Generalizing Across Gender During Early Word Learning

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Materials
- The familiarization corpus consisted of a naturally produced Italian speech stream with four embedded target words.
- Two words were HTP (TP=1.0) because their syllables always co-occurred, and two were LTP (TP=33) because their syllables also occurred in other words.
- A native female Italian speaker produced 2 counterbalanced corpora, using target novel words (casa, bicicleta, fuga, and melo).
- A novel, male native Italian speaker produced the same four target novel words in isolation to be used in the word-learning phase.

Procedure
Familiarization Phase: Infants listened to an Italian speech stream produced by a female voice while watching a cartoon (~2min 30 sec).

Word-Learning Phase: Following familiarization, infants were trained and tested on two novel label-object pairings produced by a novel male speaker using the Switch Paradigm. Labels were the HTP words from the corpus.

Training. Infants were habituated to two novel label-object pairs. On each trial infants saw one object and heard the corresponding label. Object-label presentations continued until infants showed a 50% decrease in looking from the first to the last 3 training trials, or after 25 trials.

Testing. At test, infants were presented with both Same trials, in which the object-label pair from habituation was maintained, and Switch trials, in which original object-label pairs were violated (i.e., Object A with Label B and vice versa). There were a total of 4 Same and 4 Switch trials counterbalanced across 8 testing orders.

- If infants learn the object-label pairings, they should look longer on Switch trials than on Same trials.

Results
- A paired t-test revealed that infants did not look significantly longer on Switch (mean = 7.49 sec, SD = 3.30) than on Same trials (mean= 7.36 seconds), p > .8, suggesting that they did not learn the label-object pairings.
- At 17 months, infants may have a difficult time recognizing the words in training (male voice) as being the same as the words that they pulled out of continuous speech (female voice).
- Alternatively, infants may have failed to segment the HTP words from the speech stream.

Thus, we do not yet know how specifically infants represent indexical (speaker) information in words that are newly segmented from natural speech.

The reasons for our failure to replicate previous work remain unclear; however, one contributing factor may involve the participants’ language proficiency.

Further work will be necessary to identify how infants are representing these statistically defined words.

References


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