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## ► To cite this version:

Leticia S Kolberg, Alex de Carvalho, Anne Christophe. Toddlers fail to use prosodic information to guide their interpretation of novel verbs in ellipsis sentences. The 46th Boston University Conference on Language Development - BUCLD, Nov 2021, Boston, United States. 2021. halshs-04044487

**HAL Id: halshs-04044487**

**<https://shs.hal.science/halshs-04044487>**

Submitted on 24 Mar 2023

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# Toddlers fail to use prosodic information to guide their interpretation of novel verbs in ellipsis sentences

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**Take home message :** Children have trouble interpreting a novel verb inside ellipsis sentences differently from transitive sentences. This suggests that children's ability to use prosodic information to constrain their interpretation of novel verbs depends on the type of structure tested. More complex structures might take more time to be learned and/or require more cues to be correctly interpreted.

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## Introduction

Children have been shown to use prosodic information to constrain parsing [1-5]. However, this ability seems to vary depending on whether children are presented with familiar or novel words and simple or complex sentence structures.

## Previous studies.

[4]: French 2-year-olds can use prosody to disambiguate between right-dislocated (“[He is VERBing], [the boy]”, meaning the boy is “VERBing”) and transitive sentences (“[He is VERBing the boy]”, meaning someone is “VERBing” the boy) when presented with familiar verbs, but NOT with novel verbs.

[5]: Children succeeded in disambiguating right-dislocated vs transitive sentences with novel verbs when provided with more information about the syntactic contexts in which the novel verb could appear.

In the current study, we asked:

- Can children exploit prosodic cues to constrain their interpretation of a novel verb inside ellipsis sentences?

## Method

**Participants.** Fifty-five 30-to-42-month-old French-learning children.

## Procedure.

1. Children listened to dialogues introducing the novel verb ‘to *dase*’ in one of two conditions:

**transitive+intransitive vs. ellipsis+intransitive sentences**

2. Afterwards, children were asked to “Find who is *dasing*” while viewing two videos: a causal action featuring two participants vs. a one-participant action (similar to [6]).

Char A	Hé, tu sais ce qu'il a fait, le bébé ? Il a dasé ! Hey, you know what the baby did? He dased!
Char B	Oui, le bébé a dasé (!) la maman aussi ! Yes, the baby dased (!) the mommy too!
Char A	C'est vrai ! Et le garçon ? It's true! And the boy?
Char B	Le garçon a dasé (!) la fille aussi ! The boy dased (!) the girl too!
Char A	Vraiment? Il a dasé! Really? He dased!



Fig. 1. Sample dialogues presented to children.



Fig. 2. Videos from the test phase (8s). On the left, the two-participant causal action; on the right, the one-participant intransitive action.

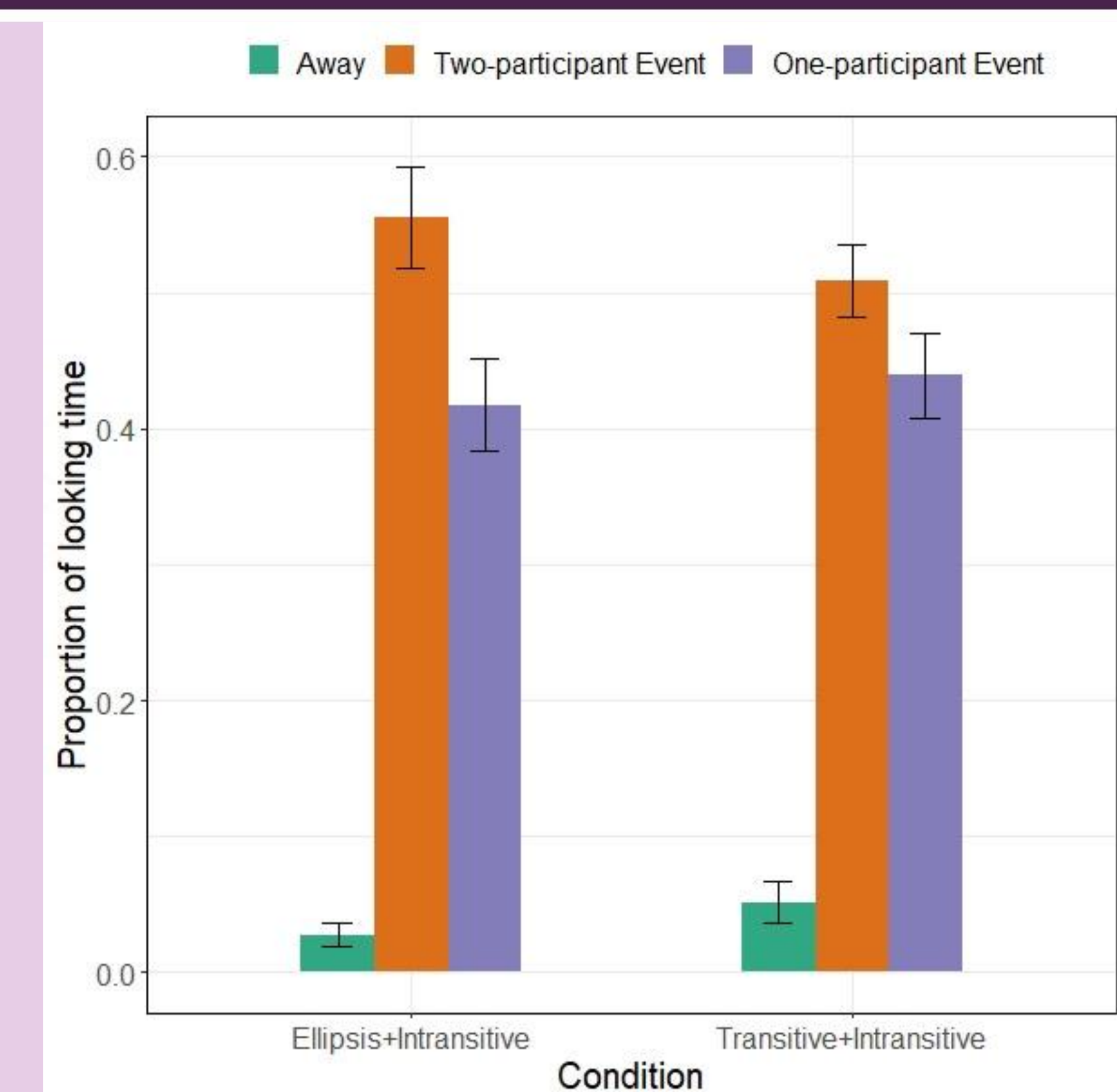
## Results

All participants preferred to look more towards the two-participants action than to the one-participant action.

**Ellipsis+intransitive:**  $n=27$ ;  $t(26)=2.73$ ,  $p=0.004$ ;

**Transitive+intransitive:**  $n=28$ ;  $t(27)=1.71$ ;  $p=0.046$

We found no significant difference in the average proportion of looking times towards the causal action between the Ellipsis+intransitive ( $M = .59$ ;  $SD = .19$ ) and the Transitive+intransitive conditions ( $M = .54$ ;  $SD = .16$ ;  $t(51.37) = .921$ ;  $p = .36$ ; Cohen's  $d = .25$ ).



**Figure 3:** Proportion of looking time to each video per condition ( $M_{age} = 35.2$  months; range 30.2 to 41.2). The vertical lines indicate the standard error. Children looked significantly longer to the two-participant video (orange bars) than to the one-participant video (purple bars) in both ellipsis+intransitive (left bars) and transitive+intransitive conditions (right bars).

## Discussion

- Children in the transitive+intransitive condition behaved as expected, associating the novel verb to the causal action at test (like in [5]);
- However, children in the ellipsis+intransitive condition seem to have mistakenly interpreted the novel verb *dase* as transitive;
- This suggests that children's ability to use prosody for parsing and word learning can be affected by the type of sentence tested;
- Although children can use prosody to constrain their interpretation of ellipsis with familiar words (as in [2]), they choose to use a noun-counting strategy when finding a novel verb in this type of sentences;
- Ellipsis sentences might be harder for young children to interpret than the right-dislocated sentences in [5], as the additional information provided by intransitive sentences did not help children to avoid the noun-counting bias in this context.

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Link OSF:

<https://bit.ly/3hvbGt5>



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