

Children with developmental language disorder have difficulties with picking up language “rules” from exposure to language

What this research was about and why it is important

Developmental language disorder (DLD) manifests itself (among other ways) as difficulties that children have learning grammar rules in their native language. Children with DLD experience problems with their social interaction and delays in education progress. The prevalence of DLD is estimated at 7%, which means that there is approximately one child with DLD in every classroom. Because the difficulties in language learning that these children experience have no clear cause such as low intelligence, brain damage, or hearing impairment, it is important to understand potential other causes of DLD so that the impact of DLD on children’s language development might be mitigated. Previous research has shown that children are generally sensitive to regularities in their language input, which helps them learn their native language. For example, in English, the pronoun *he* frequently co-occurs with [verb]–s in the present tense, as in *he walks*, *he talks*, and *he eats*. Often without conscious awareness, children detect and keep track of these co-occurrences, which guides them in learning the systems (patterns or “rules”) underlying English grammar. And this ability—that is, being sensitive to linguistic regularities in a language—has been proposed as one possible difference between children with DLD and typically developing children. Therefore, in this study, the researchers aimed to understand whether children with DLD are as sensitive as their typically developing peers to linguistic regularities. The researchers found that the children with DLD indeed had more difficulty keeping track of linguistic regularities compared to typically developing children, suggesting that this ability may be one of the reasons why children with DLD have difficulties learning grammar systems.

What the researchers did

- The researchers exposed 36 children with DLD and 36 children without DLD (i.e., typically developing children) to a novel nonexistent language. All children were native speakers of Dutch, between 8 and 12 years old.
- Each utterance in the nonexistent language consisted of three words. Unbeknown to the children, the first word of the utterance (which was either *tep* or *sot*) “predicted” the third word (which was either *lut* or *mip*, respectively), as in *tep wadim lut* and *sot kasi mip*. In other words, “*tep* and *lut*” as well as “*sot* and *mip*” always went together in an utterance.
- The children heard these utterances, presented to them through a mini cartoon on a tablet computer, and were then asked to press a green or red button. The color of the button they had to press depended on the third word of the utterance (e.g., they had to press the green button upon hearing *lut*). The children’s response speed in detecting the third word was indicative of whether they had learned the co-occurrence of the words (*tep ... lut* and *sot ... mip*). If they had learned that the first word predicted the third word, they would be quicker to press the correct button about the third word.

What the researchers found

- The response pattern of the children with DLD differed from those of the typically developing children, suggesting that the children with DLD were less sensitive to the word co-occurrences than the typically developing children.
- However, this difference between the two child groups was small in magnitude.

Things to consider

- In future, it might be worth exploring ways to assist children with DLD with detecting linguistic regularities in the language and using these regularities for learning grammar systems.
- However, because the differences between children’s response patterns were small, researchers might instead consider targeting other language skills that are impaired in children with DLD, such as comprehension of speech, in order to help them acquire their native language more efficiently.
- Taken together, the results point to one of potentially many differences underlying language learning by children with DLD and by typically developing peers.

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