SPSS Test Practice Problem 2

2 way Mixed ANOVA

A professor wonders whether students' attitudes in her statistics class change as the semester progresses, and if attitudes might also depend on whether they plan to be a clinical psychologist, a research psychologist, or something other than a psychologist. To find out, she asks her 30 students (10 in each of the career paths) to indicate their attitude toward stats from -10 (extremely negative) to +10 (extremely positive) at the end of week 1 and then at the end of week 15.

The data is in the table below and in the excel file. Enter the data into SPSS. Conduct the ANOVA "ask" SPSS to construct a bar chart to plot the interaction effect with career path on the x-axis and week as the separate bars. Include error bars using the 95% confidence interval.

	week 1	week 15
Clinical	0 -2 -3 4 2 1 5 2 -5 -8	5 8 1 3 4 8 4 3 7 8
Research	2 4 3 0 0 -1 6 -3 -1 2	8 7 4 3 8 7 10 4 2 7
Anything but psych!	3 1 0 0 -4 2 -3 -2 -1 5	-1 0 3 -1 2 2 1 0 3 -4

Which factor is within subjects? _____

Which factor is between subjects? _____

PART A Assumptions

Explain why Mauchly's test of sphericity was not tested in this example.

To test for HOV, look at the Levene's test results:

	F value	prob	signif (y/n)	assumption holds true (y/n)
Week 1				
Week 15				

PART B Inferential Statistics i.e. The ANOVA

Effect tested	df , df	F value	Sig value	Partial eta sq	Signif? y/n
main effect week					
main effect of career path					
week x career path					

Write down all 3 effects using correct APA statistical notation format.

main effect of week	
main effect of career path	
week X career path	

PART C Post hoc tests

Was a post hoc test on the between-subjects factor necessary? Explain why or why not.

Was a post hoc test necessary for the within-subjects factor? Explain why or why not.

PART D Understanding the Interaction Effect

Simple main effect of week within career path

Describe the effect of week for the clinical path and indicate whether it is significant.

Describe the effect of week for the research path and indicate whether it is significant.

Describe the effect of week for the not psych path and indicate whether it is significant.

Is the effect of week the same for clinical, research, and not psych? To look for a pattern change, calculate the difference between the means for the two weeks for clinical, the two weeks for research, and the two weeks for not psych.

Simple main effect of career path within week.

Describe the effect of career path for week 1 and indicate whether it is significant.

Describe the effect of career path for week 15 and indicate whether it is significant.

Is the effect of career path the same for week 1 and week 15? To look for a pattern change, calculate the difference between the means for clinical, research, and not psych for week 1. Next, calculate the difference between the means for clinical, research, and not psych for week 15.