What Did You Say? A Web-Based Validation of a Speech-In-Noise Task

BeOnline 2021

Jason Geller
Rutgers University Center for Cognitive Science
2021-06-28 (updated: 2021-06-08)

Closed vs. Open-Set Tasks

- Open-set

PLAY

Closed vs. Open-Set Tasks

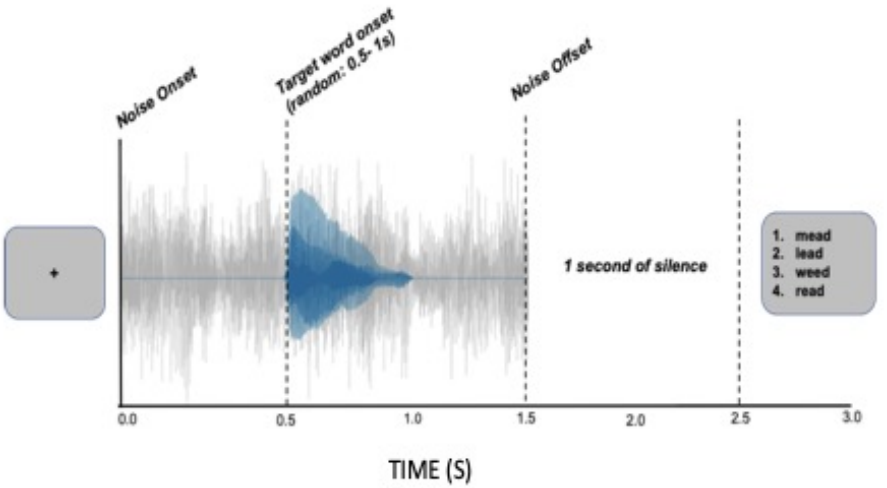
- Closed-set
  - Fall
  - Ball
  - Shawl
  - Wall

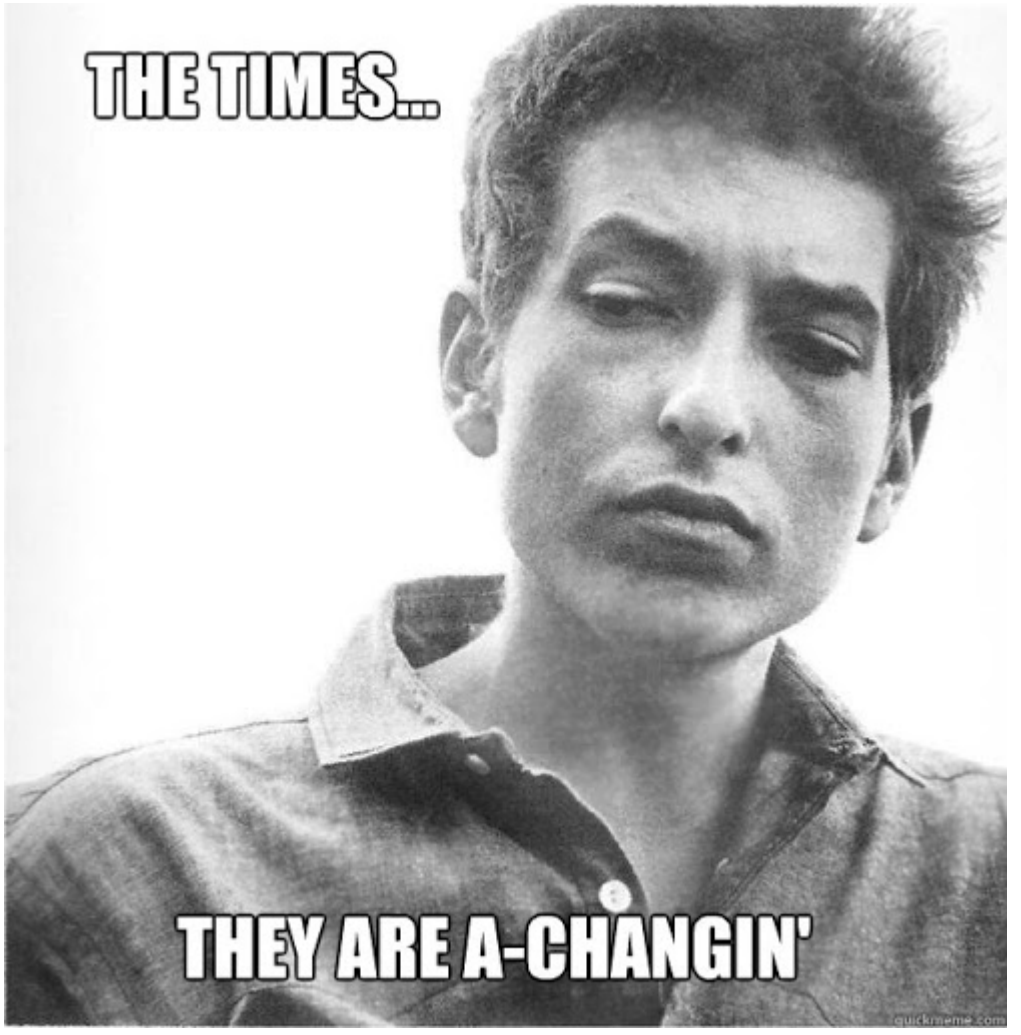
Issues

- Sentence based (open-set) tasks are generally preferred as they are the most ecologically valid
- However:
  - Open-set tasks are difficult to use experimentally
    - Engages a whole host of processes not related to speech perception
- We need a closed-set task that better approximates everyday listening situations
  - Lexical competition
  - Talker variability

Iowa Test of Consonat Perception

- 4-AFC closed-set (single word) SiN task
  - 120 target words -Spoken by 4 speakers (2 women)
  - Foils were minimal pairs differing by first consonant




THE TIMES...
THEY ARE A-CHANGIN'
quickmeme.com

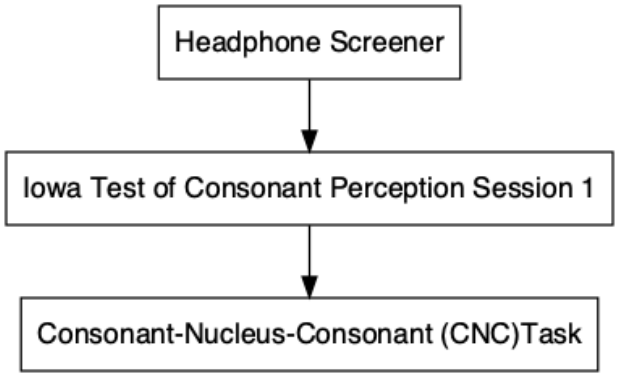
Procedure

- Two sessions (1 week apart)
  - Used Gorilla and Prolific

Factor	M/N(range and %)
Age	27 (23, 35)
Gender	
Female	48 (49%)
Male	48 (49%)
Other	1 (1.0%)
Race	
Asian	9 (22%)
Black or African American	11 (27%)
White	21 (51%)
Unknown	56

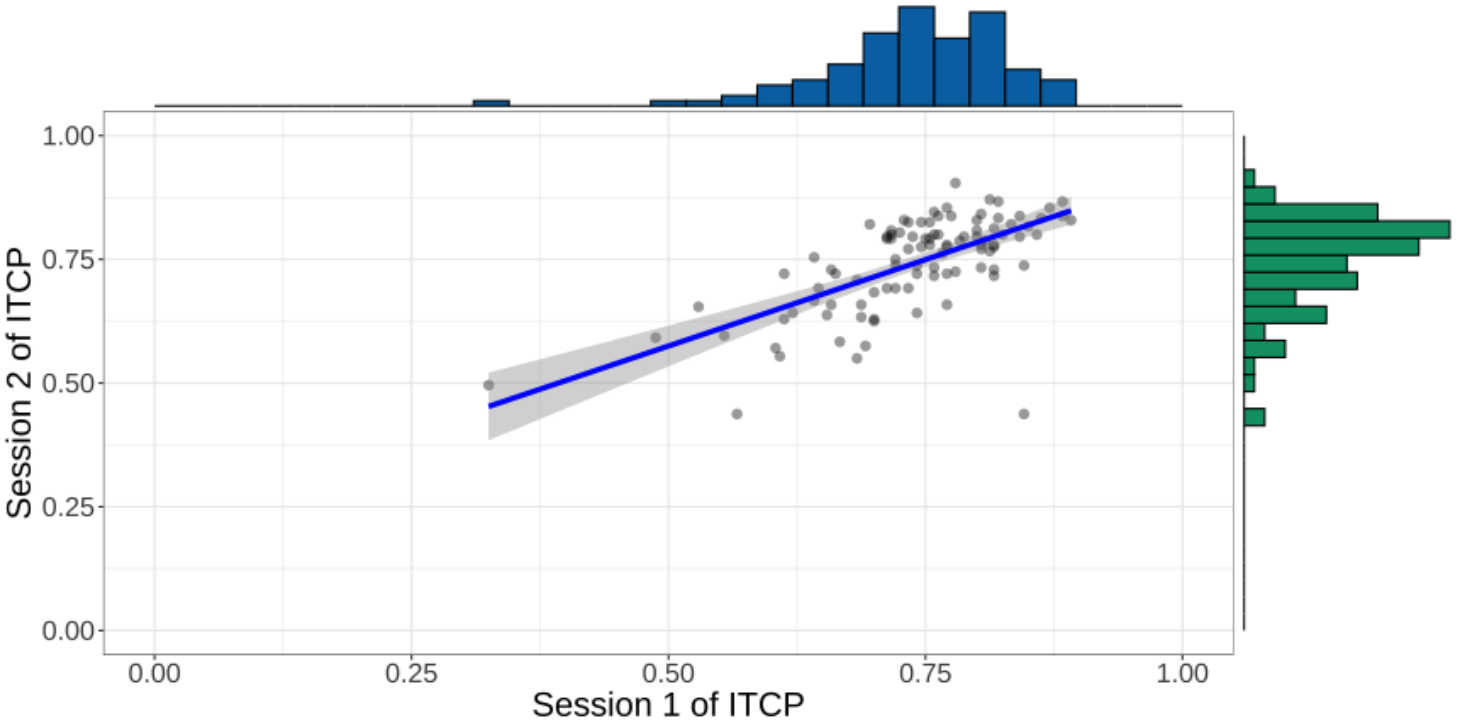
Procedure

- Session 1 (N=199)
- Session 2 (N=98)



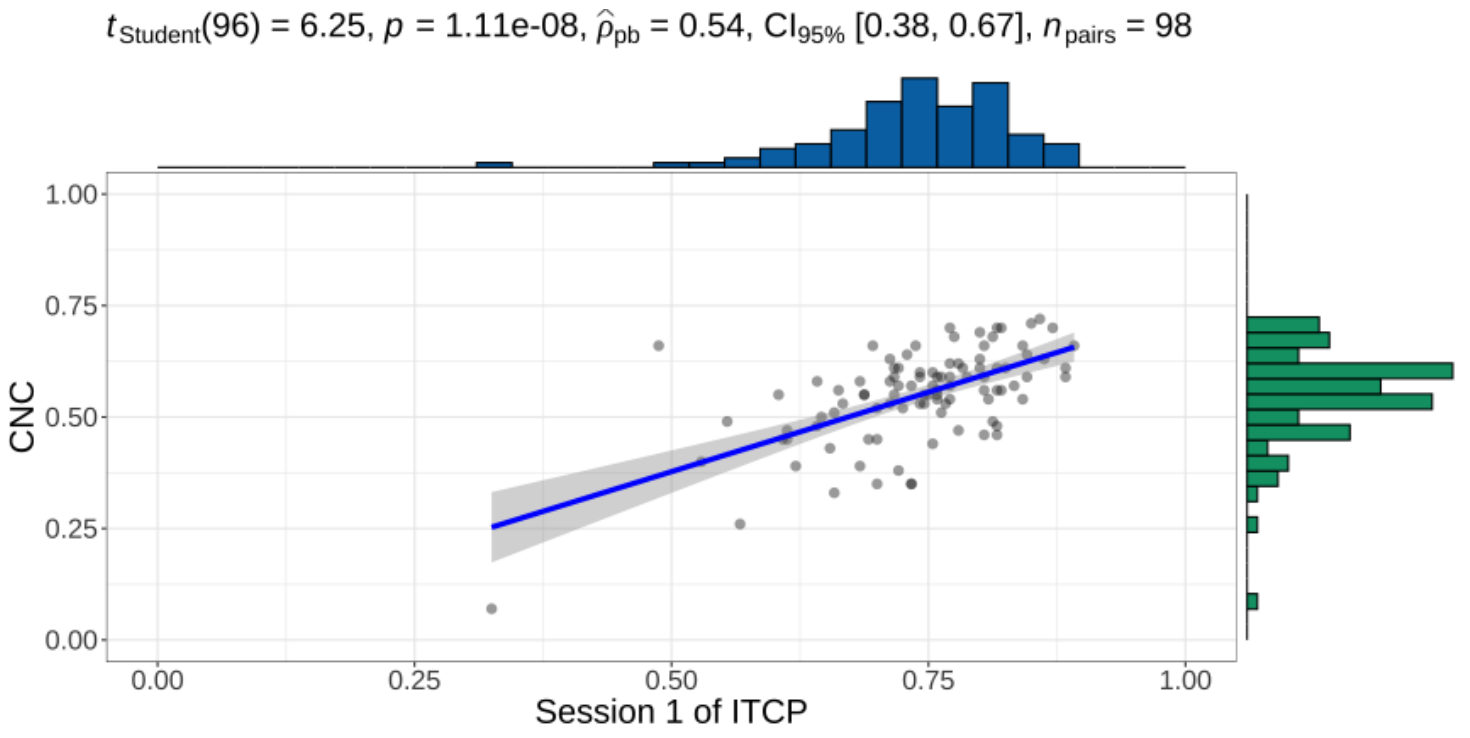
Reliability

- Test-Retest
  - ICC = .8



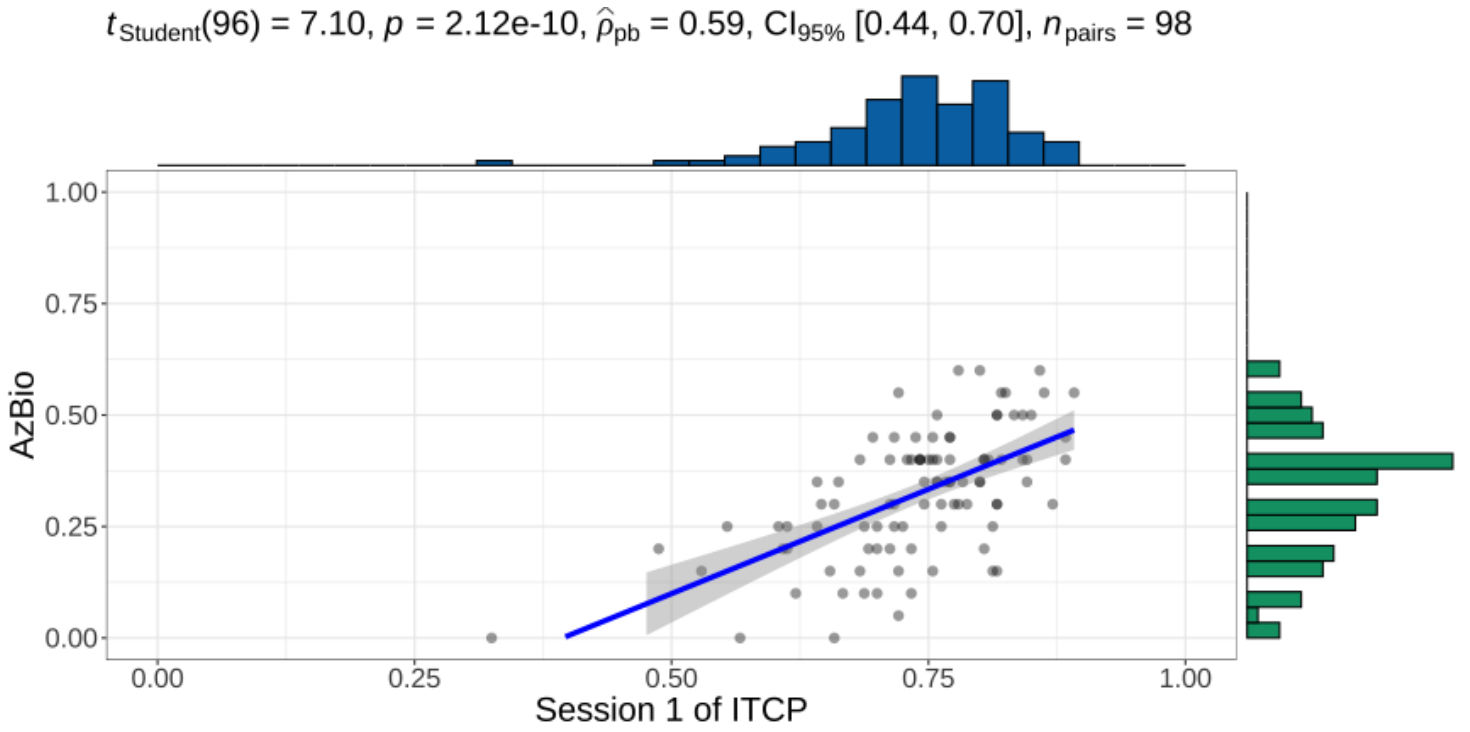
Validity

- CNC Lists 1 and 4



Validity

- AzBio
  - 1 list of 20 sentences



Future

- Validate in lab
  - We have data from 50 participants and data look comparable.
- Can we use this type of online testing for patients (e.g., Cochlear implant patients)

What Future Me Learned From Past Me

- Give bonuses for completing second session - set up separate studies on recruitment platform.
- Be explicit in your study subscription.
- Email subjects multiple times to remind them of an upcoming session.
- Try to make experiment length reasonable