# PERCEIVING THE FOREST AND THE TREES

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A study conducted by researchers from Montreal, Canada, demonstrated that there is an increased sensitivity to mirror symmetry in autism.

Several studies suggest a superior performance in autism on various visuospatial tasks. One hypothesis used to explain such superiority is that autistics have an enhanced ability to perceive details (local information) preventing them from being able to perceive the bigger picture (global information) when necessary. Alternatively, a second hypothesis stipulates that autistics are able to perceive global information even if they are better able to perceive details in a pattern.

In the present study, seventeen autistics and 15 non-autistics completed a mirror symmetry detection task.

***Mirror symmetry is present when half of a pattern is a mirror reflection of the other. It is highly related to object perception and recognition. It also requires a processing of global information. It has been demonstrated that mirror symmetry is more easily perceived if the symmetry axis is vertical. This finding may be explained by the presence of many vertically symmetrical objects in our environment (i.e. human faces).***

Participants indicated which of two images was symmetrical. The first image was either vertically, horizontally or obliquely (45°) symmetrical, whereas the second did not depict symmetry. Autistics and non-autistics both performed better for the detection of vertical symmetry as compared to the detection of horizontal or oblique symmetry.

Therefore, as is the case for non-autistics, autistics were more sensitive to vertical symmetry, which is found in social stimuli, such as human faces.

Furthermore, autistics detected mirror symmetry more easily than non-autistics across all three axes of orientation, which was noted by lower symmetry detection thresholds in the autistic group as compared to the typically developing group across all axes of orientation. These findings are consistent with the premise that autistics are able to perceive global information when it is required to achieve a task.

From these results, it is possible to predict that autistics may not only able to see the trees but may also be able to perceive the forest.

**Original study**: Perreault, A., Gurnsey, R., Dawson, M., Mottron, L., & Bertone, A. (2011). Increased Sensitivity to Mirror Symmetry in Autism. *PLoS ONE, 6*(4), e19519. doi: 10.1371/journal.pone.0019519

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