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

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BeOnline 2021

Open-Set vs. Closed-set SiN Tasks

- Open-set

PLAY

Closed vs. Open-Set Tasks

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

Issues

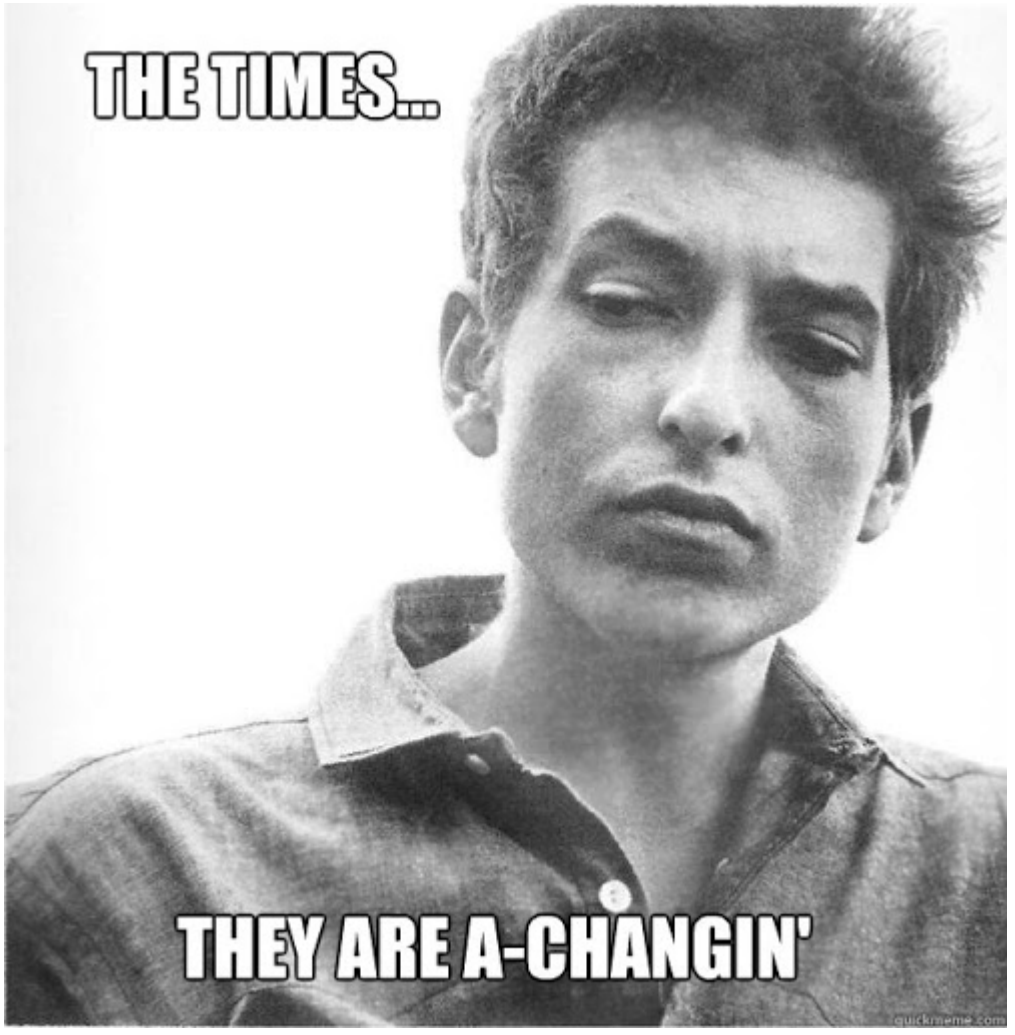
- Sentence-based (open-set) tasks are generally preferred as they are the most ecologically valid
- However:
  - Open-set tasks are difficult to use experimentally
    - Engages a whole host of processes not related to speech perception
- We need a closed-set task that better approximates everyday listening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

Iowa Test of Consonant Perception

- 4-AFC closed-set (single word) SiN task
  - 120 target words
    - Each target word belongs to a set and within the set appears as target and foil
    - Each word spoken by 4 speakers (2 women)
  - Minimal pairs differing by first consonant
- Uses multi-speaker babble

PLAY

- All analysis scripts, materials, and data are available at our OSF page.
  - Roll your own ITCP

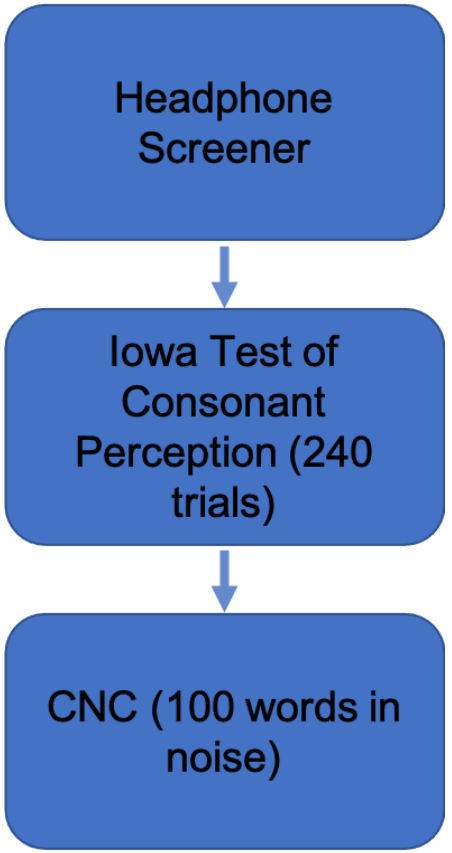

THE TIMES...
THEY ARE A-CHANGIN'
quickmeme.com

Procedure

- Two sessions (spaced one week apart)
  - Gorilla
  - Prolific

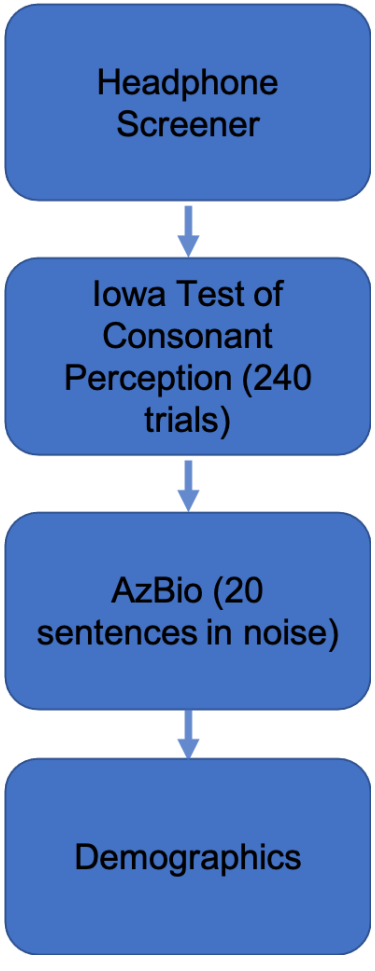
Procedure

- Session 1 (N=199)



Procedure

- Session 2 (N = 98)



Procedure

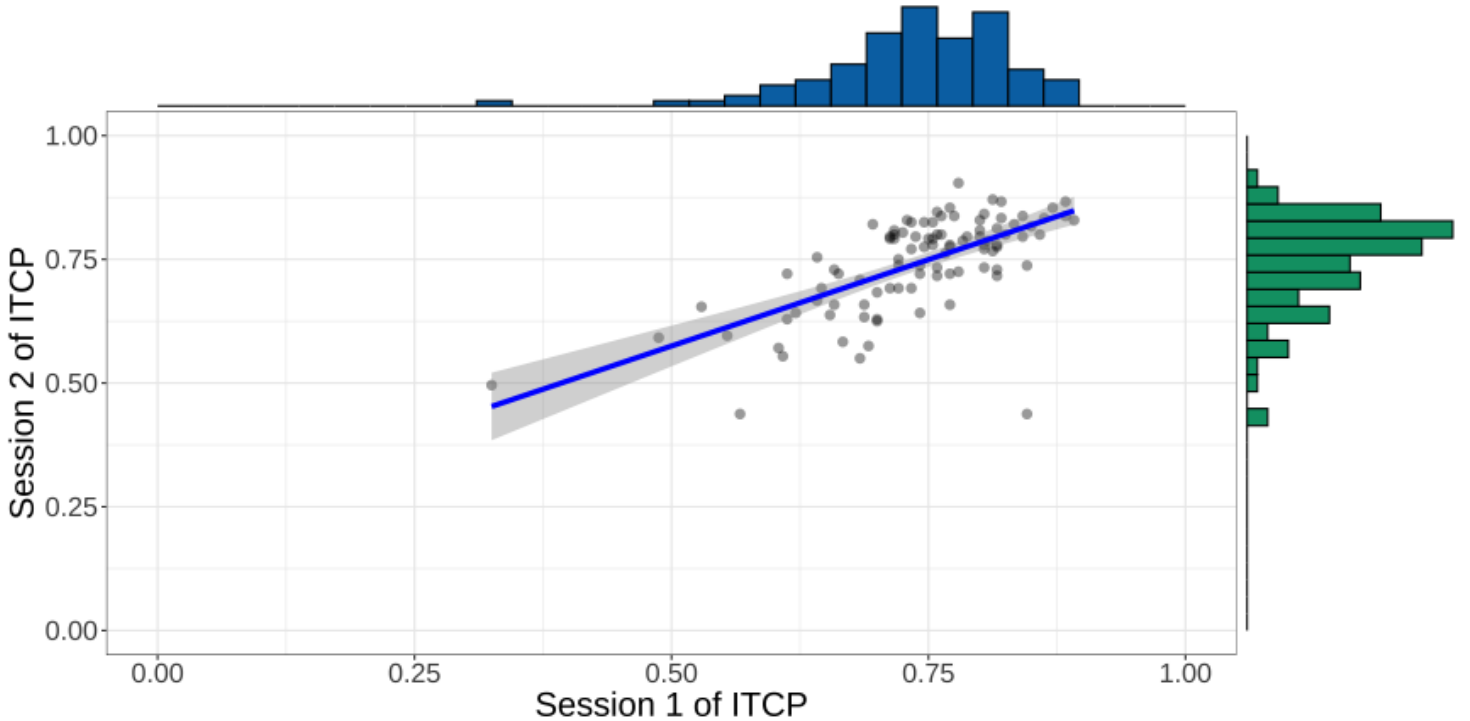
- Let's try it out! https://app.gorilla.sc/openmaterials/97811

Pilot

- Performance in Silence
  - N = 50
    - M = 95%

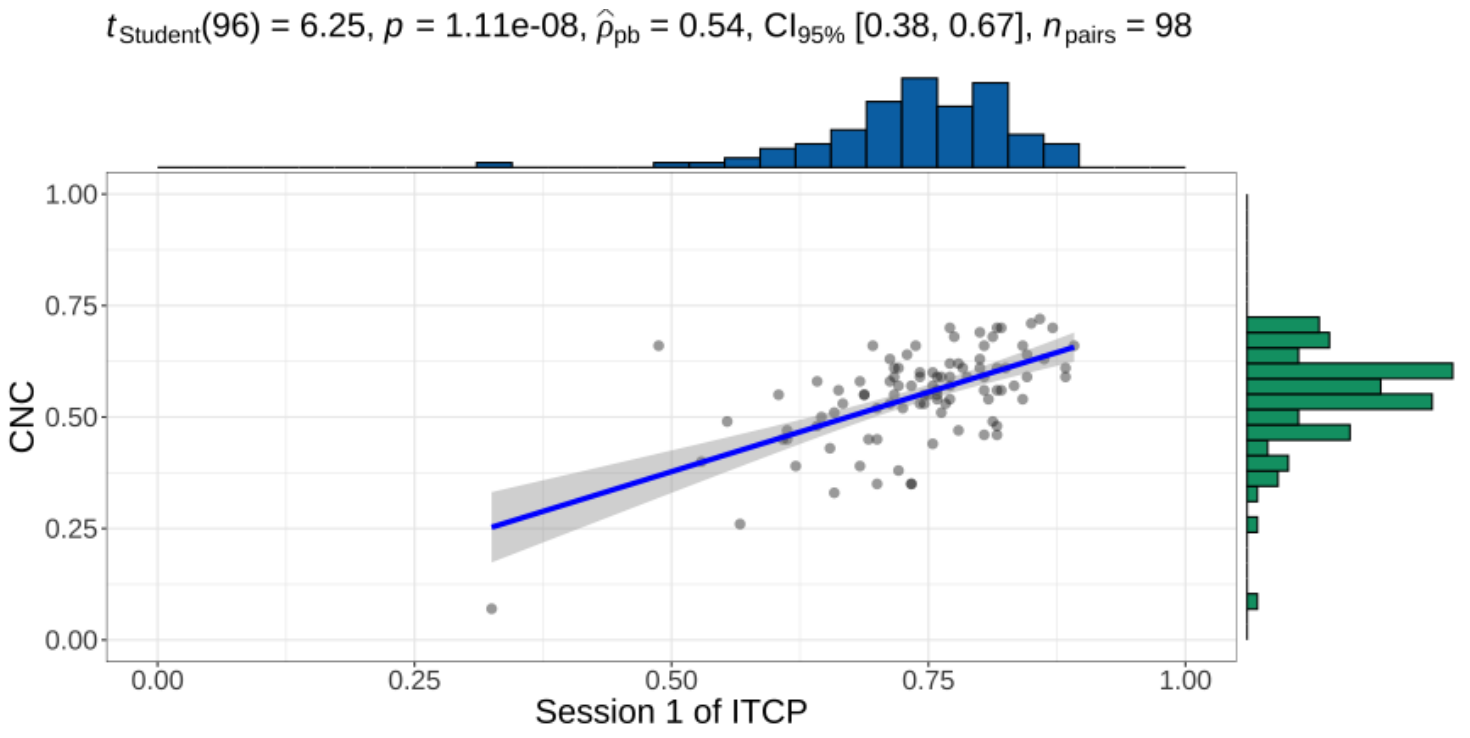
Reliability

- Test-Retest
  - ICC(A,2) = .80



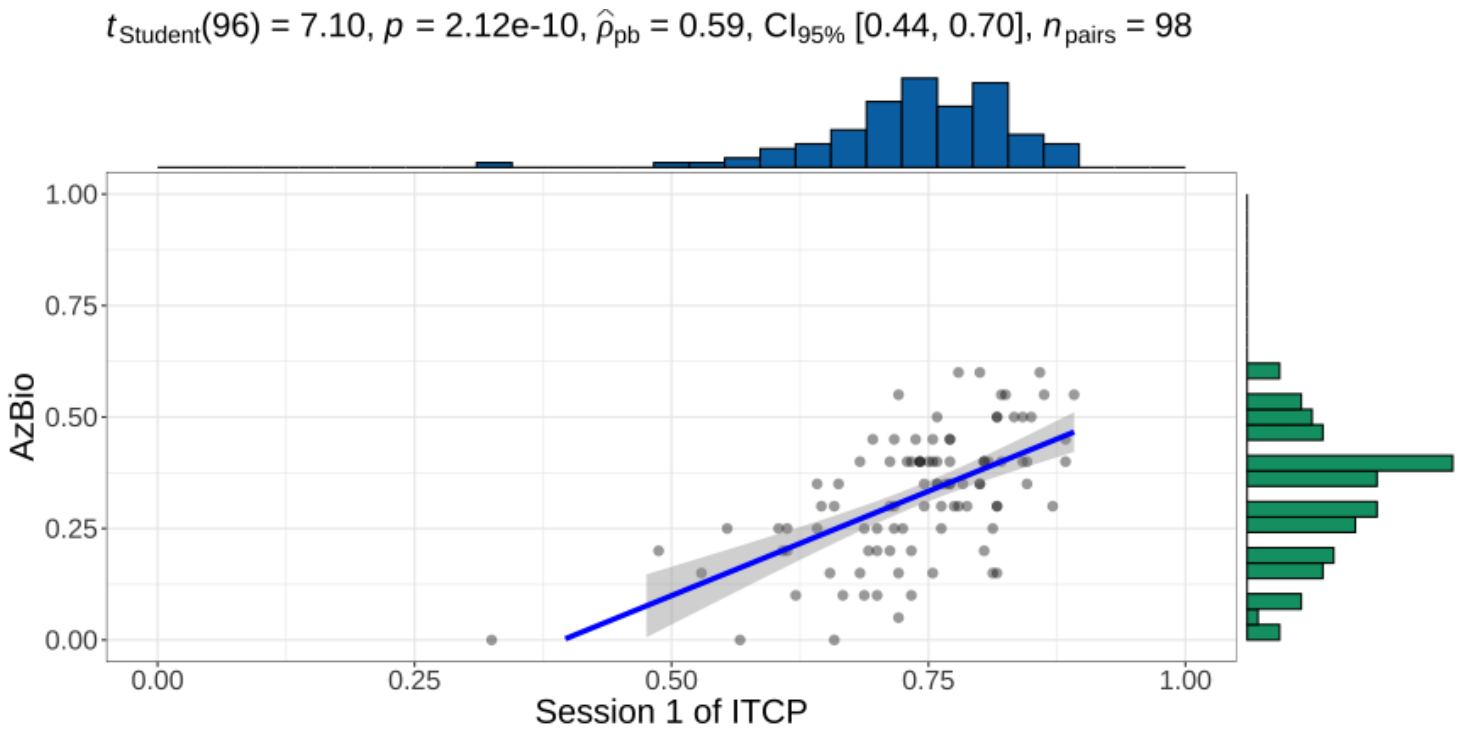
Validity

- Session 1 of ITCP and CNC

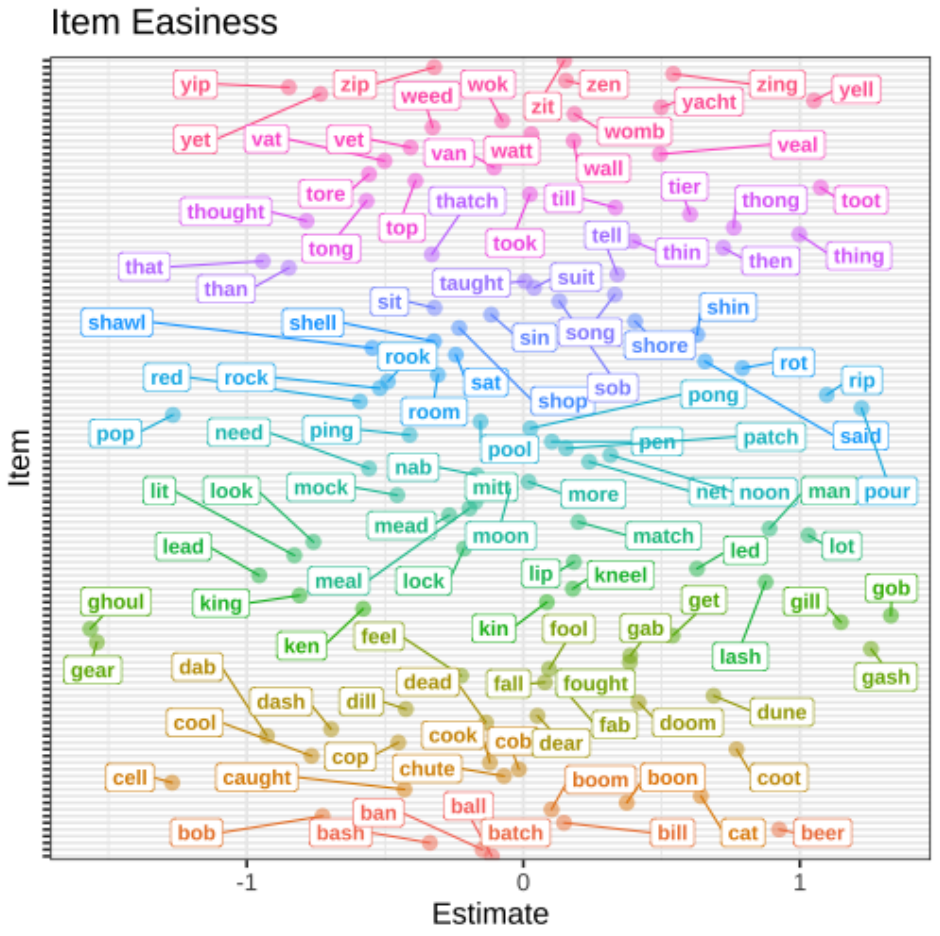


Validity

- Session 1 of ITCP and AzBio



IRT Model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bill
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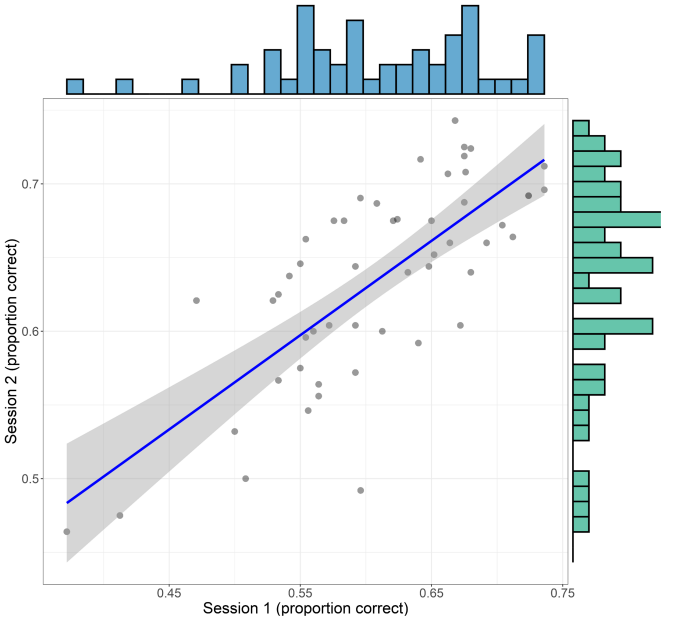
beer
bob

Future Directions

- Validation in lab
  - We do have data from 50 participants and data look comparable.
- Online testing for patients (e.g., hearing aid and cochlear implant users)
- Use it Experimentally



What Present Me Learned From Past Me

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

Thank You

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