2-way Mixed ANOVA 80 points



Do sex and environment (micro vs macro), alone or in combination, have any effect on optimism? This question will be answered using a 2-way mixed ANOVA. Our two factors are sex (between subjects) and environment (within subjects). When running the ANOVA, plot the cell means with environment (micro, macro) on the x-axis and sex as the bars (use the 95% CI for the error bars). Use the results of "compare simple main effects" to describe the interaction effect. Follow all instructions carefully, and use the SPSS applications at the end of chapter 10 and/or video lab lecture 9.

IMPORTANT: we have too few people in categories other than male and female. To omit them from this analysis, go to: Data > Select Cases > If conditioned is satisfied. Then, in the field box, type: gender<3
This will leave us with male (gender = 1) and female (gender=2) for our analysis.

TWO-WAY MIXED ANOVA

Mauchly's Test of Sphericity Assumption: 4 points

Explain why Mauchly's test was not conducted in this analysis. Be specific. Also include an explanation of when Mauchly's would be tested. Be thorough.

Levene's Test of HOV Assumption

To test for HOV, look at the Levene's test results: **8 points**

	F value	Prob (sig value)	signif (y/n)	assumption true (y/n)
MICRO optimism				
MACRO optimism				

ANOVA results 36 points

Effect tested	df betw	df error	F value	Sig value	Eta squared	Significant y/n
main effect of environment						
main effect of sex						
environment x sex						

Write down all 3 effects using correct APA statistical notation format. **12 points**

To learn how to put symbols into a Canvas assignment, watch this video

main effect of environment	
main effect of sex	
interaction between environment x sex	

BONUS POINTS

Copy and paste the relevant SPSS output for the information you provided in all the tables above into a blank document. Hi-light the #s used. Save the document as a doc, docx, or pdf and upload it into Canvas under the assignment called "Digital Wellness Assignment 8: Bonus points". Do all this correctly and earn **5 bonus points** that you can redeem for rewards at the end of the semester.

Describing the Interaction Effect through Tests of Simple Main Effects

Copy the graph of cell means that SPSS created. Paste this into a blank document and save it as a doc, docx, or pdf. You will need to upload this into Canvas. **4 points**

Simple main effect of environment within sex

Describe the effect of environment for the male participants and indicate whether it is significant. **(3 points)**

Describe the effect of environment for the female participants and indicate whether it is significant. **(3 points)**

Is the effect of the environment the same for both males and females? To look for a pattern change, calculate the difference between micro and macro for males. Then calculate the difference between micro and macro for females**. (2 points)**

Simple main effect of sex within environment

Describe the effect of sex for the microenvironment and indicate whether it is significant.. **(3 points)**

Describe the effect of sex for the macroenvironment and indicate whether it is significant. **(3 points)**

Is the effect of sex the same for both the micro and macroenvironments? To look for a pattern change, calculate the difference between males and females within the microenvironment. Then calculate the difference between males and females within the macroenvironment. **(2 points)**