

## Imitate to accumulate: the relationship between syntactic priming and long-term learning

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### Abstract

Children's language closely reflects their recent and long-term experiences of language. Within interactions, children repeat words and structures they have just heard [1]; across development, their vocabulary and grammar reflect the diversity and complexity of their caregivers' language [2]. But little is known about how these short-term language experiences contribute to longer-term language learning. Syntactic priming effects offer a promising explanation: growing evidence suggests such effects persist and accumulate to affect immediate and long-term language use [1,3,4]. Accounts of syntactic priming as learning [5,6] predict age-related differences in the magnitude of immediate priming and cumulative learning, which should also lead to different long-term effects on speakers' representations of syntactic structures. We investigated whether children's behaviour at different stages of development supports these predictions.

In two experiments, children (and adults) completed two testing sessions separated by one week, in which they took turns in a picture-description/-matching game with an experimenter. Experiment 1 tested verb-phrase structures (actives, 'a cat chased the dog' vs passives, 'the dog was chased by a cat') with 3.5-year-olds (N=39), 5.5-year-olds (N=39), and adults (N=43). All age groups produced more passives following passive vs. active primes but priming was stronger in children vs. adults, and in session 1 vs. 2. Within session 1, children (both groups combined) exhibited greater cumulative effects than adults: they were more likely to produce passives with increasing exposure to passives (irrespective of the immediately preceding prime). Experiment 2 assessed priming of noun-phrase structures with 3-year-olds (N=41), 4.5-year-olds (N=38) and adults (N=38): an experimenter alternated between adjective-noun (AN) (*a blue cat*) and noun-relative clause (NRC) (*a cat that's blue*) primes (N=48/session). Regardless of age and session, participants produced more NRCs following NRC vs. AN primes, but children (both groups combined) showed stronger priming than adults. Children also showed increased priming in session 1 vs. 2, whereas adults maintained consistent priming rates.

Therefore, multiple individual experiences of syntactic structures had both cumulative (Experiment 1) and lasting (Experiment 2) effects on children's syntactic choices. Dispreferred structures elicited surprisal effects - stronger effects at earlier than later timepoints. These findings support error-based accounts of implicit language learning.

Words: 349/350

### References:

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