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Prosodic Focus Guides Word Learning and Alternative Processing

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1. OVERVIEW

To learn words, children must accurately select among referential alternatives; knowing what a speaker is referring can help determine the meaning of a novel word uttered by that speaker.

Here, we examined if children use **prosodic focus** to process what a speaker is referring to. Past research suggests that younger children do not have this ability.

Research Questions

1. Do children use **prosodic focus** to learn the **meaning of new words**?
2. Do children use **prosodic focus** to **process and remember the meanings of alternative referents**?

2. METHODS

24 toddlers (Mage = 3;3; range = 2;6-4;0)
48 adults did an **eyegaze study** with 4 trials.

All participants = monolingual English speakers.

Eyegaze Study:

Internet webcam study (eyegaze was hand-coded).

Trial Structure (4 trials):

1. WARM-UP (saw 2 actors and heard 2 names)
2. FAMILIARIZATION (saw 1 of the 2 actors)
3. **TEST** (saw 2 actors side-by-side)

TEST

What participants see...

Familiar Actor performing **Novel Action**
VS.
Novel Actor performing **Familiar Action**

What participants hear...

1) Noun-Accent

e.g., "Now **JOHNNY** is blicking"

VS.

2) Verb-Accent

e.g., "Now Johnny is **BLICKING**"

3. VISUAL PREFERENCE PARADIGM



Central Fixation Procedure (2 s)
"Hey watch!"



Warm-Up Phase (5 s)
"Oh look! It's Johnny and Billy!
Do you see? It's Billy and Johnny!"



Central Fixation Procedure (2 s)
"Oh look!"



Familiarization Phase (8 s)
"Wow look at him!
What is he doing? Wow look!"



Central Fixation Procedure (2 s)
"Wow get ready! Now **JOHNNY** is blicking!"
OR
"Wow get ready! Now Johnny is **BLICKING**!"

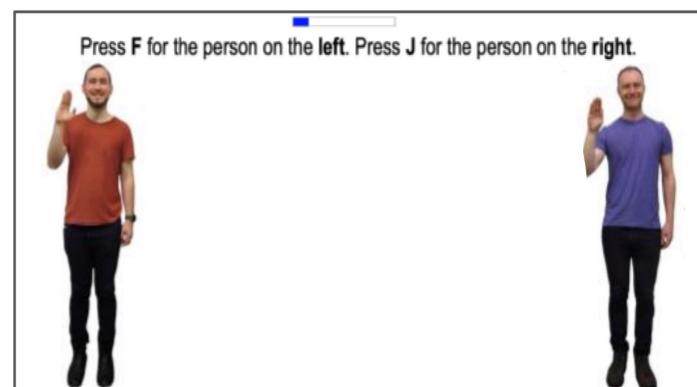


Test Phase (8 s)
"Do you see? Now **JOHNNY** is blicking!
Now **JOHNNY** is blicking!"
OR
"Do you see? Now Johnny is **BLICKING**!
Now Johnny is **BLICKING**!"

4. POST-EXPT MEMORY TEST FOR NAMES

Adult participants pressed "F" or "J" (Left or Right) to identify the names of the actors

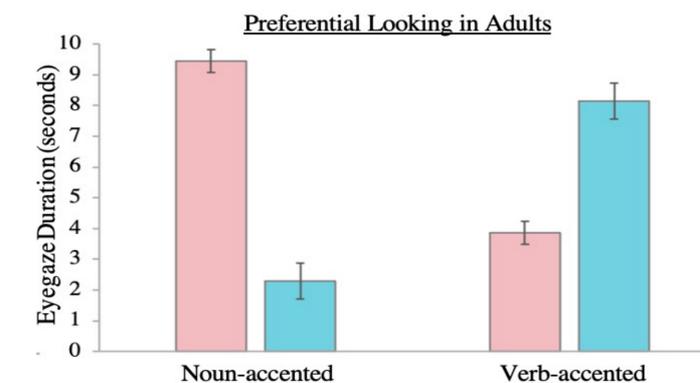
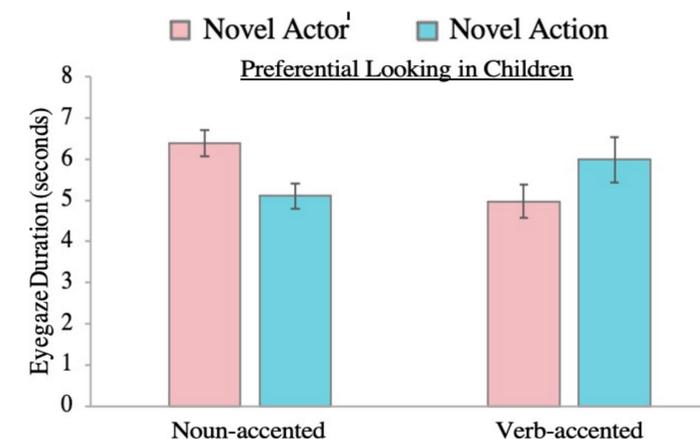
Children watched, and pointing gesture was recorded



"Where's Billy? Find Billy. Can you find Billy?"

5. RESULTS: EYEGAZE DATA

Children and adults use prosodic focus to select referents during word learning



Reliable effect of prosodic focus on eyegaze in children ($\chi^2(1)=4.69, p=0.03$) and adults ($p < .001$).

6. RESULTS: MEMORY FOR NAMES

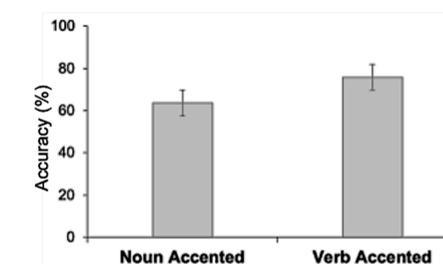
Children

of pointing gestures to the correct (green) and incorrect (yellow) person during memory test:

Noun-accented	Verb-accented	Noun-accented	Verb-accented
7/24	10/24	3/24	6/24

Adults

Memory selection accuracy (%) for names



Ongoing work: Examining word learning capacities in children learning a language (French) where prosody is not used to mark emphasis.