

PSYC 3113 Assignment #1

Worth: 20% of final grade

Due: November 5th, 2021, upload to D2L.

Assignment Overview: For the current assignment, using SPSS, you are to demonstrate your knowledge of descriptive statistics, data screening, parametric assumptions, Factorial ANOVA, and the associated follow-up analyses (post hoc testing, interactions) by using the data provided. The data are from a fictitious study in which the researchers were interested in differences that exist between male and female university students in their arguing, studying, and drinking behaviours. Additionally, the researchers were interested in the effect of living arrangement (live with parents, on campus, or on Graham Avenue) on these variables. Please enter the data from the table below into SPSS and use it to answer each of the following questions. You are encouraged to past output from SPSS into the body of your assignment and speak to it as you move along. Use the data to help you answer the questions and tell the “story” of your analysis. Expectation is for an APA title page and running head as well as conformation to APA reporting standards for communicating statistical results.

To receive full credit for the assignment, using SPSS, you must:

- (1) Enter all data in SPSS and label accordingly (both variable names and value labels). You must show evidence of data entry via either a screen shot or a one paragraph description of how you entered and labeled your variables. **(2 points)**
- (2) Identify and treat all missing data (include your rationale for your method of data treatment). If you use mean substitution make sure you consider the impact that any outliers might have. Benefit and drawbacks of selected method should be articulated. **(4 points)**
- (3) Identify and treat any outliers (provide your rationale for your outlier treatment). Check for outliers on all 3 continuous outcome measures and provide the details of your analysis. Feel free to paste in appropriate output, z-scores, etc. **(6 points)**
- (4) Report the results for your analysis of skewness and kurtosis (histograms and frequency output are helpful). What do the numbers for each of the three continuous outcome variables tell you? Has the normality assumption been violated? How do you know? **(6 points)**
- (5) Once you have completed your data treatment, conduct a factorial ANOVA to determine the effects of gender and living arrangements on the number of drinks per week. Report the values and interpretation of the following: **(20 points)**

- i) Levene's Test for homogeneity of variance
- ii) Significance result for Gender main effect (include F and df)
- iii) Significance result for Living arrangement main effect (include F and df)
- iv) Significance results for G X LA interaction (report F and df)
- v) Following up relevant significant main effects with Tukey post hoc testing. What do these numbers tell you? If you used (Fisher's) LSD would it change your interpretation?
- vi) Interpret the interaction if it is significant.
- vii) Describe what the partial eta square value is and what it means for each of the three effects tested in the design.

(6) APA formatted cover page and APA formatted reporting of all statistics **(2 points)**

Gender (IV1)	Living Arrangement (IV2)	Number of Arguments / week	Minutes Studying / week	Number of Alcoholic Drinks / week
Male	Parents	2	95	2
Male	Parents	1	100	5
Male	Parents	3	45	0
Male	Parents	1	60	4
Male	On Campus	1		16
Male	On Campus	2	60	12
Male	On Campus	2	150	18
Male	On Campus	1	125	9
Male	Graham Ave	0	60	9
Male	Graham Ave	1	45	10
Male	Graham Ave	0	35	12
Male	Graham Ave	2	90	0
Female	Parents	3	150	5

Female	Parents		120	4
Female	Parents	3	150	2
Female	Parents	1	210	1
Female	On Campus	3	60	0
Female	On Campus	2	90	6
Female	On Campus	2	115	2
Female	On Campus	2	80	9
Female	Graham Ave	1	10	5
Female	Graham Ave	2	60	8
Female	Graham Ave	1	60	3
Female	Graham Ave	7	75	7