

Selective Attention Facilitates Linguistic Statistical Learning in Autistic Children

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Statistical learning (SL), the ability to implicitly learn regularities from inputs, is a central theoretical construct in language development. Autistic children were found to show specific weaknesses in linguistic but not nonlinguistic SL. However, it remains unknown which processes of linguistic SL may be malleable and sensitive to intervention in ASD. Fifty-five verbal autistic children and 50 age-matched TD children were exposed to a continuous stream of one of four types of stimuli: letters, syllables, images, or tones. Each stream contained four embedded triplets. Children were instructed to detect a sound or an image in a randomly chosen target triplet in each task and ignore the unattended nontarget triplets. Overall, a better post-learning recall was found for target than nontarget triplets in both groups. This effect was stronger in the TD than the ASD group and stronger in the linguistic (Letter, Syllable) than the nonlinguistic (images, tones) domain. These results suggest attending to a target cue facilitates encoding of linguistic stimuli. Autistic children can benefit from selective attention towards stimulus during linguistic SL. This research is supported by NIDCD (R21DC017576).