PSYC 7014, Week 12 stats lab: Factorial ANOVA — Main Effects and Interactions, pt 2

What's driving the interaction?

Part 1: Experimental Question: Does praise influence performance?

**** note:** use the dataset from "HW_dataset1_long.txt".*

Data Description: Adult (ages 18-30) and Children (ages 8-13) participants completed a simple throwing task (attempted a throw to get a ball into a small basket) under three between subjects conditions of experimenter feedback / judgment. Participants were either (1) Praised by the experimenter as being above average when got the ball close or in the hole; (2) Criticized as being below average when missed or got it close to the hole; (3) or no feedback/ judgment was provided. DV – Counts of misses out of 12 throws where fewer misses equals better performance. **Based on your findings what can be said about the relative effects of feedback on adults and children?**

- **Using the provided data set, perform a Factorial ANOVA**
- **For your figure generate <u>a plot of your choice</u> conveying information about the means (and requisite distribution) of each Age group by Feedback condition.**
- **Assuming that there is an interaction here, as we mentioned in class there are two ways to address the simple effects analyses:**

    A. **Looking at the effect of Feedback on each level of Age.**
    B. **Look at the effect of Age on each level of feedback**

<u>RUN BOTH POSSIBLE METHODS:</u> Report in two different narratives (if you like label them narrative #1 and narrative #2). Both narratives should include the requisite statements about main effects and interactions. The first narrative should include simple effects analyses as conducted in method A. The second narrative should include simple effects analyses as conducted in method B. ***Does one method allow you to convey the observed effects more clearly or forcefully? Does one method allow you to clearly state what is driving the interaction? (continue to next page)***

Part 2: Experimental Question: Does praise influence performance on children differentially

**** note:** use "HW_dataset2_long.txt"*

Data Description: This follow-up study recruited children ages (8-13) with sports (played a sport other than basketball*) and non-sport (play no sports) experience to complete a simple throwing task (attempted a throw to get a ball into a small basket) under three between subjects conditions of experimenter feedback / judgment. Participants were either (1) Praised by the experimenter as being above average when got the ball close or in the hole; (2) Criticized as being below average when missed or got it close to the hole; (3) or no feedback/ judgment was provided. DV – Counts of misses out of 12 throws where fewer misses equals better performance. **Based on your findings what can be said about the relative effects of feedback on children as a function of sports experience?**

***** *Basketball experience was excluded to mitigate a potential confound.*

- **Using the provided data set, perform a Factorial ANOVA**
- **For your figure generate <u>a plot of your choice</u> conveying information about the means (and requisite distribution) of each Sports group by Feedback condition.**
- **Assuming that there is an interaction here, as we mentioned in class there are two ways to address the simple effects analyses:**

    A. **Looking at the effect of Feedback on each level of Experience.**
    B. **Look at the effect of Experience on each level of feedback**

<u>RUN BOTH POSSIBLE METHODS:</u> Report in two different narratives (if you like label them narrative #1 and narrative #2). Both narratives should include the requisite statements about main effects and interactions. The first narrative should include simple effects analyses as conducted in method A. The second narrative should include simple effects analyses as conducted in method B. ***Does one method allow you to convey the observed effects more clearly or forcefully? Does one method allow you to clearly state what is driving the interaction?***