

10.3: Mixed Designs

Throughout this book we keep reminding you that research designs can take different forms. The manipulations can be between-subjects (different subjects in each group), or within-subjects (everybody contributes data in all conditions). If you have more than one manipulation, you can have a mixed design when one of your IVs is between-subjects and one of the other ones is within-subjects.

The only “trick” to these designs is to use the appropriate error terms to construct the F-values for each effect. Effects that have a within-subjects repeated measure (IV) use different error terms than effects that only have a between-subject IV. In principle, you could run an ANOVA with any number of IVs, and any of them could be between or within-subjects variables.

Because this is an introductory textbook, we leave out a full discussion on mixed designs. What we are leaving out are the formulas to construct ANOVA tables that show how to use the correct error terms for each effect. There are many good more advanced textbooks that discuss these issues in much more depth. And, these things can all be Googled. This is a bit of a cop-out on our part, and we may return to fill in this section at some point in the future (or perhaps someone else will add a chapter about this).

In the lab manual, you will learn how to conduct a mixed design ANOVA using software. Generally speaking, the software takes care of the problem of using the correct error terms to construct the ANOVA table.

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