

## **Assignment #1 – Graded Individual Assignment**

### **Assignment Description and Instructions**

For this assignment, students are required to conduct a statistical analysis to determine whether two therapies had a significant effect on stalking behaviour when controlling for the person's general tendency to stalk. To complete this assignment, students need to do the following:

1. Enter the data provided below into SPSS/JASP (N.B. The data should not be entered into SPSS as it appears in the table below).
2. Students are to then save the data file onto their local computer with the file name **firstname\_lastname\_stalker.sav**. Therefore, if the student's name is John Smith, the file should be saved as follows: **john\_smith\_stalker.sav**.
3. Students are to conduct the appropriate statistical analyses to determine whether the two therapies had a significant effect on stalking behaviour when controlling for the person's general tendency to stalk.
4. Students are to produce their findings in a report (Word document). The report should include:
  - a. The SPSS output of all the statistical analyses performed
  - b. The answers to the guided questions below
  - c. The **stalker.sav** file that was produced

Cruel to be Kind Therapy		Psychodynamic Therapy	
Initial Stalking	Stalking After Therapy	Initial Stalking	Stalking After Therapy
47	11	52	47
50	18	53	47
51	34	54	50
52	40	57	55
53	50	58	56
57	54	60	56
57	55	61	61
60	58	61	61
63	59	62	61
66	60	65	61
68	61	66	62
72	61	66	62
72	62	66	62
73	63	71	64
75	64	71	64
77	65	72	64
79	65	75	70
85	78	77	74
62	55	80	78
71	63	87	78
53	52	75	62
64	80	57	71
79	35	59	55

### Guiding Questions

1. Write two possible hypotheses for this research problem.
2. What is/are the independent variable(s) and how many levels do they have?
3. What is the dependent variable?
4. What is the covariate?
5. What analysis have you performed?
6. Has the assumption of homogeneity of variance been met? (Quote relevant statistics in your response).
7. Report the effect of 'therapy'. Is this effect significant and how would you interpret it?

8. Report the effect of ‘initial stalking’. Is this effect significant and how would you interpret it?

### Research Problem and Data Set

A marketing manager was interested in the therapeutic benefit of certain soft drinks for curing hangovers. He took 15 people out on the town one night and got them drunk. The next morning as they awoke, dehydrated, he gave five of them water to drink, five of them Lucozade, and the remaining five a leading brand of cola (this variable is called **drink**). He measured how well they felt (on a scale from 0 = very unwell to 10 = very well) two hours later (this variable is called **well**). He measured how **drunk** the person got the night before on a scale of 0 = sober to 10 = very drunk.

Water		Lucozade		Cola	
Well	Drunk	Well	Drunk	Well	Drunk
5	5	3	6	6	3
5	5	5	6	7	4
7	2	7	4	7	3
7	4	9	2	7	4
4	8	6	3	7	3

1. Enter the data into SPSS/JASP ( Hint: the data should not be entered as they are in the table above)
2. Save the data onto a disc file called HangoverCure.sav
3. Conduct the appropriate analysis to see whether the drinks differ in their ability to cure hangover when controlling for how much was drunk the night before.

Adapted from Field, A. P. (2016). *Discovering Statistics: Analysis of Covariance (ANCOVA)*. Retrieved from: <https://www.discoveringstatistics.com/repository/ancova.pdf> [CC BY-NC-ND 4.0].

### Rubric for Problem Set #1

Criteria	Excellent	Good	Acceptable	Poor
<b>Computational correctness of answer</b> (5 points)	Demonstrated a strong understanding of the computational concepts and clearly provided all relevant workings with accuracy. <b>5 points</b>	Showed a good understanding of the computational concepts and provided most of the workings with accuracy. <b>3-4 points</b>	Demonstrated some knowledge of what was required but there were challenges in the logic of their calculations. <b>1-2 points</b>	No knowledge of the required computations. Computations provided followed no logic. <b>0 points</b>
<b>Interpretation and Analysis of results</b> (10 points)	Demonstrated a very good understanding of what the results indicate by communicating at least six (6) results and excellent expression of same in the context of the question. <b>9-10 points</b>	Demonstrated a good understanding of what the results indicate by communicating at least four analysis results and good expression of same in the context of the question. <b>8-5 points</b>	Demonstrated some understanding of what the results indicate by communicating at least two analysis results and good expression. Expression of what the results indicate is unclear or improper. <b>1-5 points</b>	No understanding of what the results indicate and no connection between results and the question. <b>0 points</b>
<b>Justification and Reasoning</b> (5 points)	Well-articulated statements involving at least three explanations and justification of the answers. <b>5 points</b>	Good articulation and argument involving at least two explanations and justification of the answers. <b>3-4 points</b>	Fair articulation and argument involving at least one explanation of the answers and giving reasons. <b>1-2 points</b>	Justification and reasoning are unclear or unrelated. <b>0 points</b>

### Score Breakdown:

- The maximum points you will be awarded for this assessment item total 20 points.
- Your final grade out of 30% will be based on the total number of points you are awarded.
- You will see this final grade listed against your name on the course page. For example, if you are awarded 15/20 points your final grade for this assessment item will be 22.5% (15/20 X 30)

Category	Score	Comments
<b>Computational correctness</b>	/5	
<b>Interpretation and Analysis</b>	/10	
<b>Justification and Reasoning</b>	/5	

<b>Final Grade</b>	Score divided by 20 X 30	