

CogLab: Data Collection

WEEK 10

recap

- what we covered
 - linear mixed effects models
- your to-do's
 - work on milestone #5 (checklist + pre-registration)

today's agenda

- sample size considerations
- sona + prolific plan

sample size considerations

- why worry about sample size?
- statistical power is the likelihood that you will find the effect in your sample, IF it exists in the population

example

	world truth	
your data	effect exists	effect does not exist
found an effect	HIT	FALSE ALARM
did not find an effect	MISS	CORRECT REJECTION

example

	world truth	
your data	effect exists	effect does not exist
found an effect	POWER	TYPE I ERROR
did not find an effect	TYPE II ERROR	CORRECT REJECTION

how to find optimal sample size

- prior literature
- prior effect sizes
- power analysis
- budget considerations!

provided informed consent. The target sample size was based on both prior studies that used priming measures to assess the effects of other, nonco-occurrence-based routes for semantic integration (Coutanche & Thompson-Schill, 2014; Tamminen & Gaskell, 2013), and prior studies that used other, nonpriming measures to assess the effects of co-occurrence regularities on links between either novel or familiar words (Jones & Love, 2007; McNeill, 1963). Four participants were excluded from

questions to ask/explore

	original	your study
# participants		
trials per ID per level of IV		
within/between		
key effect		

pre-registration + project checklist

milestone #5:
 pre-registration + project
 checklist + piloting
 (Nov 11)

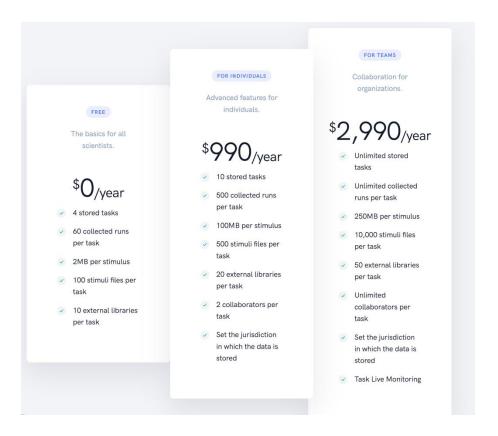
- 1. **Data Collection**: Have any data been collected for this study already?
- 2. **Main Question**: What is the main question being asked or hypothesis being tested in this study?
- 3. **Dependent Variable(s)**: Describe the key dependent variable(s) specifying how they will be measured.
- 4. **Condition(s)**: How many and which conditions will participants be assigned to? Please include an example trial of <u>each type of condition</u> you have in your experiment. Please also specify which independent variable will be within-participants or between-participants.
- 5. **Analyses**: Specify exactly which <u>analyses</u> you will conduct to examine the main question/hypothesis.
- 6. **Outliers & Exclusions**: Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
- 7. **Predicted Plot**: Please submit a predicted plot for your study based on what you expect the pattern to look like for your main hypothesis.
- 8. **Sample Size**: How many observations will be collected or what will determine sample size? No need to justify the decision, but be precise about exactly how the number will be determined.
- 9. **Exploratory details**: Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

data collection basics

- two pools: Sona (PSYC 1101) and Prolific (online)
- one person per group will lead each pool
 - Sona: Natalie and Mitri
 - Prolific: Lily, Katie
- plan:
 - Sona person should have a Sona researcher account
 - Prolific person will create their own <u>account</u>

cognition.run

- I will add one group member to a new task on cognition.run ("premium" plan)
- your FINAL experiment code should go in here
- this link will be used first for Sona and then for Prolific with some minor changes



sona data collection plan

- pre-register on <u>aspredicted.org</u> (after milestone #5)
- create a Sona study
- add disqualifiers to your study
- add survey code to cognition.run study URL in Sona
- modify cognition.run initJsPsych
- send approval request to Donna
- post 100 timeslots
- start working on project analyses!

create Sona study

create and name your study on Sona

disqualifiers

Disqualifiers

Participants must not have completed or have a pending sign-up for ANY of these studies:

My Studies All Studies

search...

Assistance game (online) (Inactive)
Block game
Connector Word Game!
Semantic Association Task
Semantic Integration Task
Sentence Content Judgement (Inactive)
Sentence Experiment (Inactive)
Sentence Judgements (Inactive)
Sentence Object Recognition (Inactive)

Available

Selected

changing study URL

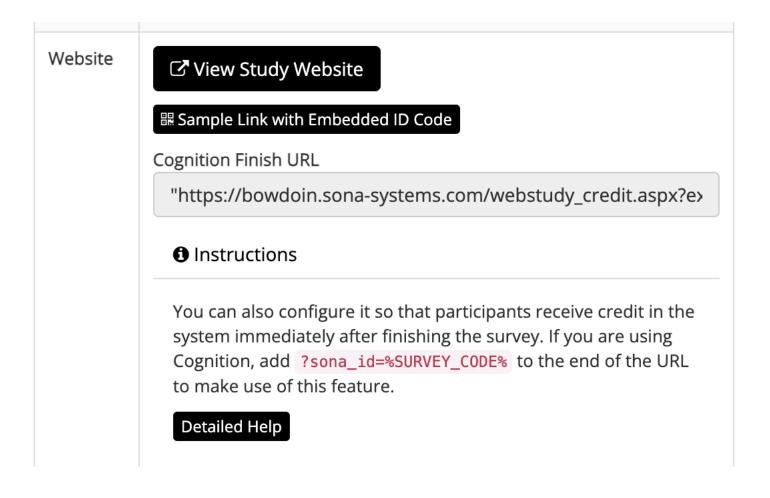
Study URL

https://xz4vnidz3d.cognition.run?sona_id=%SURVEY_CODE%

If the text <code>%SURVEY_CODE%</code> is included in the URL, the system will replace that with a unique code for the participant, to make it easier to identify who completed the study. You can also configure it so that participants receive credit in the system immediately after finishing the survey. If you are using Cognition, add <code>?sona_id=%SURVEY_CODE%</code> to the end of the URL to make use of this feature.

Detailed Help

copy cognition finish URL

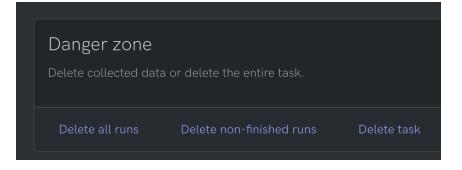


change initJsPsych within cognition.run

```
const jsPsych = initJsPsych({
    show_progress_bar: true,
    auto_update_progress_bar: false,

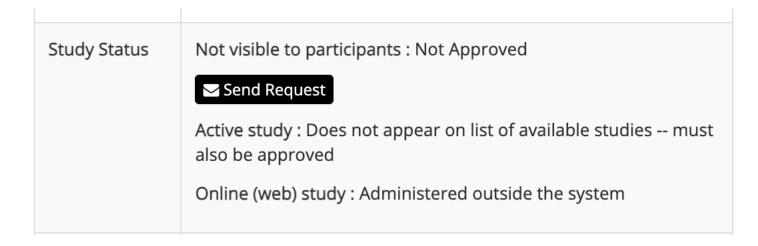
on_finish: function(data){
    let sona_id = jsPsych.data.urlVariables()['sona_id']
    window.location.assign("https://bowdoin.sona-systems.com/webstudy_credit.aspx?experiment_id=218&credit_token=ecd1a56cc7194604ba296e8e927f57ac&survey_code=" +sona_id)
}
});
```

delete all runs so far!

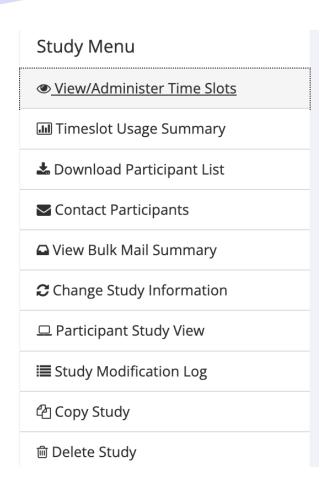


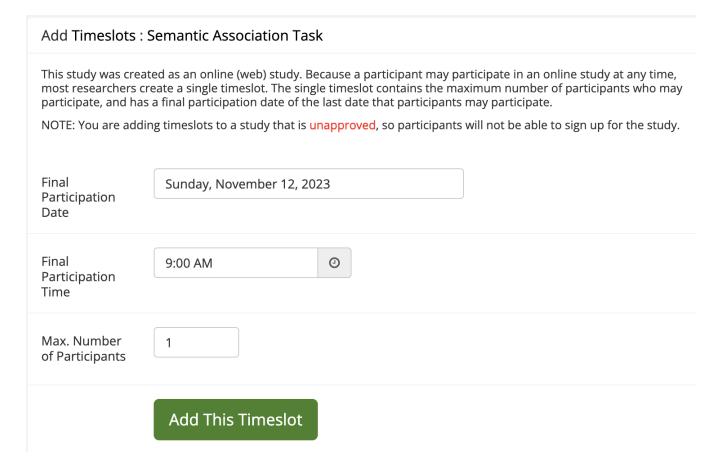
send for approval

attach <u>approved</u>
 IRB <u>protocol</u>



add timeslot





next time

- before class
 - submit: project milestone #5
- during class
 - start: data collection on Sona
 - prolific data collection
 - poster design