Wrapping Up

Dale Barr

University of Glasgow

Overview

1. Odds and ends
    - Choosing the right approach
    - Correspondences between GLM / conventional techniques
    - Multivariate situations
2. Study tips for the final exam

Odds and ends

Choosing the right approach

What do you want to generalize to?

If there is more than one population (subjects and stimuli), linear mixed-effects modeling is really your only choice

What type of data do you have?

- is your dependent variable continuous, binary, count, ordinal?
- do you have multi-level or single-level data? **REMEMBER: multi-level means multiple measurements on the DV for the same sampling units (subjects, stimuli)**
- do you have pseudoreplications (multiple measurements on the same DV for the same sampling units under the same conditions)?
- are your predictors categorical or continuous?

four functions to rule them all

1. Is the data single- or multi-level?
2. Is the response continuous or discrete?
3. How are the observations distributed?

structure	response	distrib	R fnc
single	cont	normal	`base::lm()`
single	cont/disc	various	`base::glm()`
multi	cont	normal	`lme4::lmer()`
multi	cont/disc	various	`lme4::glmer()`

Correspondences between GLM / conventional techniques

Most conventional techniques are not built to handle *pseudoreplications*. If you have them, remove them by calculating means for each sampling unit, and perform your test on the means.

But if the source of these pseudoreplications is multiple stimuli over which you would like to generalize, then you *can't* remove them by calculating means.

continuous DV, between IV