**PSY 653 Module 5: Repeated Measures and Mixed Designs in ANOVAs**

**Feb 26, 2020**

Use the following experimental design to complete the tasks below:

*There are 30 subjects who each read three passages from one book and rate their liking of the passage. Passages depict A – outdoor activities, B – interactions with family and C – interpersonal conflict, which is resolved. Half of the books are written by male authors (M) and half are written by female authors (F). Books are sampled from two different genres, classic fiction (CF) or modern fiction (MF).*

The data contains the following variables:

**Y** = participants’ ratings of how much they liked each passage (the outcome variable)

**Subject** = participant ID number (N = 30)

**Passage** = a 3-level factor variable for the type of passage, coded as either A, B, or C

**Author** = a 2-level factor variable for author self-identified sex, coded as either M or F

**Genre** = a 2-level factor variable for book genre, coded as either CF or MF

1. Which are within vs. between subject factors? How do you know?

1. Start the F table for this ANOVA by listing the factors (identified as either within-subjects or between-subjects) and their corresponding numerator df. Include the interaction terms that you can test in these data.
2. Use the data file RMexample.csv to conduct the appropriate ANOVA that evaluates only the within-subject effect(s) for this data.
3. Use the “ez” package in R to conduct the analysis.
4. Report and interpret the model results. Include a statement about whether the assumptions of sphericity are violated. You do not need to do any planned contrasts or post-hoc analyses.
5. Use the data file RMexample.csv to conduct the appropriate ANOVA that evaluates *both* the within-subject and between-subject effect(s) for this data.
6. Use the “ez” package in R to conduct the analysis.
7. Report and interpret the model results. Include a statement about whether the assumptions of sphericity are violated. You do not need to do any planned contrasts or post-hoc analyses.