

Visual search and autism symptoms: What young children search for and co-occurring ADHD matter.

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Abstract

Superior visual search is one of the most common findings in the autism spectrum disorder (ASD) literature. Here, we ascertain how generalizable these findings are across task and participant characteristics, in light of recent replication failures. We tested 106 3-year-old children at familial risk for ASD, a sample that presents high ASD and ADHD symptoms, and 25 control participants, in three multi-target search conditions: easy exemplar search (look for cats amongst artefacts), difficult exemplar search (look for dogs amongst chairs/tables perceptually similar to dogs), and categorical search (look for animals amongst artefacts). Performance was related to dimensional measures of ASD and ADHD, in agreement with current research domain criteria (RDoC). We found that ASD symptom severity did not associate with enhanced performance in search, but did associate with poorer categorical search in particular, consistent with literature describing impairments in categorical knowledge in ASD. Furthermore, ASD and ADHD symptoms were both associated with more disorganized search paths across all conditions. Thus, ASD traits do not always convey an advantage in visual search; on the contrary, ASD traits may be associated with difficulties in search depending upon the nature of the stimuli (e.g., exemplar vs. categorical search) and the presence of co-occurring symptoms.