***Computer Lab #3 Answer Sheet***

One Sample *t* Test

A school psychologist wants to examine the effects of excessive television viewing on reading ability. It is known that the average number of words read per minute for a fourth grade student is µ =52. The psychologist has students log the number of hours one watches TV for two weeks. Fifteen students who average 3 or more hours of television viewing each night are selected to participate in the study. Can the school psychologist conclude that excessive television viewing decreases reading ability? Use the reading data below to analyze in StatCrunch or SPSS. Test at the .05 level.

|  |
| --- |
| Reading |
| 53 |
| 46 |
| 44 |
| 38 |
| 57 |
| 52 |
| 37 |
| 34 |
| 38 |
| 50 |
| 51 |
| 46 |
| 45 |
| 39 |
| 49 |

**Step 1: Develop Hypotheses:**

a. Independent Variable = Scale: Categorical Quantitative (1.5 pts)

b. Dependent Variable = Scale: Categorical Quantitative (1.5 pts)

c. Circle: One-tailed Two-tailed (1 pt)

d. Alternative hypothesis in sentence form (1 pt).

e. Null hypothesis in sentence form (1 pt).

f. Write the alternative and null hypotheses using correct notation (2 pts).

H1: H0:

**Step 2: Establish significance criteria** (1 pt)

g. =

**Step 3: Calculate test statistic, effect size, confidence interval**

h. *t*calculated = Level of significance (*p*) = (1 pt)

i. Decision: reject null or fail to reject null (1 pt)

j. Calculate effect size = (2 pts)

k. Determine the 95% confidence interval: (1 pt)

**Step 4: Draw conclusion**

l. Write your conclusion in sentence form including appropriate results notation (3 pts).

StatCrunch Output Attached (1 pt)