

CogLab: Communicate

WEEK 14

logistics & schedule

- November class survey open (due Dec 8)
- Week 15/16
 - poster (7b): final submission (Dec 10, in class)
 - final touches + BCQs + extra credit winners
 - 8a: poster symposium (Dec 12, Druck atrium, no submission)
 - 8b: collaboration assessment (Dec 12)
 - 9: team skills (no submission)
 - formative assignment 3 resubmission (due Dec 15)
 - 10: final APA report (individual, due Dec 20)

office hours going forward

- by appointment only
- [calendly link](#)

today's agenda

- formative assignment #3
- plan for Tuesday
- APA paper/report guidelines
- poster workshopping

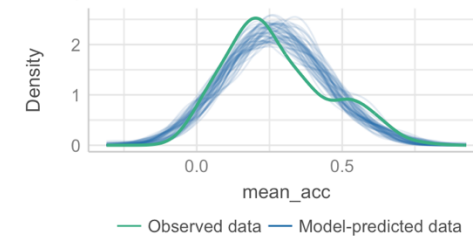
formative assignment #3

- dependent variable is accuracy (0/1)
 - this is a **nominal / binary / binomial** variable
 - if not specified, always use raw data for models
- ANOVAs, t-tests, linear mixed effects models assume a **continuous (interval/ratio)** dependent variable
- even if one assumption is significantly violated, it is a **problem!**

```
lm_1 = lmer(data = subject_accuracy,  
            mean_acc ~ prime_condition + (1|subject) )  
summary(lm_1)  
car::Anova(lm_1)
```

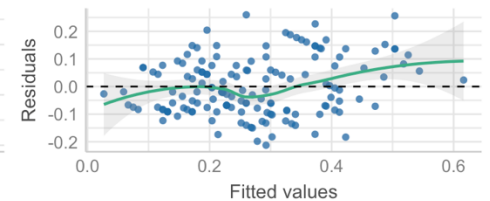
Posterior Predictive Check

Model-predicted lines should resemble observed data line



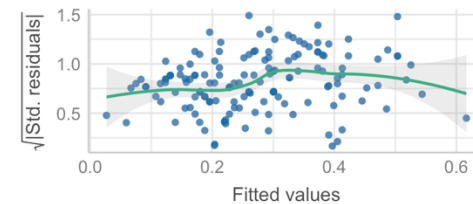
Linearity

Reference line should be flat and horizontal



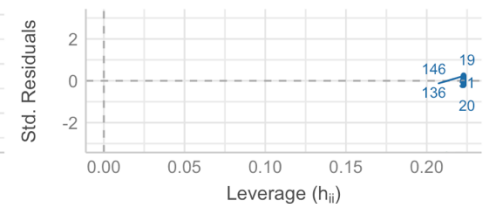
Homogeneity of Variance

Reference line should be flat and horizontal



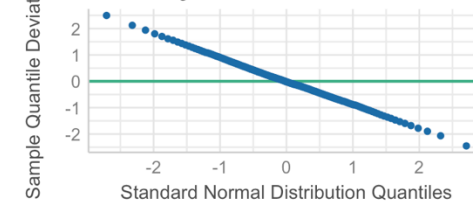
Influential Observations

Points should be inside the contour lines



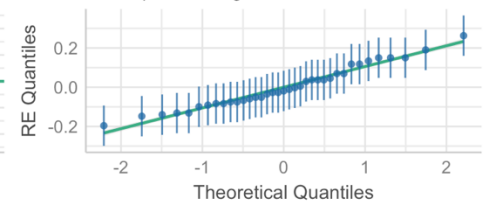
Normality of Residuals

Dots should fall along the line

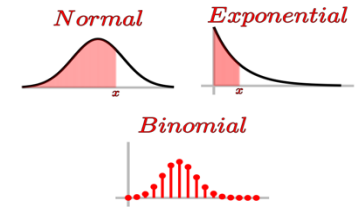


Normality of Random Effects (subject)

Dots should be plotted along the line



generalized mixed effects models



- models that can work flexibly on any kind of DV distribution (but need to specify which distribution to use)




```
# glmer
```

```
```{r}
gl_model = glmer(data = assignment5,
 accuracy ~ prime_condition + (1|subject),
 family = "binomial")
car::Anova(gl_model)
emmeans::emmeans(gl_model,
 pairwise ~ prime_condition,
 adjust="tukey")
```
```

plan for Tuesday (Dec 10)



- submit poster for printing!
- practice 3-minute poster spiel (everyone!)
- symposium logistics
- final survey + thoughts
- BCQs

milestone 8a: poster presentation

| Poster Presentation Rubric    | | |
|--|---|-------|
| Criteria | Ratings | Pts |
| Introduction / Setting the stage
Presenter clearly describes key question to an UNINFORMED reader/viewer in simple terms, likely using a real-life example. | This area will be used by the assessor to leave comments related to this criterion. | 1 pts |
| Thesis / Orienting Statement
Presenter clearly identifies the broad and specific question the research attempts to answer. | This area will be used by the assessor to leave comments related to this criterion. | 2 pts |
| Theoretical frameworks / Prior Research / Background
Presenter describes the prior work (especially Savic et al.) in sufficient detail and motivates the current study. | This area will be used by the assessor to leave comments related to this criterion. | 2 pts |
| Method
Presenter describes the key methods (stimuli + task) to the audience by guiding them through the poster's figures and/or tables. | This area will be used by the assessor to leave comments related to this criterion. | 2 pts |
| Results
Presenter describes the key findings (descriptive and inferential) obtained from the data collected so far in a clear, concise, and engaging manner. Presenter also zooms out and provides broader implications of their work. | This area will be used by the assessor to leave comments related to this criterion. | 3 pts |
| Total Points: 10 | | |

milestone 10: final report

- sample paper
(use as template)
- pay attention to:
 - title page
 - how github and pre-registration links are mentioned
 - methods section
 - analysis/statistics reporting
 - paper-code synergy

| Paper rubric: 2740   | | |
|---|---|--------|
| Criteria | Ratings | Pts |
| Central thesis/question
Paper clearly motivates (why is this topic important?) and states the central question/thesis (what is the central question the paper attempts to answer) in the introduction and sets the reader up for what is coming up next in the paper (how will you answer the question you have posed?).

Paper addresses feedback provided in Milestone 2a | This area will be used by the assessor to leave comments related to this criterion. | 5 pts |
| Organization, writing, & flow
Clear organization and natural "flow" (with an introduction, transition sentences to connect major ideas, and conclusion) with few or no grammar or spelling errors. Scholarly ideas are cited and referenced correctly and follow logical conclusions/arguments. | This area will be used by the assessor to leave comments related to this criterion. | 3 pts |
| Methods, Procedure, & Results
Paper clearly describes the methods used in the study, using tables/figures wherever necessary and providing details of the stimuli, participants, design, and procedure

Pre-registration and Github link is mentioned and is accessible incognito

Results are described and reported correctly. Results correspond to knitted Rmd notebook. | This area will be used by the assessor to leave comments related to this criterion. | 10 pts |
| Discussion and conclusions
Paper clearly connects ideas from previous sources and the current study to arrive at a conclusion, and then zooms out to discuss broader implications of this conclusion for the study of cognition more broadly. | This area will be used by the assessor to leave comments related to this criterion. | 5 pts |
| APA format
Paper is in APA format, with title page, body, and references. | This area will be used by the assessor to leave comments related to this criterion. | 2 pts |
| Total Points: 25 | | |

to-do prep for paper

- go back to [milestone 2a \(project proposal\)](#)
- review rubric feedback
- make a copy of the proposal for yourself
- start to make a list of things you'll need to work on to convert this into a final report

poster work

- workshopping 7a poster draft
- let's take a few moments to examine the poster
- what has been done really well?
- what could be improved?
- [Uma](#): knit the Rmd and compare results

next time

- **before** class
 - *work on*: project milestone #7 (poster draft)
- **during** class
 - submit poster for printing!
 - practice 3-5 minute poster spiel (everyone!)
 - symposium logistics
 - final survey + thoughts
 - BCQs