Psyc450 Exam #1   Practice with 2x2 Factorial ANOVA

Practice: In this study, subjects were asked to learn a difficult motor task, and were given shocks whenever they made an error (wanna' consent to participate in the replication???). By random assignment, they received either low-level shocks, or something more interesting. Also, they were introduced to the experimenter's assistant who would be delivering the shocks either as a paid assistant, or as a volunteer who was helping the researcher. Each subject received the same feedback about the number and timing of their errors (it was all rigged from the start). Afterward, the researcher completed a post-experimental interview that included several questions, one of which was the actual DV -- a rating of subject's liking of the assistant -- higher scores indicate the subject liked the assistant more.

Descriptive Statistics

Dependent Variable: liking rating given to assistant by participant

shock	asnt	Mean	Std. Deviation	N
low intensity	volunteer assistant	26.0000	6.32456	5
	paid assistant	20.0000	6.32456	5
	Total	23.0000	6.74949	10
high intensity	volunteer assistant	10.0000	6.32456	5
	paid assistant	21.0000	6.32456	5
	Total	15.5000	8.31665	10
Total	volunteer assistant	18.0000	10.32796	10
	paid assistant	20.5000	5.98609	10
	Total	19.2500	8.31533	20

Tests of Between-Subjects Effects

Dependent Variable: liking rating given to assistant by participant

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	673.750[a]	3	224.583	5.615	.008
Intercept	7411.250	1	7411.250	185.281	.000
shock	281.250	1	281.250	7.031	.017
asnt	31.250	1	31.250	.781	.390
shock * asnt	361.250	1	361.250	9.031	.008
Error	640.000	16	40.000		
Total	8725.000	20			
Corrected Total	1313.750	19			

a. R Squared = .513 (Adjusted R Squared = .422)

Make a Line graph showing the results.   Make a Bar graph showing the results.

Make a table showing the cell and marginal means. Use <, > & = signs to represent the results for the various main effects and simple effects from the analyses on the next page.

2a.   Is there a significant interaction ? What did you examine to decide?

b.   Tell the two different sets of simple effects you could use to describe the pattern of the interaction.

c. Compute the LSD minimum mean difference to compare the cell means   _____

d. Describe the pattern of the interaction using the simple effects of shock intensity for each type of assistant.

e. Describe the pattern of the interaction using the set of simple effects type of assistant for each shock intensity.

3a.   Is there a main effect for Shock? What did you examine to decide?

b.   Describe the main effect for shock.

c.   What set of simple effects would you examine to determine if the main effect of Shock is descriptive or potentially misleading?

d.   Is the main effect for shock descriptive or potentially misleading (if so, where)?

4a.   Is there a main effect for Paid? What did you examine to decide?

b.   What set of simple effects would you examine to determine if the main effect of Paid is descriptive or potentially misleading?

c.   Is the main effect for shock descriptive or potentially misleading (if so, where)?