Introduction

- 11-month-olds comprehend several vowel-initial words (ex. arm, ear, eye, eat)
- The ability to segment vowel-initial words does not appear until 13.5-16 months\(^1\)
- One study\(^2\) found that 11-month-olds can only segment vowel-initial words in some contexts

Research Question

- Do function words facilitate the segmentation of sentence-medial vowel-initial words?

Function words can be known words to infants

- At birth: able to discriminate between function and content words\(^3\)
- 7-9 months: able to segment function words from two word sequence\(^4,5\)
- 11-months: able to segment nonsense word ‘breek’ preceded by the in a two word sequence, but not a phonetically-matched kuh; 8-month-olds segment with the and kuh\(^6\) (French 8-month-olds\(^7\))

Experiment 1: the role of function words

Participants: 16 monolingual English-learning 11-month-olds (11 boys, 5 girls) and 16 8-month-olds (8 boys, 8 girls)

Procedure: HPP (Headturn Preference Procedure)

Stimuli & Design

- Four target words: eff, ash, ice, oats
- Familiarization phase: 2 passages containing [ði + target word] phrase-medially - either eff & ash or ice & oats (accumulated looking time of 45 seconds to each passage)
- ex. I like how the eff runs the circus.
- Test phase: multiple repetitions of each target word, 3 blocks of 4 trials each (total 12 trials)

Results

Experiment 2: Ruling out phonotactics

- By this age, infants are sensitive to native language phonotactics\(^8,9\) & use phonotactics to segment words\(^10,1\)
- One possible bottom-up cue: English bans 2 consecutive vowels within a word, [ði#ef]

Participants: 16 11-month-olds (11 boys, 5 girls)

Procedure: Same as Experiment 1

Stimuli & Design: Same except familiarization phase

- [CV words + target] ex., “saw oats”
- ex. I saw oats standing on his head.

Experiment 3: Ruling out glottal stop [ʔ] onset

- By this age, infants can use allophonic cues to segment words\(^12\)
- In some contexts (occasionally in Exp 1), vowel initial words in English begin with glottal stops

Participants: 16 11-month-olds (12 boys, 4 girls)

Procedure: Same as Experiment 1

Stimuli & Design: Same except familiarization phase


Conclusion

- 11- but not 8-month-olds can use the frequently occurring function word the to segment sentence-medial vowel-initial words
- Neither the phonotactic cue (Exp 2) nor the presence of the glottal stop at the onset of the vowel-initial word (Exp 3) can explain this segmentation
- Function elements facilitate children’s language development

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