

Syntactic Priming and Visual Attention Effects on Passive Production in German-Speaking Children with DLD

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Abstract

German Children with developmental language disorder (DLD) demonstrate significant difficulties in complex syntactic structures such as passives. These lead to reduced use of these structures (Hamann et al., 1998) and more errors in both production (Hamann et al., 1998) and comprehension (Stegenwallner-Schütz & Adani, 2021). Previous research has shown that syntactic priming can increase the number of produced passives in children with DLD (e.g. Garraffa et al., 2018). For neuro-typical adults, previous research has shown an increased propensity to use the passive in describing event scenes when the patient is animate rather than inanimate, visually cued rather than non-cued, and located to the left rather than to the right of the agent (Esaulova et al., 2019).

This study examines whether combining syntactic priming with factors enhancing patient prominence (i.e. animacy, visual cueing, position) in transitive event scenes facilitates implicit syntactic learning in children with DLD, with implications for intervention. Effectiveness was assessed via changes in the production of passive utterances in an event-description task, with retention evaluated through a one-week follow-up.

Method. For this ongoing study we report data from six monolingual German-speaking children with DLD (age 3;11–10;7), each assessed twice with a one-week interval. We conducted an event-description task, containing 48 transitive event scenes (24 prime pictures and 24 target pictures) in three conditions (eight items per condition): active, passive, and passive-cued. During the experiment, the experimenter and the child sit together in front of a screen and alternately describe the pictures that appear. First, a prime picture appears (e.g., vampire hitting king), which is described by the experimenter using, depending on condition, an active (Figure 1a) or passive sentence. Next, the child is prompted to describe a subsequently presented target picture (e.g., clown pushing dwarf). In the passive-prominence condition, we raised the prominence of the patient by a visual cue (a 700 ms red dot appearing at the location where the patient subsequently appeared) and by presenting it on the left side of the agent. After each target picture, two filler pictures showing simple objects follow (e.g., a chair). The first filler picture is named by the experimenter and the second by the child.

Analysis. We analysed 275 responses for syntactic choice, coding utterances as active, passive, or passive structured. The latter category included utterances where the children used passive morphology without, however, changing the mapping of thematic role and syntactic function. Only clauses with a clear syntactic distinction were included; 13 incomplete or non-descriptive utterances were excluded. Effects of patient prominence will additionally be examined via eye-gaze measures.

Results. Preliminary results indicate increased production of passive and passive-structured clauses, with higher rates in passive conditions (32/35 vs. 24), in the second half of the experiment (51 vs. 40), and at the second session (64 vs. 27), though effect sizes vary across participants.

Discussion. Preliminary results suggest that combining syntactic priming with raised patient prominence in transitive event scenes increases passive production in German-speaking children with DLD. The use of techniques manipulating visual attention constitutes a novel contribution to research in language interventions. The observed consistency after one week points to potential clinical utility for interventions targeting complex syntax.