**HOMEWORK ASSIGNMENT 4** **ROSTER NO: 8**

ACN 6312-003
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Lab Date: 10/05/2016
Due Date: 10/12/2016

## Question 1

A graduate BBS student wants to compare the number of hours graduate students do research one week before and after their deadlines. She predicts that the working hours are significantly different one week before/after their deadlines. In order to test this prediction, she has obtained samples of working hours of 7 doctoral students one week before and after their first year project deadline. Below are her data.

| **Student #** | Working hours (hours/week) before the deadline | Working hour (hours/week) after the deadline |
|---|---|---|
| Student 1 | 35 | 10 |
| Student 2 | 22 | 11 |
| Student 3 | 31 | 9 |
| Student 4 | 19 | 13 |
| Student 5 | 29 | 15 |
| Student 6 | 19 | 20 |
| Student 7 | 26 | 22 |

a) State the results of your analysis in APA format:

A two-tailed two-sample dependent means t-test revealed that the working hour for graduate students one week before deadlines(M = 25.8571, SD = 6.17599) was significantly higher than the working hour for graduate students one week after deadlines (M = 14.2857, SD = 5.02375), t(6) = 3.222, p = 0.018, Alpha = .05.

b) Show the hand calculation (type it) for the effect size (make sure to include equation):

$$d = \frac{\bar{x1} - \bar{x2}}{\sigma} = \frac{25.8571 - 14.2857}{9.50188}$$

$$\mathbf{d = 1.22}$$

## Question 2

The researcher in question 2 now wants to compare the study hours of graduate and undergraduate students the night before their exams. She predicts that the graduate students study significantly more than undergraduates because they are grads! In order to test this prediction, she asked seven grads and undergrads how many hours they usually study on the night before their finals.

| **Undergrads** | Grads |
|---|---|
| 5 | 6 |
| 4 | 3 |
| 6 | 8 |
| 5 | 7 |
| 1 | 6 |
| 9 | 3 |
| 6 | 9 |

a) State the results of your analysis in APA format:

A one-tailed two-sample independent means t-test, equal variances assumed, revealed that the study hours of graduate students night before exams(M = 6.0000, SD = 2.30940) was significantly higher than Lake Michigans salinity (M = 5.1429, SD = 2.41030), t(12) = 0.679, p = 0.255, Alpha = .05.

b) Show the hand calculation (type it) for the effect size (make sure to include equation):

$d = \frac{\bar{x1} - \bar{x2}}{S_pooled} = \frac{6.0000 - 5.1429}{1.26168} = 0.68$

## Question 3

A researcher hypothesized that the level of anxiety in UTD students is significantly greater than non-UTD students- due to the extensive research performed at UTD (the average anxiety level is 25). In order to test this hypothesis, he measured the level of the anxiety of five students. Below are his data.

| **Student #** | Level of anxiety |
|---|---|
| Student 1 | 27 |
| Student 2 | 25 |
| Student 3 | 24 |
| Student 4 | 28 |
| Student 5 | 24 |
| Student 6 | 29 |
| Student 7 | 24 |

a) State the results of your analysis in APA format:

A one-tailed one-sample t-test revealed that the level of anxiety in UTD students (M = 25.8571, SD = 2.1157) was significantly greater than non-UTD students t(6) = 1.072, p = 0.1625, Alpha = .05.

## Attachments

Output graph of the data into SPSS.