



UTAustinX: UT.7.20x Foundations of Data Analysis - Part 2



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Reflect on the Question

Analyze the Data

Draw Conclusions

Pre-lab 6: Medical School Quality of Life

Testing (One Group Means)

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Readings

Reading Check due May 03, 2016 at 17:00 UTC



Lecture Videos

Comprehension Check due May 03, 2016 at 17:00 UTC




R Tutorial Videos


Pre-Lab




In a 2015 study, Tempiski and associates examined a measurement they called Quality of Life among medical school students in Brazilian medical schools. They borrowed measurement scales from the World Health Organization, the Dundee Ready Education Environment Scale, and the Beck Depression Inventory to assess the dependent variable in potential relation to a number of predictor variables.

Pre-Lab due May 03, 2016 at 17:00 UTC 

Lab

Lab due May 03, 2016 at 17:00 UTC 

Problem Set

Problem Set due May 03, 2016 at 17:00 UTC 

Primary research questions

- 1) Can you confirm the claim that Beck Depression Inventory score is a significant predictor of Overall Quality of Life among students enrolled in the Clinical Sciences program?
- 2) For students enrolled in the Clinical Sciences program, examine the effects of DREEM: Social Self Perception, DREEM: Academic Self Perception, Resilience, BDI, and Age on Med School Quality of Life?

(3/3 points)

Check the Data

Let's begin by examining our data in R.

1. Open RStudio. Make sure you've installed the SDSFoundations 1.4 package.
2. Type `library(SDSFoundations)`. This will automatically load the data for the labs.
3. Type `res <- TempskiResilience`. This will assign the data to your Workspace.
4. Look at the spreadsheet view of the data to answer the following questions.

Alternatively, you can use the following steps in the "Importing a Data Frame" R tutorial video, and use the TempskiResilience.csv file. (Right-click and "Save As.") Make sure to **name** the dataframe "res" when importing.

1. Open RStudio.
2. Click on the "Import Dataset" button at the top of the workspace window. Choose *"from text*

file."

3. Click on the location of the TempskiResilience.csv file you just downloaded.
4. Click on the TempskiResilience.csv file. Then, click Upload.
5. Look at the spreadsheet view of the data to answer the following questions.

1a. How many observations are in the initial dataset?



Answer: 1350

1b. The first listed student with a Med School Quality of Life score of 10 is how many years old?



Answer: 21

1c. Of the first 10 participants, how many have a Med School Quality of Life over 5?



Answer: 7

[Click here for a video explanation of how to answer this question.](#)


You have used 1 of 1 submissions

(4/4 points)

Check the Variables of Interest

Let's find the variables we need to answer the question.

2a. Which variable tells us the Med School quality of life?

The variable name in the dataset is  **Answer:** MS.QoL , which is a

 **Answer:** quantitative variable.

2b. Is there just one predictor variable in the model for the second research question?

 **Answer:** No

2c. How many variables will be used as predictors in the model for the second research question?

 **Answer:** 5

[Click here for a video explanation of how to answer this question.](#)

You have used 1 of 1 submissions

(2/2 points)

Reflect on the Method

Which method should we be using for this analysis and why?

3a. We will use Multiple Linear Regression to answer our Second Primary Research Question. Why?

- ☐ We want to determine if the category of Med School changes the Quality of Life.
- ☒ We want to examine multiple predictors of a single quantitative outcome. ✓
- ☐ We have just two quantitative variables and want to examine their relationship.

3b. For both question models, we'll need to examine diagnostic plots. Why?

- ☐ We want to confirm the mean of the outcome variable.
- ☒ We need to assess the assumptions of the model, and look for potential outliers. ✓

- ☐ We want to determine the average variance for each level of Med School Group.

[Click here for a video explanation of how to answer this question.](#)

You have used 1 of 1 submissions

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