

Knowledge and processing affect online prediction in developmental language disorder

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Prediction during comprehension facilitates language processing. Children with developmental language disorder (DLD) have differences from typical development (TD) in verb-driven prediction. We ask: Are sentence prediction deficits in DLD due to lack of knowledge or difficulty predicting in the moment? And how does competition among sentence completions affect children with DLD? Distinguishing between completions with close associative strength (baby wears diaper/coat) may be more difficult than those with larger differences in strength (diaper/necklace). In Experiment 1, four-to-five-year-old children with TD and DLD (N=28) selected the object most associated with an agent-verb combination (“What does a baby usually wear?”) in three conditions: High-Low (bib/necklace), High-Medium (diaper/coat), and Medium-Low (sweater/watch). In Experiment 2, the children’s eye gaze to the same object pairs was recorded during active sentences (“The baby is wearing a...”). Experiment 1 showed that children with DLD had difficulty distinguishing plausible options but rejected implausible options. Experiment 2 showed that even when knowledge was assured, children with DLD had difficulty with sentence prediction. Children with DLD’s poorer online prediction is driven by both knowledge and processing difficulties. Funding from R01DC01859.