Bilingual Infants' Perception of Handshapes in American Sign Language

Elizabeth S. Norton, Stephanie Baker and Laura-Ann Petitto

Departments of Psychological & Brain Sciences and Education, Dartmouth College, New Hampshire

QUESTIONS

How do young babies discover linguistic units from the constantly varying stream of information around them? Do monolingual and bilingual babies do this in the same way?

BACKGROUND

By 4 months, babies have the capacity to discriminate phonetic units in all of the world's languages, including signed languages, even with no experience [1-4]

By 14 months, babies lose this universal sensitivity to phonetic contrasts,[1, 5-7] but gain an increased sensitivity to their native language contrasts

Bilingual children process and acquire language with the same mechanisms , on the same timetable as monolinguals, with no delay or confusion [8-13]

HYPOTHESES

The Equivalent Hypothesis: All babies find salient select contrasting features in the input (phonetic units) and compare them based on category membership. Both monolingual and bilinguals should show the same pattern of discrimination.

The Perceptual Wedge Hypothesis: Bilingual infants process and compare contrasting linguistic features based on category member-ship like monolinguals, but their increased language exposure acts like a wedge that keeps open the ability to perceive a *greater number* of linguistic contrasts and over an *extended window* of development.

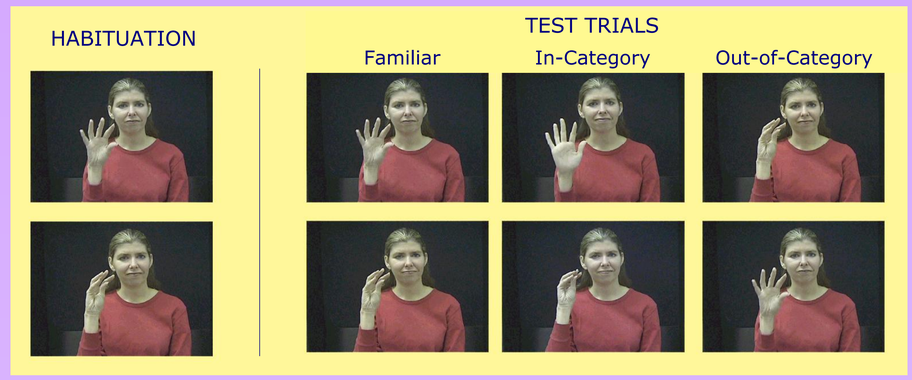
PREDICTIONS

Young hearing bilingual babies of all language backgrounds should treat soundless handshapes of ASL like any other linguistic (spoken) phonetic unit and exhibit the classic profiles for the categorization of speech sounds[14, 15]

- 4-month-old hearing bilinguals will discriminate ASL handshapes on the basis of category membership, like monolinguals
- 14-month-old hearing bilinguals will discriminate all novel ASL handshapes regardless of category membership, exhibiting greater and extended abilities to perceive these contrasts

PROCEDURE

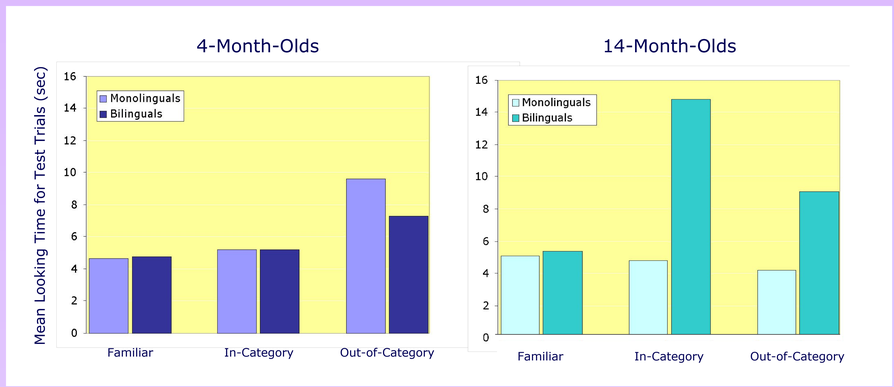
Why signed phonetic contrasts?
-greater test of linguistic vs. sensory mechanisms



PRELIMINARY RESULTS

4-month-old hearing bilingual infants show similar patterns of perception to monolinguals, suggesting that the brain is not only built to discriminate the units of a single language

14-month-old hearing bilinguals show sensitivity to all novel phonetic units, suggesting that
exposure to multiple spoken languages yields
- a greater sensitivity to linguistic contrasts
- an extended sensitivity to these contrasts beyond the monolingual "window"



PARTICIPANTS

Hearing bilingual infants

4-month-olds	11-14-month-olds
N = 2	N = 3
Mean Age = 4.4	Mean Age = 13.0

PRELIMINARY CONCLUSIONS

A Bilingual Advantage

Contrary to claims in the field that young bilinguals are confused and delayed in acquiring language, early bilingual exposure yields a "bilingual advantage." Relative to monolinguals, they show an increased sensitivity to a greater range of phonetic contrasts, and an extended window of development for perceiving these contrasts

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CORRESPONDING AUTHOR: Dr. Laura-Ann Petitto, LAP@Dartmouth.edu, http://www.dartmouth.edu/~lpetitto
University of Pennsylvania Institute for Research in Cognitive Science, 2003