Speech versus Song: Can Infants Tell Them Apart?

Meyha Chhatwal[1], Dr. Christina Vanden Bosch der Nederlanden[2]

[1]Department of Psychology, University of Toronto | [2]Department of Psychology, University of Toronto Mississauga

Contact: meyha.chhatwal@mail.utoronto.ca | X (Twitter): @meyha_c | www.utmlamalab.com

Introduction

- Caregivers regularly communicate with infants through speech and song.
- Several studies examine infants processing of speech and song, but do not examine their ability to distinguish speech from song or control for acoustic confounds.[1,2,3,5,6]
- **Our Aim:** Investigate whether infants differentiate spoken from sung modalities using a modified stimulus alternating preference procedure (SAPP).[4]

Predictions

1: Infants younger than 6 months of age will not look longer during alternating trials than non-alternating, suggesting they do not differentiate between modalities.

2: Infants older than 6 months of age will look longer during alternating than non-alternating trials, suggesting they have formed distinct categories for speech and song.

3: Adults will have greater dissimilarity ratings for alternating trials than non-alternating trials, suggesting they perceive speech and song as more distinct than speech vs speech or song vs song.

Implications

- Adults will readily differentiate speech and song using similarity ratings that mimic looking time (LT) responses from infants
- Higher LT for alternating trials in older infants but not in younger infants would suggest the emergence of domain-specific processing on or around the first birthday
- This work will further our understanding of the developmental trajectory for the cognitive/perceptual processes behind infant music & language perception
- Future work may examine whether a lack of differentiation between speech and song is related to an inability to apply domain-specific knowledge (e.g., exact pitch intervals must be maintained in song, but not speech) in younger compared to older infants

Methods

Participants

- Adults: 18- to 35-year-olds
- Infants: 4- to 5-month-olds (n = 7) *and* 11- to 12-month-olds (n = 5)

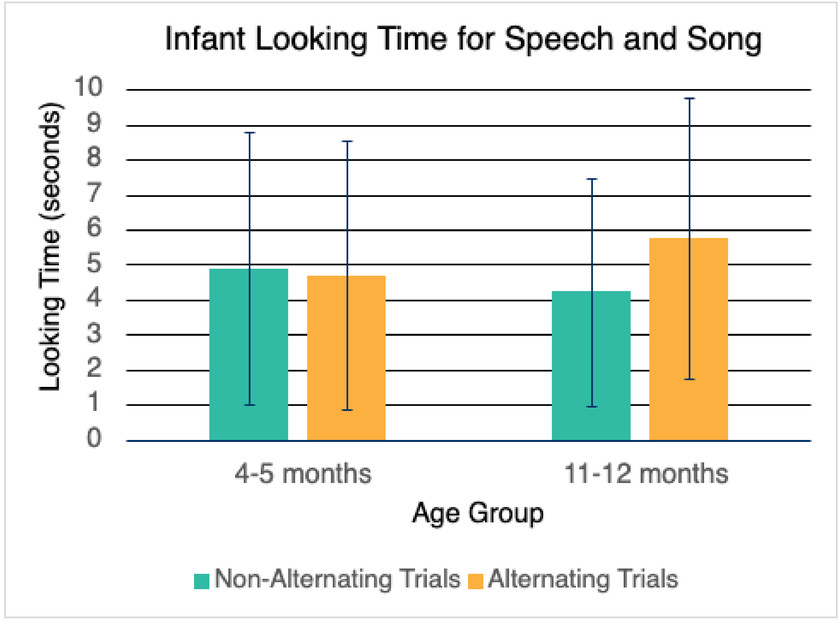
Stimuli

- Infant-directed spoken and sung versions of "George & Martha" children's books
- Stimuli are matched for total duration, semantics, and average F0

Procedure

- Modified SAPP[4]
- Infant-controlled paradigm
- Habituate Speech → Speech, Song- Speech
- Habituate Song → Song, Speech-Song
- Test trials (14): 7 alternating, 7 non-alternating
- Adults will provide ratings of similarity for current, compared to previous, excerpt (hybrid oddball[4])
- Between subjects for infants, within subjects for adults

Preliminary Results



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