

Statistical Models in R: Day 1

Experimental Design

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Key Aspects of experimental design:

- Balanced designs
- Blocking factors and random effects
- Randomization

Balanced designs

- A balanced design has equal (or roughly equal) number of observations for each group
- Balance eliminates confounding factors and increases power

Blocking factors and random effects

- Blocking factors and random effects should be used/recorded to control sources of variation that exist but are otherwise not of interest

Randomization

- Subjects should be randomized to groups to help balance the unobserved factors in the experiment.
- Randomization should be done in a way to keep the controlled and observational factors (blocking factors and random effects) balanced.