

One-year-olds appreciate the referential nature of words and communicative gestures

Background: One-year-old infants already have a small receptive vocabulary and, around the same age they follow gaze shifts and pointing gestures, but it is debated whether they understand the potential communicative reference indicated by these behaviours or merely their spatial attention is being directed by them. We reasoned that if infants can map concurrent words and non-verbal referential gestures onto each other, they must understand their referential nature.

Method: Forty 13 months-old infants were tested, 20 in a social cueing condition and 20 in a non-social cueing condition. Both groups observed an actress naming an object with a word within their receptive vocabulary while only two occluders but no objects were visible. At the same time, infants' attention was directed to one of the occluders by either referential gestures, (social cueing condition) or by conspicuous flashes on the occluder (non-social cueing condition). Two objects were subsequently revealed, the named object being either behind the referred occluder ("match" trials) or on the opposite side ("mismatch" trials).

Results: Longer looking times to the "mismatch" trials were found only in the social cueing condition (match: 10.5 s vs. mismatch: 12.5 s, $p=.04XX$) but not in the non-social cueing condition (match: 11.7 s vs. mismatch: 11.7 sec). Infants were also more likely to look first at the referred than the opposite location after the occluders moved away in the social cueing condition ($p=.017$) but not in the non-social cueing condition.

Conclusion: We demonstrated that 13-month-olds expect that, in a naming context, words and communicative gestures co-refer to the same object. This capacity allowed them to infer the location of the referent of a familiar word when it was indicated by gaze shifts and pointing but not when it was highlighted by a non-social cue. Thus, even at this young age, infants' response to non-verbal communicative cues cannot be simply explained by general attention directing mechanisms.