One-Within, One-Between ANOVA, Autumn, 2019ã

You are evaluating the effectiveness of three different methods of controlling insect pests. Your subjects are 60 houses, randomly assigned to three treatment groups. Group 1 houses are thoroughly sprayed with an organophosphate. A microbe known to infect the insect pests is introduced into Group 2 houses. A predator species is introduced into Group 3 houses. You measure the number of live insect pests found in each house one, two, three, and four weeks after treatment. Your data file is available below. Each line has data from one house. The first variable is GROUP, followed by the WEEK1-WEEK4 measurements.

Conduct a Group x Week ANOVA on these data. The Week x Group interaction is likely significant, so you will conduct simple main effects analysis for the effect of treatment method (group) at each level of weeks (even if the interaction is not significant, you will do these simple main effects analyses as planned comparisons (for practice). In association with these tests of simple main effects, conduct, for each significant simple main effect, Fisher's LSD pairwise comparisons to determine the pattern of significant differences between group means.

Label the groups "Chemical," "Microbial," and "Predator." (Format in SAS, Value Labels in SPSS). For the omnibus analysis, use the multivariate approach, which, as you know, has no sphericity assumption. I recommend that you start by obtaining descriptive statistics for the cells. You can use these to prepare the interaction plot (with weeks on the absicssa, insect count on the ordinate, and separate lines for the groups). Should you wish to prepare your plot with Excel rather than with your statistical software, download the template I prepared for you, change the means, and then copy the plot into the report you prepare in Word.

Write a complete APA-style report of your results in a Word document and email it to me by the deadline, which is 5 PM on Tuesday the 3rd of December, 2019

Links to the Data Files

Al-Hammori, Deanna	Bond, Dillon	Crespo, Julian	Demott, Bea
Donelan, Jennifer	Eddy, Will	Long, Kelli	Mcadams, Ellie
Mcintyre, Joel	Meier, Brittany	Nguyen, Vanessa	Owens, Brittnie
Robinson, Demi	Skinner, Lonnisa	Wynn, Taylor	
******* **Entomophobia** *******			

Contact Information for the Webmaster,
Dr. Karl L. Wuensch

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