Autistic Toddlers Demonstrate Hyperplasticity During a Linguistic Prediction Task

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Prediction deficit theories suggest that autistic individuals demonstrate "hyperplasticity" of learning relative to neurotypical peers, perceiving recent input with greater novelty and privileging recent observations over cumulative learning. However, this theory has not yet been examined in a linguistic context among young autistic children. In the present study, 35 two- to three-year-old autistic children and 42 nonverbal cognition-matched neurotypical (NT) children participated in an eye-tracking task measuring children's prediction of target words based on their probabilistic relationship with cue words. The cue-target contingencies were manipulated to determine whether children would make predictions based on recency or cumulative probability. Results indicated that autistic children updated their predictions based on the most recent observation, while NT children did not. This finding suggests that autistic children demonstrate hyperplasticity in the linguistic domain, supporting theories of prediction differences in this population. Implications for language development will be further investigated in ongoing work by our research group. This work was supported by NIH grants R01 DC017974 (MPIs: Ellis Weismer & Saffran) and F31 DC020901 (PI: Prescott). (171/180 words)