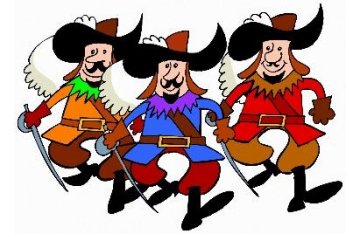


SPSS ASSIGNMENT #7

One-way Independent and Repeated ANOVAs



To conduct the ANOVAs in this assignment, use the SPSS applications at the end of chapter 9 and watch lab lecture 8 video. NOTE: sig values and partial eta squared values need to be reported to 3 decimal places. Everything else goes to 2 except df. If df are whole numbers, report them as such. Otherwise, report df to 2 decimal places. See the [decimal reporting guidance](#) for more help.

120 points

PART A: One-way Independent ANOVA

Have touch scores (the DV) changed across time (pre-pandemic, early pandemic, late pandemic, endemic: the IV)? We will find out using a one-way independent (i.e. between subjects) ANOVA.

First, go to “explore” and get the mean touch score and SEM for each level of time. Then conduct the ANOVA.

When doing the ANOVA, be sure to ask SPSS for Levene’s test of HOV, effect size, and *regardless* of whether the ANOVA is significant, run post-hoc tests (Tukey, Scheffe *and* LSD-t). Finally, ask for a bar chart with error bars (use the 95% CI).

Descriptive Stats

time	mean	SEM
Pre-pandemic		
Early pandemic		
Late pandemic		
Endemic		

8 points

Inferential Stats: HOV and ANOVA

Levene’s F	Sig value	Violation?	ANOVA F	DF (b, w)	Sig value	Sig (y/n)	Eta squared

8 points

df b = between groups (the effect you are testing, time) and df w = within groups (the error term)

Write the ANOVA results in correct statistical notation by filling in the blanks below:

$$F(\text{___}, \text{___}) = \text{___}, p = \text{___}, \eta^2_{\text{partial}} = \text{___} \quad \mathbf{5 \text{ points}}$$

Remember to ask SPSS for a bar chart to show the mean touch score for each time period. Make sure you put y-error bars on the graph (use the 95% CI). Copy the chart into a word document. You will need to upload it in Canvas as a doc, docx, or pdf **5 points**

LSD-t Post hoc test 12 points

Groups compared	Sig value	Significant?
time 1 v time 2		
time 1 v time 3		
time 1 v time 4		
time 2 v time 3		
time 2 v time 4		
time 3 v time 4		

Time 1 = pre-pandemic
 Time 2 = early pandemic
 Time 3 = late pandemic
 Time 4 = endemic

Tukey Post hoc test 12 points

Groups compared	Sig value	Significant?
time 1 v time 2		
time 1 v time 3		
time 1 v time 4		
time 2 v time 3		
time 2 v time 4		
time 3 v time 4		

WARNING!
 SPSS gives the Post hoc test results in a different order than what you see them on this page. Pay attention!

Scheffe Post hoc test 12 points

Groups compared	Sig value	Significant?
time 1 v time 2		
time 1 v time 3		
time 1 v time 4		
time 2 v time 3		
time 2 v time 4		
time 3 v time 4		

Power and interpretation 8 points

How many significant differences were detected by LSD-T _____, by Tukey _____, by Scheffe _____

Overall, which post-hoc test had the lowest sig values? _____

Overall, which post-hoc test had the highest sig values? _____

Based on the information above, which test is the most powerful? _____

Finally, using Tukey, what can you conclude, in plain simple English, about the effect of time on perceived intimate touch (include the “key word” and the direction of the effect, if there is an effect)?

BONUS POINTS: Copy and paste the results output for the means and SEMs, Levene’s HOV test, the ANOVA and the **TUKEY** post-hoc tables into a separate word document. Hi-light the numbers you reported. Put this document aside. You will be adding to it later.

PART B: One-way Repeated ANOVA

Do optimism scores (the DV) depend on the category of the concern (work, relationships, U.S., global world, planet: the IV)? We will find out using a one-way repeated (i.e. within subjects) ANOVA.

Before doing the ANOVA, go to explore and get the mean optimism score and SEM for each category of concern. When doing the ANOVA, be sure to run post-hoc tests (“compare main effects”) and calculate effect size. Finally, ask for a bar chart with error bars (use the 95% CI).

Descriptive Stats

Category of concern	mean	SEM
Work		
Relationships		
U.S.		
Global world		
Planet		

10 points

Inferential Stats: Sphericity and ANOVA

Mauchly’s Chi-square	Sig value for Chi-square	Violation yes / no	ANOVA F value	DF (b, w)	Sig value	Sig (y/n)	Eta squared

8 points

Note: df b = between groups (the effect you are testing) and df w = within groups (the error term)

Write the ANOVA results in correct statistical notation by filling in the blanks below:

$F(\text{____}, \text{____}) = \text{____}, p = \text{____}, \eta^2_{\text{partial}} = \text{____}$ **5 points**

Note: if the sig value is <.001, write $p <.001$. Do not write $p = <.001$

Remember to ask SPSS for a bar chart to show the mean optimism score for each concern category. Make sure you put y-error bars on the graph (use the 95% CI). Copy the chart into **THE SAME** word document as the previous chart. You will need to upload it in Canvas as a doc, docx, or pdf **5 points**

Pairwise comparisons 20 points

Groups compared	Sig value	Significant?
Work vs relationships		
Work vs U.S.		
Work vs global world		
Work vs planet		
Relationships vs U.S.		
Relationships vs global w		
Relationships vs planet		
U.S. vs global world		
U.S. vs planet		
Global world vs planet		

In plain simple English, what can you conclude about the effect of concern category on optimism scores – include the direction of the effect, if there is one. Don't forget to include the key word. **2 points**

BONUS POINTS: Copy and paste the results output for the means and SEMs, Mauchly's test of sphericity, the repeated ANOVA and the pairwise comparisons tables into **the same** word document as the one showing the SPSS output for the one-way independent ANOVA. Hi-light the numbers you reported. Upload this into Canvas as a doc, docx, or pdf to the assignment called "Digital Wellness Assignment 7: Bonus points". Do all this correctly and you will earn **5 bonus points**.

