

THE ROLE OF WITHIN- AND BETWEEN- TALKER VARIABILITY IN EARLY WORD LEARNING

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Talker variability

Words sound different every time they are produced, even by the same talker. How does talker variability impact language learning?



- Contending with variability has been thought to be difficult for learners (e.g. Jusczyk et al., 1992; Ryalls & Pisoni, 1997; Houston & Jusczyk, 2000)
- But it can also be helpful for learners: training with within- or between- talker variability helps 14-month-old infants learn novel minimal pairs (Rost & McMurray, 2009; Galle et al., 2015)

Infant's representations of words are often underspecified

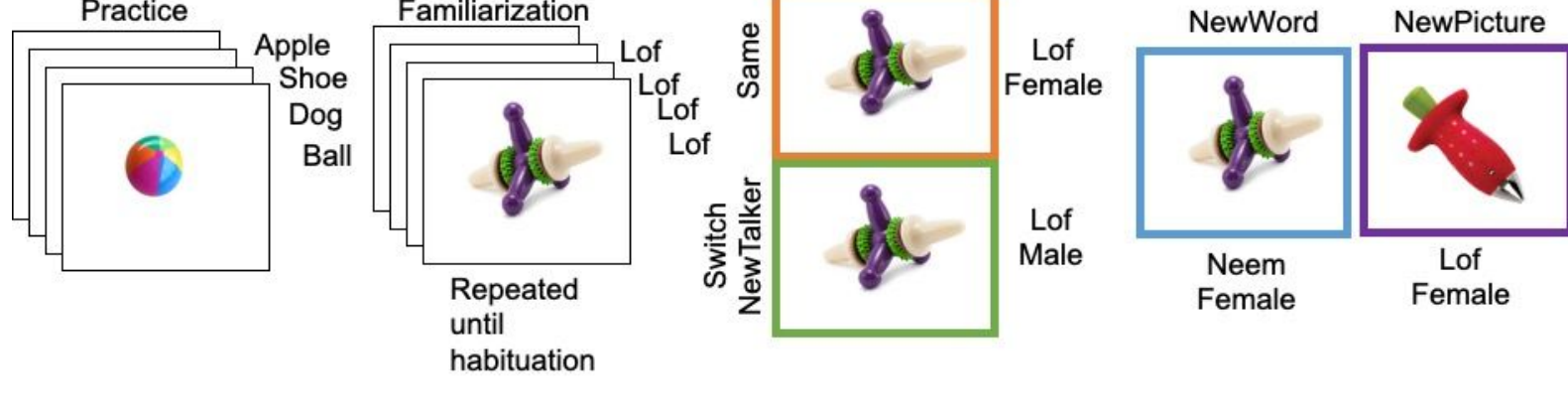
- At 8 months of age, infants:
 - Are learning new words (e.g. Bergelson & Swingley, 2012; Stager & Werker, 1997)
 - But sometimes have difficulty recognizing acoustically-different instances of words
 - by a new talker (Houston & Jusczyk, 2000)
 - in a new affect (Singh, 2008)

Does talker variability help infants form appropriately broad representations of words?

Methods

Participants: 54 7-9 month old infants (M = 7.98, 26 female)

Task: Single-object switch task; one object-word pair



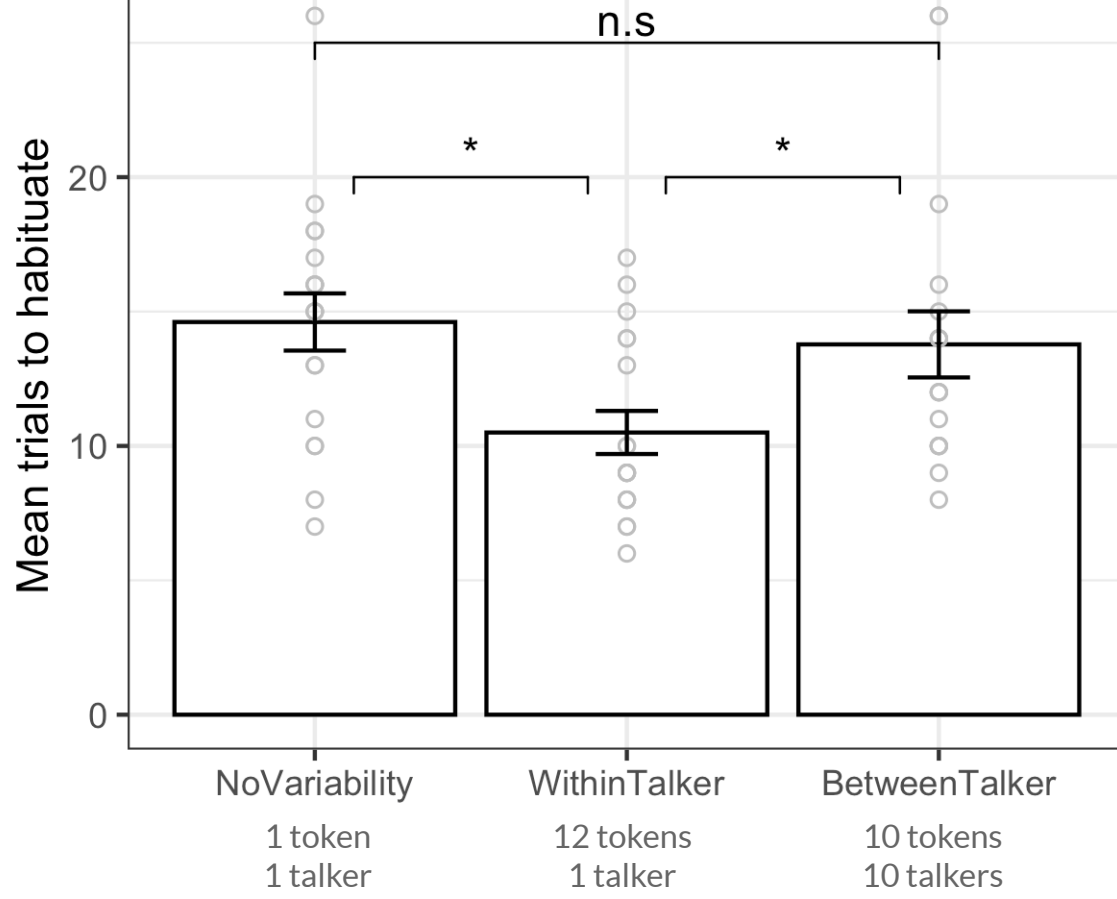
Familiarization = all female talkers
SWITCH trial = new male talker

Three talker variability conditions:

- No Talker Variability - 1 repeated token from a female talker
- Within-Talker Variability - 12 variable tokens from a single female talker
- Between-Talker Variability - 10 tokens from 10 female talkers

Fennel & Waxman, 2010; Stager & Werker, 1997

Results: time to habituate

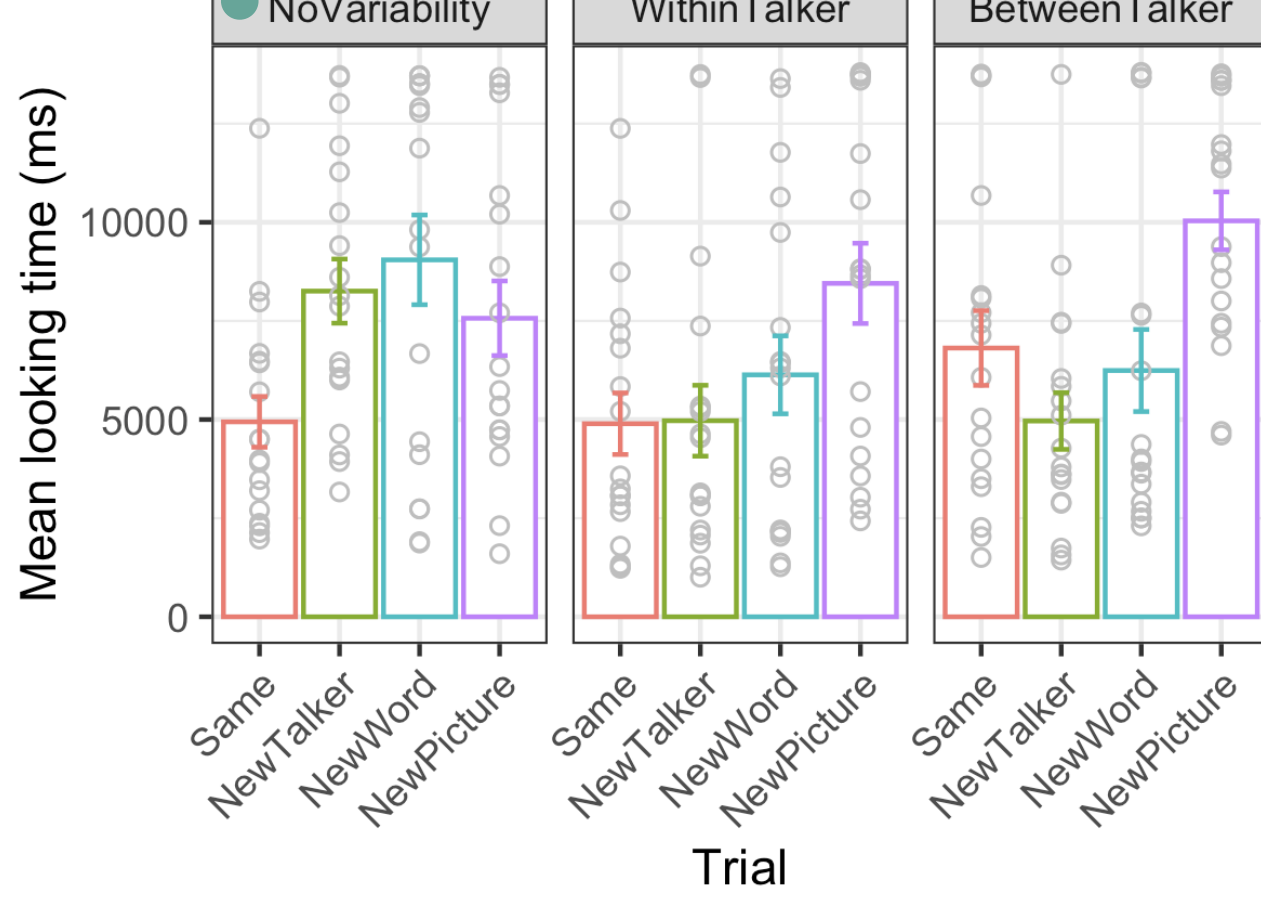


- Within-Talker Variability leads to fastest habituation
- No Variability and Between-Talker Variability do not differ

Results: looking time on test trials

- NewTalker trial: do infants dishabituate when they hear a new male talker?
- Control trials: do infants dishabituate when they hear a new word or see a new picture

Replicated on Zoom!



- No Talker Variability: any change = dishabituation
- Both Talker Variability conditions: only new picture = dishabituation

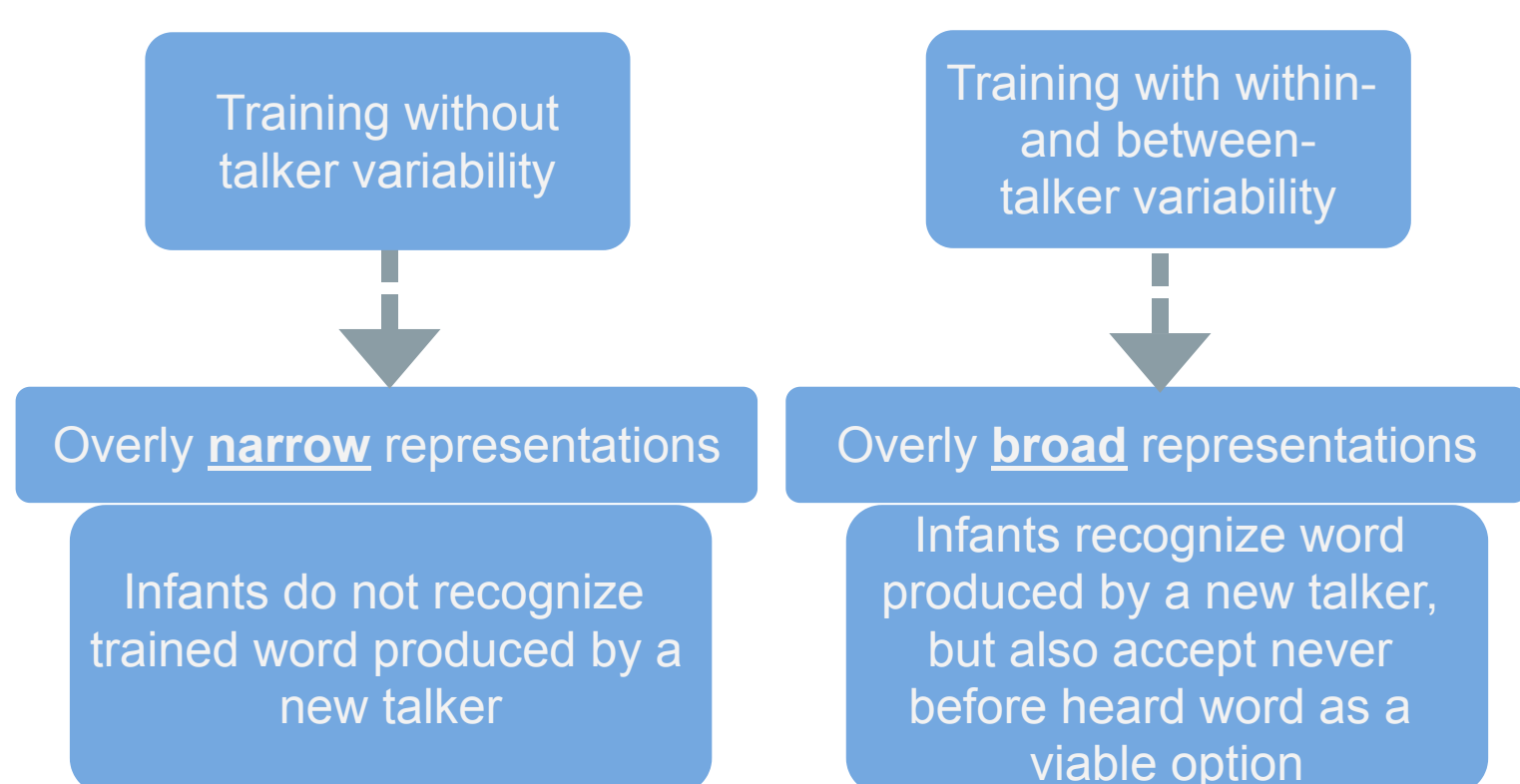
Discussion

Talker variability shapes early word representations

Learning is fastest when hearing Within-Talker Variability

- Within-Talker Variability may be easiest to learn from
- ~2/3 of input in naturalistic corpus is from infant's primary caregiver - i.e. mom (Bergelson & Aslin, 2017)

Representations are influenced by talker variability during learning



Future directions

- Is talker variability particularly helpful for rejecting mispronunciations?
- Does bilingual experience shape early word representations?

Questions?
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[Stimuli and preprint on OSF](#): "Talker variability shapes early word representations in English-learning 8 month olds"