MIXED EFFECTS (REGRESSION) MODELLING

WHAT // HOW // WHERE

YOU CAN MODEL MULTIPLE SOURCES OF VARIABILITY!

Why choose between participant-level or item-level variability, when you can model both?

Avoid the loss of important information & reduction of statistical power from data aggregation.

CONSIDER APPLICATION TO YOUR RESEARCH

Model random effects of participant, item, trial/epoch, part of a stimulus, or nested factors e.g. country

Freedom from listwise deletion (missing rows ≠ excluding that participant)

Utilise continuous dependent variables (no need to aggregate reaction time or response accuracy)

READ INTRODUCTORY LITERATURE & TUTORIALS

A small selection to peruse:

- With minimal mathematical terminology
- With a side-by-side comparison to ANOVA
- Suggestions for building random effects structures
- Crossed random effects
- A step-by-step R tutorial

See the references of these links for more info!

TRY IT OUT YOURSELF!

Have a go, and adapt someone else's code. Check out open-source data and analysis scripts on the Open Science Framework that you can apply to your own data and research questions.

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