Sixteen-month-olds understand the link between words and mental representations of their referents without contextual support

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Introduction

- Understanding references to absent entities is a key milestone in the development of symbolic representation.
- A proto-understanding of absent reference emerges around 12 months (Luchkowska et al., 2007; Luchkowska et al., 2009). Infants begin to point to the cues associated with a recently hidden object to refer to it (known as anchored absent reference – it requires rich contextual support, such as a hiding event).
- An open question is when and how infants begin to understand absent reference without contextual support (i.e., unanchored) and retrieve mental representations of objects upon hearing their labels.
- Hendrickson and Sundara (2017) developed a priming paradigm to test infants’ understanding of absent reference with minimal contextual support:
  - Infants watched images of objects in silence and later heard passages containing their labels (without seeing the images).
  - After the passages finished playing, infants’ looking preference to referent- and non-referent images was measured.
- They found that 14-month-olds can identify referents of labels they heard in the passages.
- We asked whether 14-16-month-olds understand absent reference without any priming.
- We adapted the procedure from Hendrickson and Sundara by removing the pre-test exposure to images, limiting the theme of the passages to only one label, and using an IPL procedure during test.

Method

- **Participants:** 16 14-month-olds (M=13.63, SD=.53) and 16 16-month-olds (M=15.94, SD=.72).
- **Stimuli:**
  - Four sets of six-sentence passages, each containing a target label (the position of the label was counterbalanced among the sentences).
  - Labels: tree, cup, ball, and shoe.
  - Two pairs of images: cup and shoe, ball and tree.
- **Apparatus:** SMI remote eye-tracker.

Procedure

Infants listened to passages containing one of four target labels and then viewed pairs of images in silence. The order of trials was counterbalanced among participants to minimize any priming effects.

Results

Average proportion of LT to the target referent during 3 s starting from 1 s after the image display onset.

**Discussion**

- By 16 months, infants can retrieve mental representations of objects upon just hearing their labels, without any previous exposure to the objects during the experiment.
- Our findings are consistent with the broader knowledge about the development of infants’ communication about absent entities.
- For example, by 15-16 months infants begin to use communicative gestures and gaze to refer to displaced objects or highly familiar absent caregivers (Saylor & Babkoff, 2004; Saylor, 2004), suggesting that at this age, infants recognize that communication requires referring to objects not present in their direct perception.
- Our results add to this body of literature by suggesting that infants represent these objects without being exposed to them previously.
- Together with the earlier findings, our data show that infants’ understanding of absent reference reaches its “unanchored” form by 16 months and is linked to infants’ growing arsenal of social communicative instruments.

References