



Talker Variability and Infant Word Learning

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Study 2

Abstract

How do infants' representations for the sound patterns of words affect their ability to learn meaning? Using the splitscreen preferential looking paradigm with auditory familiarization, two studies examined how talker variation could affect 24-month-old word learning. In the first study, infants only learned the word which they had heard spoken by the same talker during auditory familiarization. This suggests that talker specific information is encoded, even when this encoding is detrimental to generalizing a newly learned word. In contrast, in the second study, when the task was to learn a familiar word spoken by a different talker, word learning was facilitated by prior exposure to many talkers using that word. This suggests that variation is one means whereby infants learn to generalize newly learned words.

Introduction

- By most accounts, 24-month-olds are veteran word learners: acquiring the meaning for a novel word in as little as one repetition.
- This poster suggests that this remarkable ability is limited depending on **who** is doing the talking.
- Infants' acoustic representations are initially **talker specific**.
- Only through **variation** across talkers do infants learn to recognize a given word in different contexts.

Study 1

Is talker specific information encoded when hearing and learning a word for the first time?

Procedure

- 1) Infants were familiarized with two sets of sentences: one set using the novel CVC doop, and the other the novel CVC nef. Each set was spoken by a different talker.
- 2) Infants were taught and tested on two new word-object pairings using the CVCs. Importantly, the training voice was one of the voices the infants had heard previously.

Figure 1. The SplitScreen Preferential Looking Procedure.

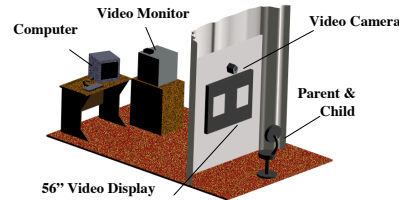
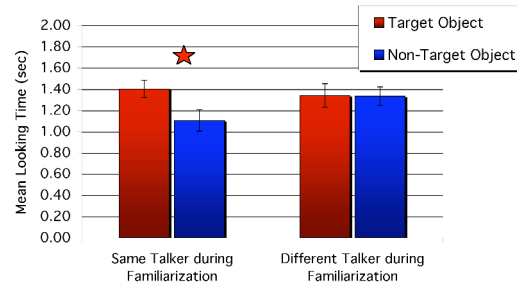


Table 1. Study 1 Design.

Visual Display	Sound Track
Familiarization	
Left Flashing Light	"The nef was round and shiny..."
Right Flashing Light	"The doop fell off the table..."
Right Flashing Light	"The nef was round and shiny..."
Left Flashing Light	"The doop fell off the table..."
Training	
Doop	"Doop, Doop, Doop"
Nef	"Nef, Nef, Nef"
Test	
Nef & Doop	"Nef, Nef, Nef"
Nef & Doop	"Doop, Doop, Doop"
Nef & Doop	"Doop, Doop, Doop"
Nef & Doop	"Nef, Nef, Nef"

** Note. Each set of trials was counterbalanced. Different Colors are different talkers. The test and training trials were repeated twice.

Figure 2. Talker Specific Encoding.



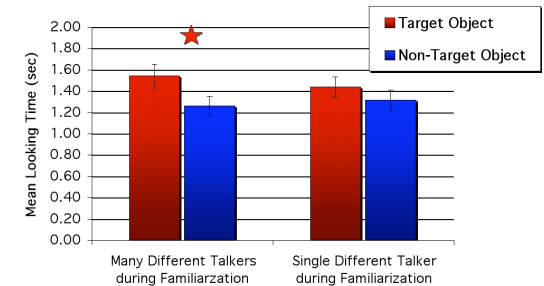
Can infants use the variation across talkers to discover invariant properties of words?

Table 2. Study 2 Design.

Visual Display	Sound Track
Familiarization	
Left Flashing Light	The nef was round and shiny...
Right Flashing Light	The doop fell off the table. The nurse found a new doop. The girls placed the doop by the dollhouse. Her doop did not look good...
...	
Training	
Doop	Doop, Doop, Doop
...	

** Note. Each set of trials was counterbalanced. Different Colors are different talkers. The test and training trials were repeated twice.

Figure 3. Talker Variation aids Word Learning.



Conclusions

- Study 1 found that **talker-specific** properties were encoded and used to help these infants recognize and learn the referents of these words.
- Study 2 indicated that **talker variation** is critical for the extraction of invariant properties of a word.

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