Children with autism lack visual skills required for independence

December 20 2010

A participant activating a (red) target location in the search laboratory

The ability to find shoes in the bedroom, apples in a supermarket, or a favourite animal at the zoo is impaired among children with autism, according to new research from the University of Bristol. Contrary to previous studies, which show that children with autism often demonstrate outstanding visual search skills, this new research indicates that children with autism are unable to search effectively for objects in real-life situations – a skill that is essential for achieving independence in adulthood.

Previous studies have tested search skills using table-top tasks or computers but none, until now, has tested how children with autism fare in a more true-to-life setting.

In a unique test room, 20 children with autism and 20 typical children of the same age and ability were instructed to press buttons on the floor to find a hidden target among multiple illuminated locations. Critically, these targets appeared more on one side of the room than the other.

A contemporary theory of autism (systematizing) states that these children are more sensitive to regularities within a system (for example, prime numbers, computer programmes and train timetables). Surprisingly, more 'systematic' behaviour was not observed in this test; children with autism were less efficient and more chaotic in their search. Compared to other children, they were slower to pick up on the regularities within the 'system' (e.g. which side of the room the lights could be found) that would help them choose where to search.

Together, these results strongly suggest that autistic children's ability to search in a large-scale environment is less efficient and less systematic than typical children's search. This has important implications for how well children with autism can cope independently in the real world if they struggle to navigate and search within a local environment and identify patterns within it.

Speaking about the findings, Professor Iain Gilchrist, one of the report's authors, said:

'This research was only possible because of the unique research facility we have in Bristol and the support we have received from the MRC, BBSRC and ESRC who funded the basic science that underpins these new findings.'

Dr Josie Briscoe another of the report's authors added:

'The ability to work effectively and systematically in these kind of tasks mirrors everyday behaviours that allow us to function as independent

adults, and this research offers an exciting opportunity to explore underlying skills that could help people with autism achieve independence.'

More information: The paper, 'Children with autism are neither systematic nor optimal foragers' by Elizabeth Pellicano, Alastair D. Smith, Filipe Cristino, Bruce M. Hood, Josie Briscoe, and Iain D. Gilchrist will be published on Monday 20 December in the *Proceedings of the National Academy of Sciences (PNAS).*

Provided by University of Bristol

Citation: Children with autism lack visual skills required for independence (2010, December 20) retrieved 25 April 2024 from https://medicalxpress.com/news/2010-12-children-autism-lack-visual-skills.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.