Moving A Psycholinguistics Research Online During the Pandemic:

Exploring L2 Sentence Processing Strategies of Late Learners and Heritage Speakers

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Roadmap

I. Background
   - L2 Sentence Processing (SSH)
II. The Current Study
III. Methodology: In-person V.S. Online
IV. Progress & Summary

Background

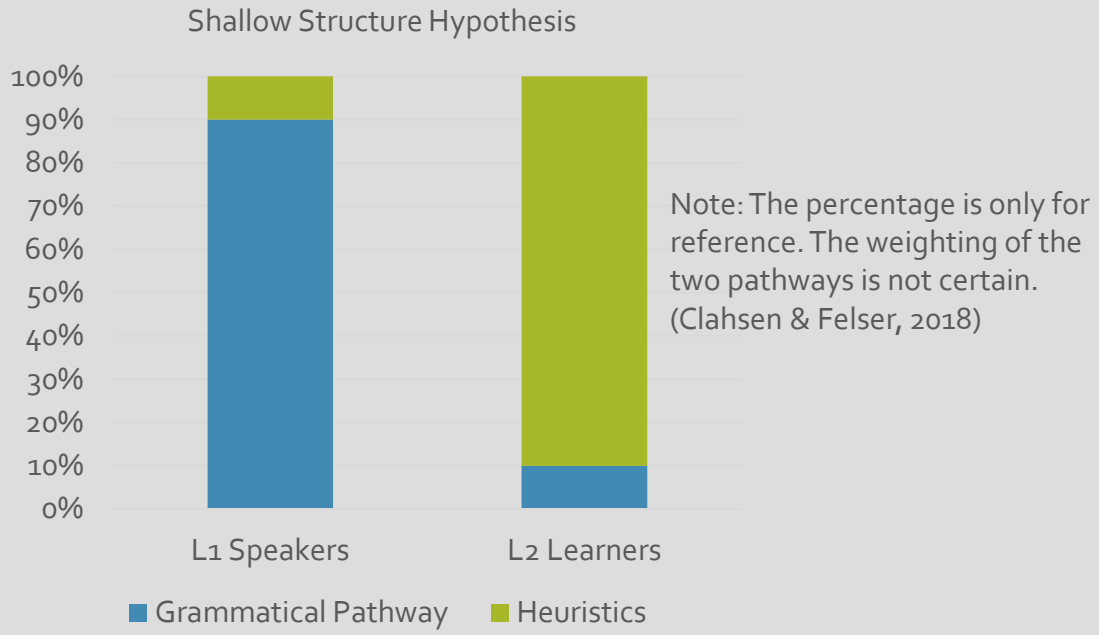
L2 Sentence Processing

The Shallow Structure Hypothesis (SSH)

Dual-pathways exist in the parser: The Grammatical pathway, and the heuristics pathway

(Combining different models of L1 sentence processing)

(Clahsen & Felser, 2006a, 2006b, 2018)



The Current Study

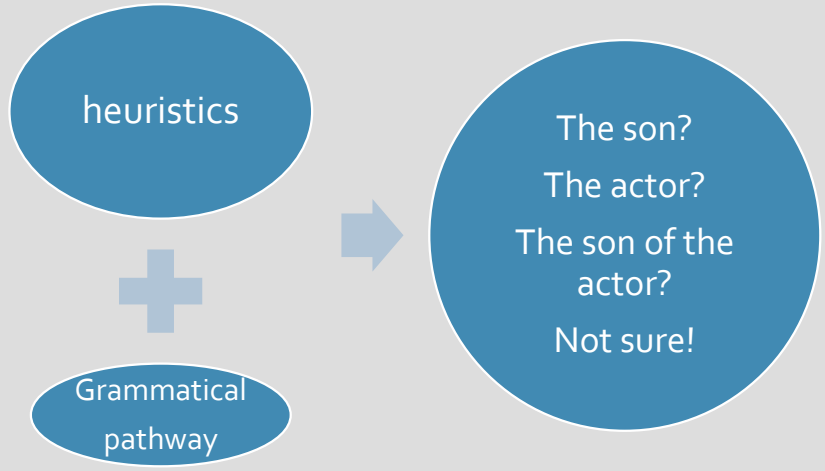
Research Questions

Considering Heritage Speakers, do age of acquisition & L2 dominance influence L2 processing critically?

Predictions of RC

*I talked to **the son** of **the actor** [who bought the house on the corner].*

1. Heritage Speakers: pattern with L1 Speakers
2. Late Learners are different.



Methodology

Eye-tracking

(Witzel et al, 2012a)

Material: temporarily ambiguous sentences

Facilities: eye-tracker + PC

Participants:

- Native English Speakers
- Highly Proficient English Learners

Result: Against the SSH

This method can be in-person only.

Maze Experiment

(Witzel et al, 2012b)

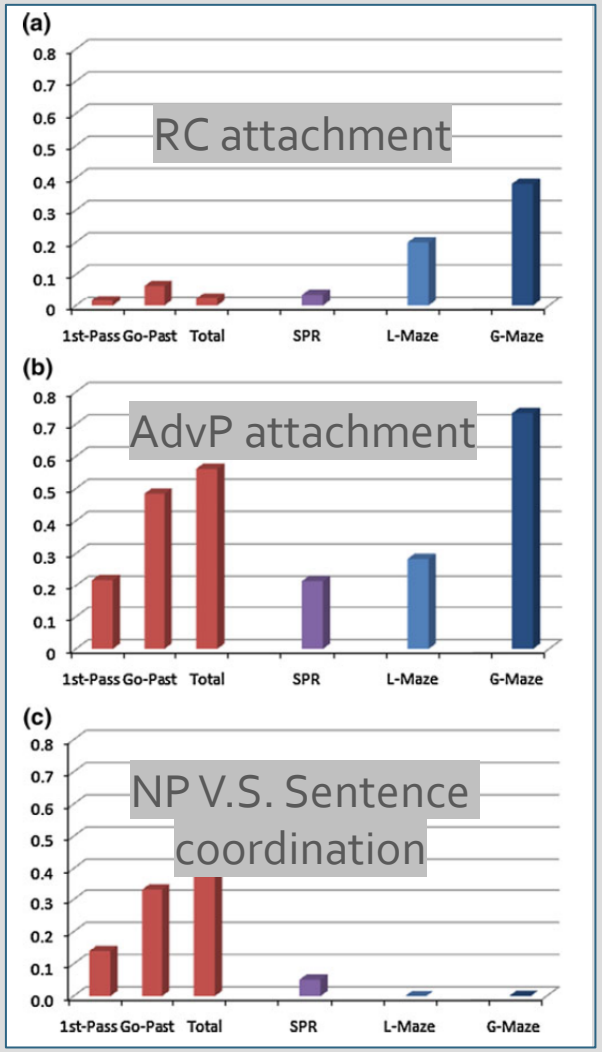
Material: temporarily ambiguous sentences

Facilities: PC + Programming

It can be realized both with an in-person or online experiment.

Methodology

Comparison (Witzel et al, 2012b)



Left Graph:

Comparison of effect size by:

eye-tracking

SPR

L-Maze

G-Maze

Maze can reveal more subtle information than Self-paced Reading.

Methodology

Following Witzel et al. , 2012a

Experimental Items

- RC attachment: Low (High)

'The son of the actress who shot herself (himself) in the theatre was under investigation'

- AdvP attachment: Low(High)

'Anne will serve the apples she picked yesterday (tomorrow) , but she won't serve the plums. '

Participants:

- L1 Speakers
- Late L2 Learners
- Heritage Speakers

Build an online Maze Experiment

Psychopy as the experiment builder (A little coding may be required)
Pavlovia.org as the hub of publishing a project

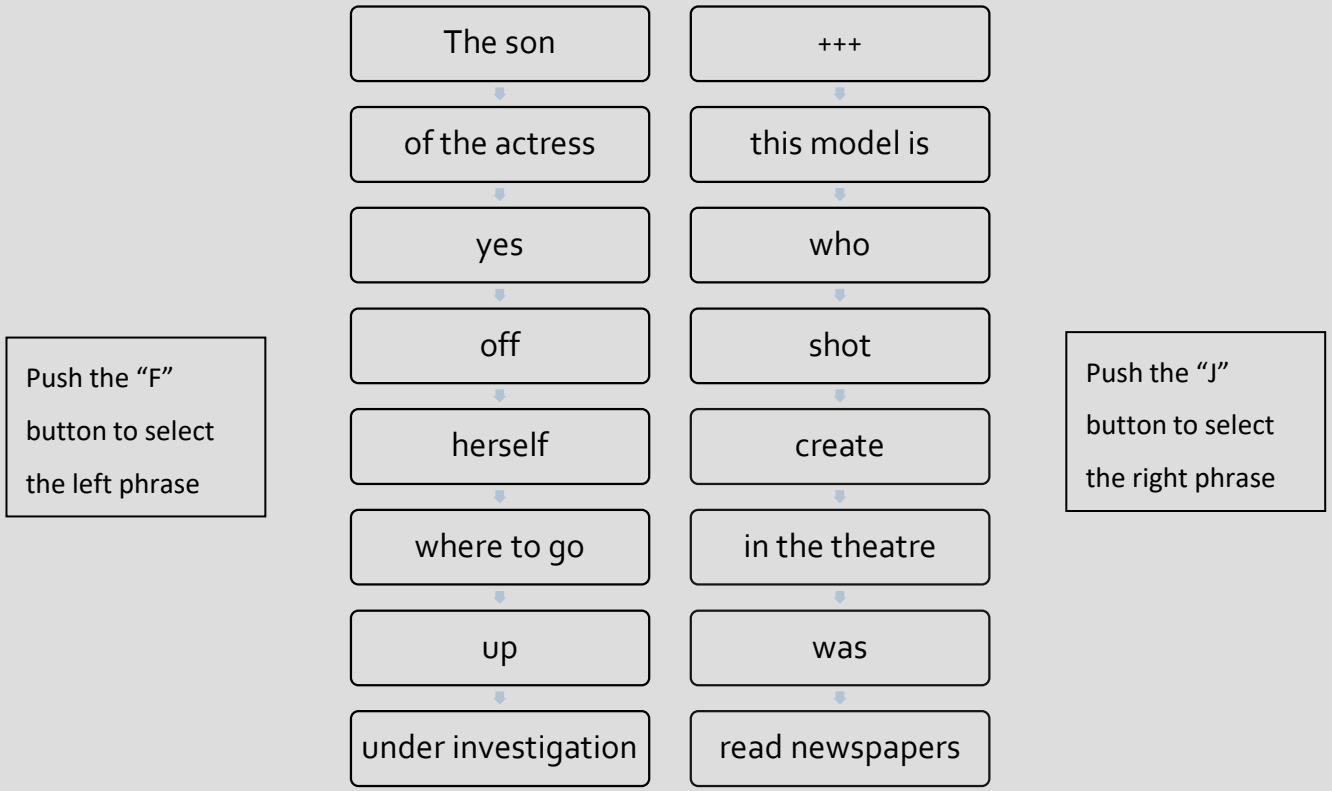
Independent Variables:
Age of Acquisition
L2 Dominance

Dependent Variables:
Processing time of low/high attachment items

Other programs: E-prime, DMDX, Jspsych, and etc.

Methodology

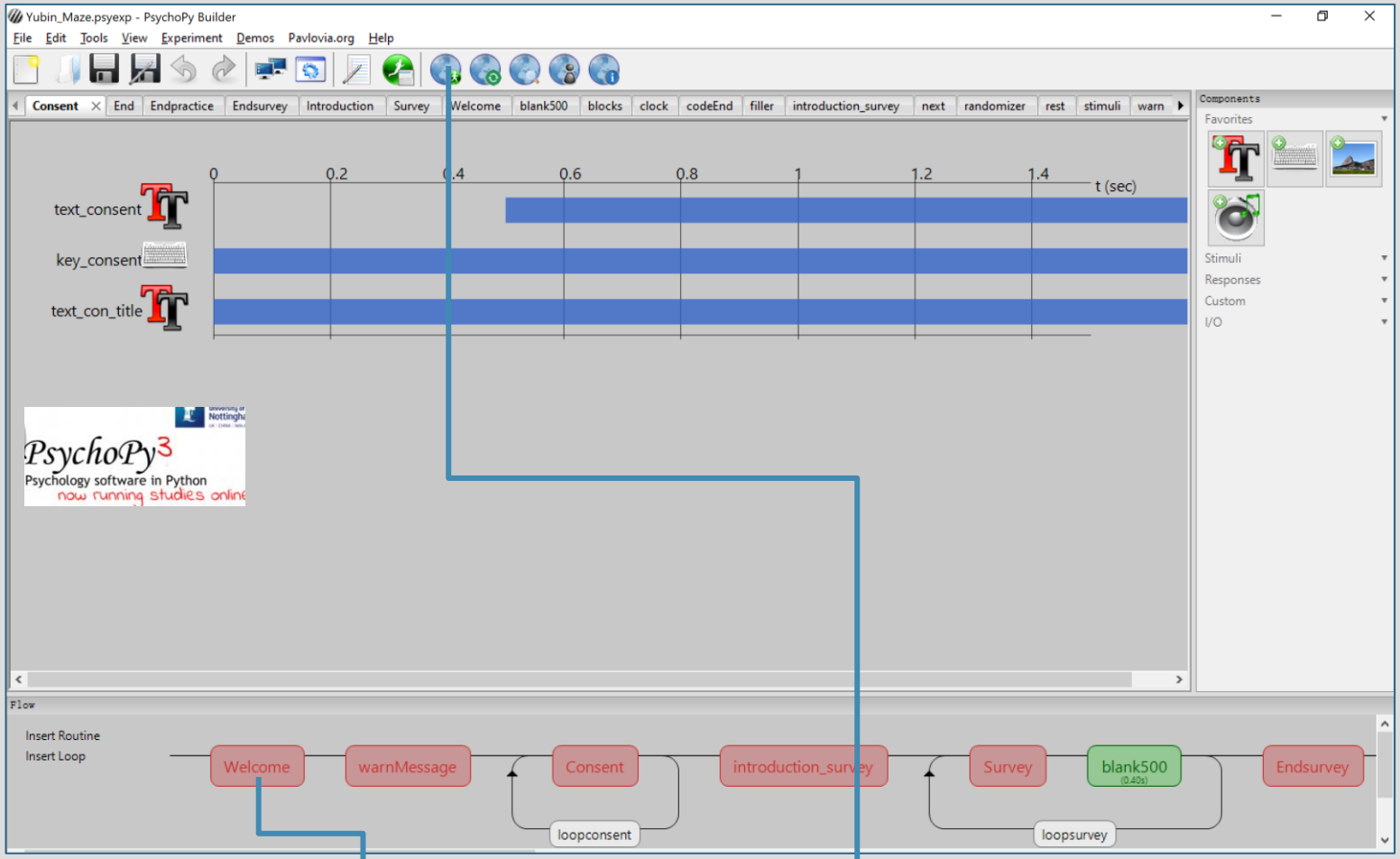
The Maze Paradigm



Durations of each button will be recorded to measure the processing cost

Methodology

Psychopy Experiment Builder

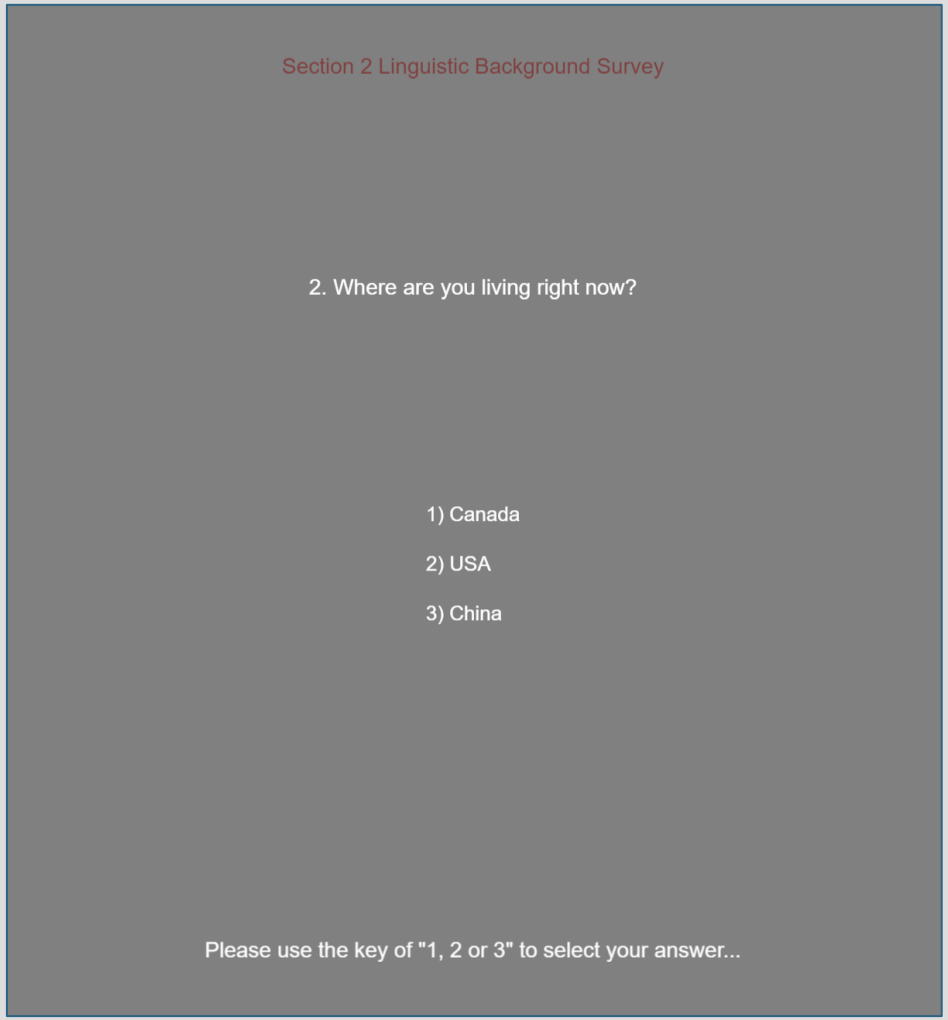


Build elements for the experiment

Publish it on Pavlovia

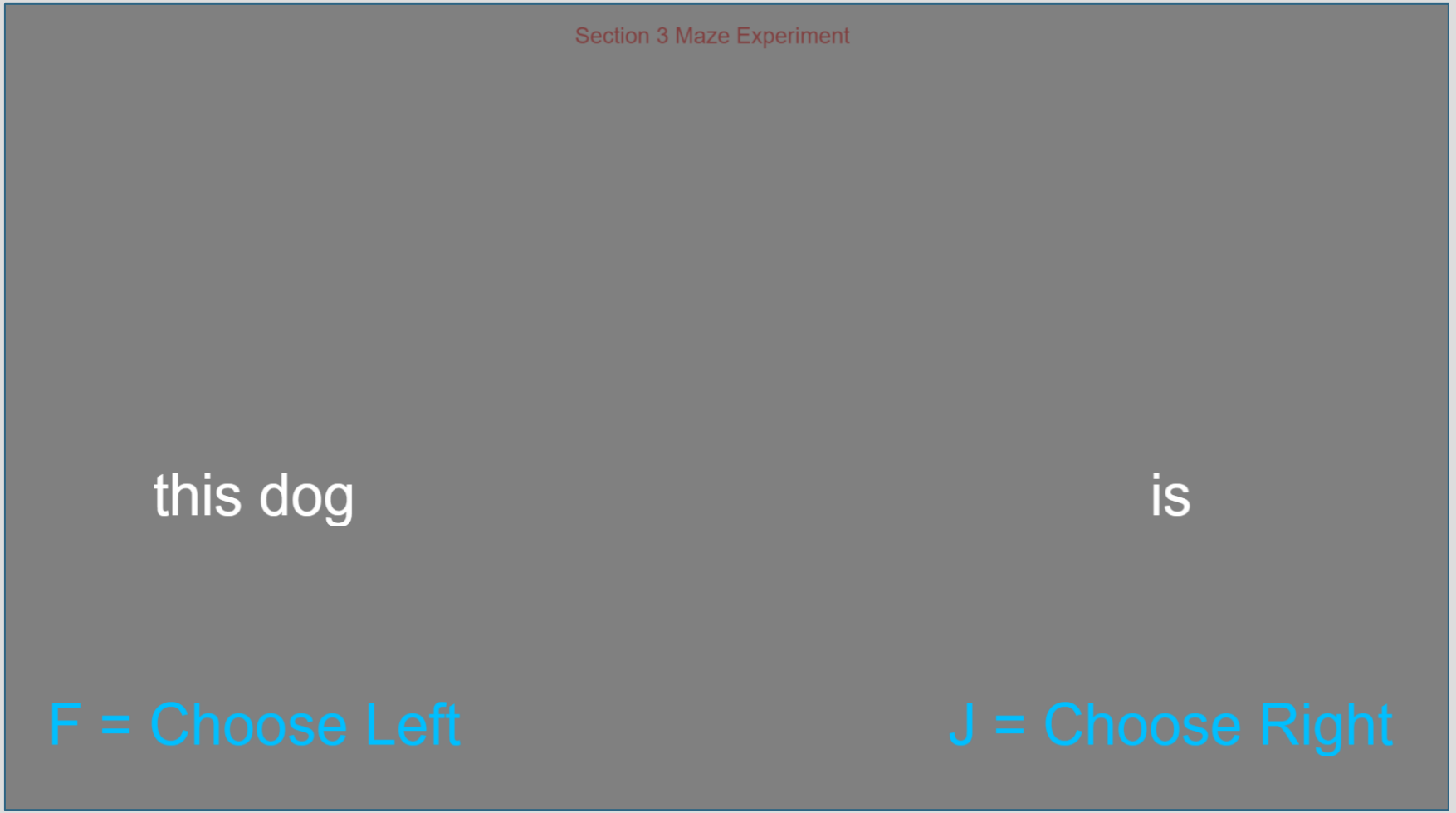
Methodology

Insert a Survey



Methodology

The Maze Task



The Current Progress

Current Progress

- Data has been received from:

10 Late Learners
4 Native Speakers

- Preliminary Result:

Total RT of Late Learners is longer than Native Speakers.

Calling for participants: Native Speakers & Heritages Speakers
https://linguistlist.org/issues/31/31-2606/ (Poster in Linguistlist)
Here is the link of the experiment:
https://run.pavlovia.org/yux580/mazeusask/html

Summary

- Online experiment is possible for psycholinguistics research of syntactic processing.
- **Maze task** is a reasonable choice to measure the processing cost of syntactic structures, if eye-tracking devices are not available or in-person activities are restricted.
- It is important to find **a new paradigm** that can generate the appropriate data for the research objective if transition is necessary. (This process could be time consuming.)
- **Youtube** is a good source of tutorials for Pychopy, Jspsych, and many other programs.

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Thank You!