A meta-analysis of mispronunciation sensitivity in infancy

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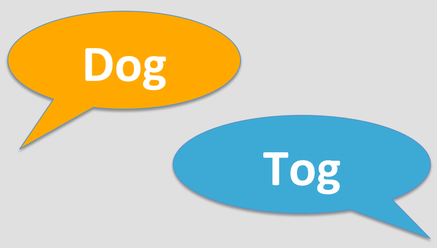
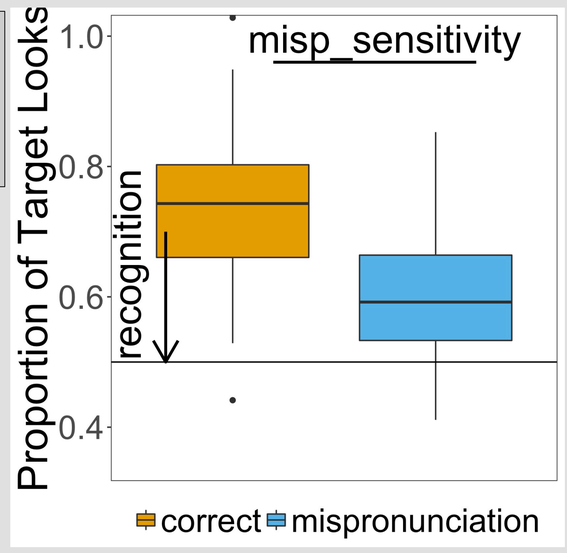
Mispronunciation Sensitivity

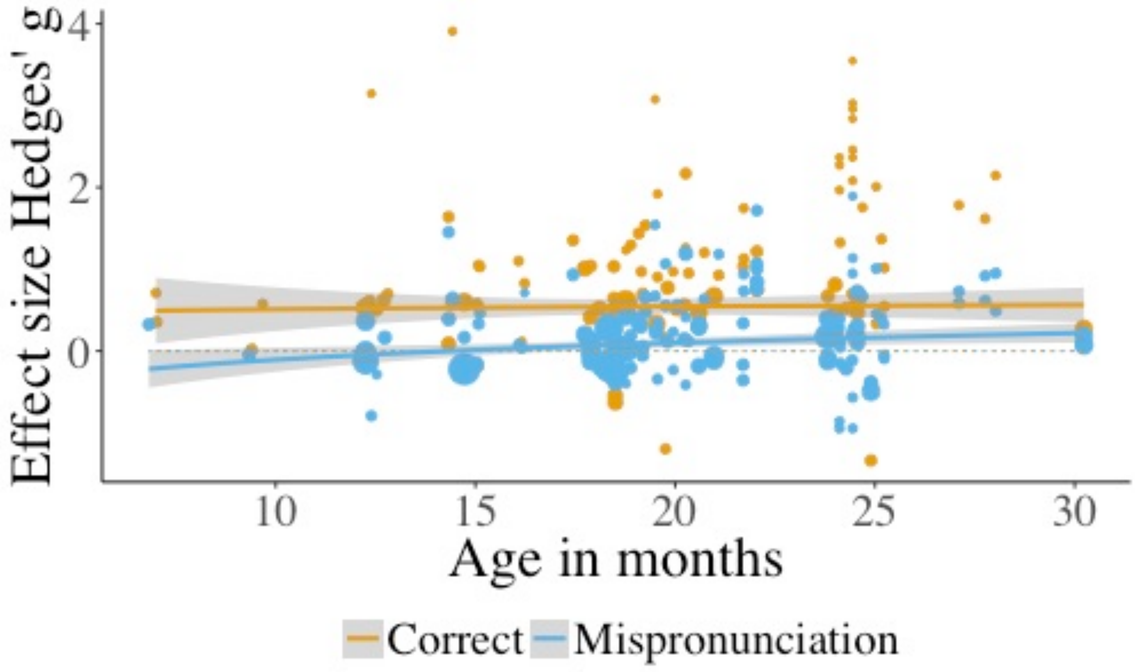
Infants' sensitivity to changes in the phonological form of familiar words





How does mispronunciation sensitivity change as infants develop?

1) More sensitive with development[1]
2) Less sensitive with development[2]
3) No change in sensitivity with development



Correct

Recognition: $g = 0.91$, SE = 0.12, $p < .0001$

Mispronunciation

Recognition: $g = 0.25$, SE = 0.06, $p < .0001$

Correct vs. Mispronunciation

Sensitivity: $g = .5$, SE = .03, $p < .0001$

Interactions with Age

No significant interactions with Age

MetaLab

What's in your File Drawer?

Do you have a mispronunciation study that is unpublished?

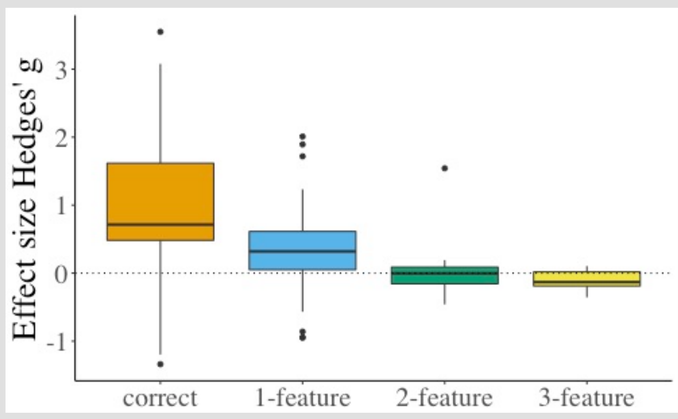
Contact us and add it to our meta-analysis!

Database Information

- 32 papers (27 journal articles)
- 249 unique experimental conditions
- 2252 infants
- 6 to 31 months-of-age

Participants	Stimuli	Procedure	Results
Age in days	# features	# trials	DV type
Sample size (*n*)	Change position	Distractor familiarity/ overlap	vocabulary
Native Language	Consonant/vowel		misp sensitivity

Does the number of phonological features changed modulate mispronunciation sensitivity?



Features

Number: $g = -0.31$, SE = 0.03, $p < .0001$

Interactions with Age

No significant interactions with Age

Focus on ages 18 to 30 months where feature is manipulated

Does familiarity with the distractor image modulate mispronunciation sensitivity?

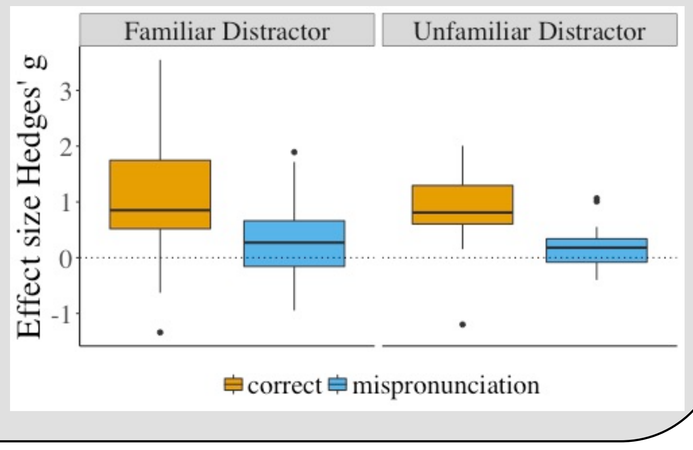
Distractor Familiarity

Sensitivity: $g = 0.19$, SE = 0.09, $p < .05$

Interactions with Age

No significant interactions with age

**Focus on ages 18 to 25 months where familiar & unfamiliar distractors used*



Conclusions

- Sensitivity to mispronunciations stays consistent as infants age (Theory 3)
- Sensitivity to mispronunciations increases as the number of features changed increases; consistent as infants age
  - Infants are sensitive to size of mispronunciation[3,4]
- Mispronunciation sensitivity greater with unfamiliar distractor; consistent as infants age
  - Unfamiliar object is a more viable option for mispronunciation than known familiar object[5]

References

1. Werker & Curtin (2005). PRIMIR: A Developmental Framework of Infant Speech Processing. *Lang Learn and Dev*
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4. Mani & Plunkett (2011). Does size matter? Subsegmental cues to vowel mispronunciation detection. *J of Child Lang*
5. Halberda (2003). The development of a word-learning strategy. *Cognition*

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