label the value or value(s) associated with the minimum, 25th percentile, median, 75th percentile, and the maximum. If two values are needed to calculate a percentile, show the Task 1: Carefully enter this data into SPSS (Take a screenshot of Variable View and Data View and paste here) (2 Screenshots). Be sure that the Variable that you create is set up completely and that all values are correctly transcribed. Name the variable with your initials included (Example: mlg\_D\_W\_bandaids)

Task 2: Using SPSS, identify: The Mean, Median, Range, Highest Value, Lowest Value, Interquartile Range, Variance, Standard Deviation and 25th, 50th, 75th percentiles. (Paste the SPSS output table here to show your answer)

Task 3: Calculate the 95% Confidence Interval for this set of Data. (You have the mean and SD values from above to use in this calculation – You do not need to hand calculate these values)

a. Show all work. (This can be typed here or written on a separate paper with a photo added here.)

Task 4: What Type and Classification of Data is the number of Band aids given each day? Circle one choice from each.

Type: Nominal Ordinal Interval Ratio

Classification: Categorical Discrete Continuous .

**Question Set 1**. Dr. Gaddis Loves Disney World! So – Inspired by a question in the Field Textbook, this question uses the setting of Disney World to ask about a “medical” topic.



On average, more than 100,000 people visit Disney World per day! Imagine the census of those who must visit one of the infirmaries in the 4 parks! One of the services provided is Free band aids!

The Magic Kingdom released their free band aid numbers for a two-week period in July. The daily numbers are: 2051, 3450, 5340, 4443, 4230, 2211, 4700, 3209, 3211, 3422, 3843, 4010, 3900, and 5122.

Task 1: Carefully enter this data into SPSS (Take a screenshot of Variable View and Data View and paste here) (2 Screenshots). Be sure that the Variable that you create is set up completely and that all values are correctly transcribed. Name the variable with your initials included (Example: *mlg\_D\_W\_bandaids*)

Task 2: Using SPSS, identify: The Mean, Median, Range, Highest Value, Lowest Value, Interquartile Range, Variance, Standard Deviation and 25th, 50th, 75th percentiles. (Paste the SPSS output table here to show your answer)

Task 3: Calculate the 95% Confidence Interval for this set of Data. (You have the mean and SD values from above to use in this calculation – You do not need to hand calculate these values)

a. Show all work. (This can be typed here or written on a separate paper with a photo added here.)

Task 4: What Type and Classification of Data is the number of Band aids given each day? Circle one choice from each.

Type: Nominal Ordinal Interval Ratio

Classification: Categorical Discrete Continuous

**Question Set 2**. Diabetes is not nearly as fun as Disney World, but… we have to get biomedical here. This question uses the Homework Data Set – Diabetes, provided in the Module.

Type II Diabetes is the most common form of diabetes, affecting almost 30 million people in the US. An additional 89 million are pre-diabetic. Type II diabetes has multiple causes including a genetic predisposition, carrying extra weight and beta cell malfunction. Risk factors for developing Type II diabetes include high blood pressure, high triglycerides, low HDL and being overweight or having obesity disease to name a few.

The Homework Data Set – Diabetes will be used to complete this series of tasks.

Task 1: Complete a recoding of a String Variable to a Numeric Variable.

The data set provided contains two string variables that require change to a Numeric variable. Use the Instructions for this task (Provided in Resources) to accomplish this task. To make this easier for showing your work, in Variable View, click on the row number beside the variable to be moved. Click again to drag it to the end of the variable list. Repeat to move the other String variable. Both Variables will appear at the bottom of the Variable list (and in the last 2 columns in Data View)

Next, follow the directions provided. Be sure to name the recoded variable to include your initials or name.

Screenshots to add here:

1. Automatic Recode window with everything completed just before you click on OK for each variable (2 screen shots, one for each variable)
2. Variable View (showing the two string variables and the 2 newly recoded variables located at the end of the Variables list). (1 screen shot)
3. Data View showing the last 4 variables in number form and word form (2 screen shots)

Task 2: Assess descriptive statistics and distribution characteristics:

Run Descriptive Statistics and Distribution Characteristics using the Explore method.

The Variables of Interest are *Height, Blood Glucose* and *Systolic Blood Pressure*

a. Use the Instructions for this task (Provided in Resources) to accomplish this task.

b. Rename the Variables of Interest to Include your initials.

c. Add all three variables of interest to the Dependent List box before obtaining the output.

d. **Also**- Click on Plots. Uncheck Stem and Leaf. Check Histogram. Click on Continue and proceed as directed in the SPSS instructions.

1. Copy and Paste the Explore: Descriptives Table here. (The table should contain all three variables of interest.)
2. **Hand Calculate** the Confidence Intervals for all three variables of interest. (You have the mean and SD values from above to use in this calculation – You do not need to hand calculate these values)
   1. Show all work. (This can be typed here or written on a separate paper with a photo added here.)

Height:

Blood Glucose:

Systolic Blood Pressure:

1. Copy and Paste the Histograms for each variable here.
2. Using the Histograms, describe the Visual Distribution for each variable. Circle the one best answer for each variable.

Height: Normal Close to Normal Positively Skewed Negatively Skewed

Blood Glucose: Normal Close to Normal Positively Skewed Negatively Skewed

Systolic Blood Pressure: Normal Close to Normal Positively Skewed Negatively Skewed

Task 3: Assess the distribution using the Frequencies Method.

Run Descriptive Statistics and Distribution Characteristics using the Frequencies method.

Again, the Variables of Interest are *Height, Blood Glucose* and *Systolic Blood Pressure*

1. Use the Instructions for this task (Provided in Resources) to accomplish this task.
2. In the Frequencies Statistics Window, Select only Mean, Median and Mode
3. Copy and paste the Frequencies: Statistics table here
4. Using the only the Mean, Median and Mode, describe the distribution for each Variable of interest.

Hint: For a normal distribution Mean = Median = Mode. Relative place of each defines the distribution.

* 1. Please type your description in the provided table below
  2. Explain how you arrived at this answer using **ONLY** information from the mean, median and mode.

|  |  |  |
| --- | --- | --- |
| **Variable of Interest** | **Distribution Appearance** | **Justification of Answer** |
| **Height** |  |  |
| **Blood Glucose** |  |  |
| **Systolic Blood Pressure** |  |  |