

## Visual attention affects children's production of noun phrases but not transitive sentences.

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### Abstract

**Background:** The way adult speakers produce an utterance is closely linked to their allocation of attention. For instance, when asked to describe a picture with two characters, adult speakers are more prone to start an utterance with a visually cued character which is in the focus of their attention (e.g., Gleitman et al., 2007). To examine whether attentional orienting shapes children's language production in similar ways as it does in adults, we tested 4- to 5-year-old children in two language production tasks: a noun pair naming task and a picture-based event description task. In both tasks, we manipulated children's allocation of attention and monitored their gaze patterns via eye-tracking.

**Methods:** 35 German-speaking children were tested. In the noun pair naming task, children were asked to describe pictures of two characters presented next to one another (e.g., a dwarf and a clown). In the event description task, children were asked to describe pictures of transitive events (e.g., a clown pushing a dwarf). We manipulated children's allocation of attention by means of a brief visual cue (a small red dot) presented for 700 milliseconds in the place where the left character/the patient was about to appear. In a baseline condition, no cue was presented.

**Results:** In both tasks, visual cueing was highly effective in modulating children's attention as reflected by children's first fixations. However, attentional orienting exclusively affected the order of mention in the noun pair naming task, but not in the event description task.

**Discussion and Conclusion:** Our findings show that the effect of attentional cueing differs depending on the syntactic structure children produce. While attentional orienting affects children's order of mention during the production of simple conjoined noun phrases, the same does not apply to event descriptions that require the production of more complex syntactic structures (such as passives). Thus, children's propensity to verbalize what is in their spotlight of attention appears modified by syntactic complexity. Our findings therefore shed some first light on the intricate interplay between visual attention and language production in children.

### References:

Gleitman, L. R., January, D., Nappa, R., & Trueswell, J. C. (2007). On the give and take between event apprehension and utterance formulation. *Journal of Memory and Language*, 57(4), 544-569.