Week 10 Polling

A main effect is a source of variation associated with mean differences:

In the cell means given in a table summary

Across the combination of levels of two factors

Across the levels of a single factor

Across the combination of levels of two or more factors

A researcher conducts a study in which 12 participants are observed at each combination of two factors, where Factor A has three levels and Factor B has two levels. What are the degrees of freedom for error?

6

66

71

72

$K = 3 \times 2 = 6$

$N = 6 \times 12 = 72$

$N - K = 72 - 6 = \boxed{66}$

Simple main effect tests are necessary to analyze:

A significant main effect

Any significant effect

A significant interaction

The results of a one-way ANOVA

A researcher reports the following interaction: F(2, 44) = 3.11. Is the p-value less than .05 for this test?

Yes, because the 3.11 is larger than the critical value

No, because 3.11 is smaller than the critical value

No, because 3.11 is larger than the critical value

$F_{cv}(2, 44) = 3.21$

Using a two-way between-subjects ANOVA, Factor A has four levels, Factor B has three levels, and n = 6. If SS_A = 300 and SS_E = 180, then what was the decision for the main effect of Factor A at a .05 level of significance?

Reject the null hypothesis

Fail to reject the null hypothesis

$N = 12 \times 6 = 72$

$F_{cv}(3, 60) = 2.76$

Source	SS	df	MS	F
Factor A	300	4-1=3	100	100/3 = 33.3
Factor B	?	3-1=2	?	?
(AxB) Interaction	?	3x2=6	?	?
Within	180	72-12=60	3	
Total	?	71		