Central Versus Peripheral Face Processing in Autism Spectrum Disorder: Implications for Gaze Cueing

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Abstract

Visual orienting in adults with and without autistic traits was explored using a spatial cueing paradigm where participants viewed schematic faces that either appeared centrally with a shift in gaze direction, or peripherally with gaze changes embedded in the laterally presented faces. Targets appeared nonpredictively to the left or right after variable stimulus onset asynchronies (SOAs). Centrally cued targets elicited faster reaction times than peripherally cued targets, and longer SOAs resulted in faster responses, indicating more efficient orienting when more processing time was available. A validity effect was observed overall, with congruent cues yielding faster responses than incongruent cues, with the effect being strongest for peripheral cues and at short-to-intermediate SOAs. Minimal differences were observed between autistic trait statuses, suggesting broadly comparable orienting performance. The findings indicated that gaze most effectively drove attention with peripheral cues at short SOAs, and (low-support, college-aged) autistic individuals may not have visual orienting impairments.

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