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Eagle-Eyed Visual Acuity: An Experimental Investigation of Enhanced Perception in Autism

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Background

Anecdotal accounts of sensory hypersensitivity in individuals with autism spectrum conditions (ASC) have been noted since the first reports of the condition. Over time, empirical evidence has supported the notion that those with ASC have superior visual abilities compared with control subjects. However, it remains unclear whether these abilities are specifically the result of differences in sensory thresholds (low-level processing), rather than higher-level cognitive processes.

Methods

This study investigates visual threshold in $n = 15$ individuals with ASC and $n = 15$ individuals without ASC, using a standardized optometric test, the Freiburg Visual Acuity and Contrast Test, to investigate basic low-level visual acuity

Results

Individuals with ASC have significantly better visual acuity (20:7) compared with control subjects (20:13)â€”acuity so superior that it lies in the region reported for birds of prey.

Conclusions

The results of this study suggest that inclusion of sensory hypersensitivity in the diagnostic criteria for ASC may be warranted and that basic standardized tests of sensory thresholds may inform causal theories of ASC.



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Key Words

Autism; enhanced perception; optometry; sensory hypersensitivity; sensory threshold; visual acuity

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