



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



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Reflect on the Question

Analyze the Data

Draw Conclusions

PRIMARY RESEARCH QUESTIONS

1. For students in the Basic Sciences program, of the four measures of Quality of Life (Physical Health, Psychological, Social Relationships, and Environment), which has the greatest impact on Med School Quality of Life?
2. What is the overall proportion of variance accounted for by all four scales?

ANALYSIS

Let's break this question down into the different descriptive statistics that you will need to construct your answer. Be sure that your R output includes all of the following components.

To answer both lab questions:

Testing (One Group Means)

► Week 3: Hypothesis Testing (Two Group Means)

► Week 4: Hypothesis Testing (Categorical Data)

► Week 5: Hypothesis Testing (More Than Two Group Means)

▼ Week 6: Correlation and Regression

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

1. Subset the data for students in the Basic Sciences Program.
2. Determine the variables of interest and the outcome variable.
3. Run a Multiple Linear Regression.
4. Find the Standardized Betas for the coefficients using `lmBeta()`.
5. Use `pCorr()` to find the partial and part correlations.

(4/4 points)

Provide the initial bivariate Pearson Correlation Coefficients for the following variables and the outcome of Med School Quality of Life. Round to 4 decimal places:

1a. Physical Health QoL

0.4606



Answer: 0.4606

0.4606


1b. Psychological QoL

0.5085




Answer: 0.5085


0.5085

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 

1c. Social Relationships QoL



Answer: 0.3574

1d. Environment QoL



Answer: 0.4410

You have used 1 of 1 submissions

(4/4 points)

Provide the t-statistic for the predictors in the Multiple Linear Regression for the following variables predicting Med School Quality of Life. Round to 3 decimal places:

2a. Physical Health QoL



Answer: 2.455

2b. Psychological QoL



Answer: 4.452

2c. Social Relationships QoL



Answer: 1.291

2d. Environment QoL



Answer: 3.927

You have used 1 of 1 submissions

(2/2 points)

What are the Overall Model statistics for the prediction of Med School Quality of life?

3a. Overall Model F-value (Round to 2 decimal places.)

50.91



Answer: 50.91

50.91

3b. Overall Model R-squared (Round to 4 decimal places)

0.3097



Answer: 0.3097

0.3097

You have used 1 of 1 submissions

(2/2 points)

4a. Which of the following coefficients in the model would be considered the best predictor of Med School Quality of Life?

☐ Physical Health QoL

☒ Psychological QoL ✓

☐ Social Relationships QoL

☐ Environment QoL

4b. What is the amount of unique proportion of varaince accounted for in the prediction of Med School Quality of Life by the best predictor (the correct answer above)?

☐ 0.2%

☐ 0.9%

☐ 2.3%

☒ 3.0% ✓

You have used 1 of 1 submissions



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