



## Communicating Research in Clear Language

### Developmental Pathways of Preschool Children with ASD

#### What is the research about?

Previous studies have shown that the IQ and language ability of children with ASD can predict later outcomes. Two other aspects that have an impact on later outcomes are autistic symptom severity and adaptive functioning, which refers to learning how to perform daily life tasks. This study looked at whether or not information on autistic symptom severity and adaptive functioning could be used to predict developmental outcomes of children with ASD.

#### What did the researchers do?

The researchers collected data on the autism symptoms severity and adaptive functioning of 421 Canadian children aged 2 to 4 years (355 males, 66 females), who had recently been diagnosed with ASD. The children were observed, and their parents were interviewed and filled out questionnaires to provide information about their abilities. The data on these children were collected at the time of diagnosis and then three more times until they were 6 years of age. The data on autism symptoms severity and adaptive functioning were analyzed to see if there were distinct developmental groups of children.

#### What did the researchers find?

Based on the data collected on autism symptom severity, the researchers found two distinct developmental groups. One group had less severe symptoms that improved over time. The second group had more severe symptoms that remained the same over time. Three groups emerged based on data collected on adaptive functioning. One group had lower adaptive functioning that worsened over time; a second had moderate adaptive functioning that remained the same over time; and the third group had higher adaptive functioning that improved over time. The researchers found that children could have less severe symptoms of autism, yet have lower levels of adaptive functioning that did not change over time. Children could have any combination of these two pathways. They also found that girls were more likely to fall in the less severe symptom and improving adaptive functioning developmental groups. As well, the age at time of diagnosis, both language and intelligence at the start of the study were related to the adaptive functioning group membership.

#### Take home message

Adaptive functioning and autistic symptom severity are largely independent developmental factors that have serious impacts on the development of children with ASD. Interventions based on each child's individual strengths and weaknesses should be used to make decisions about treatment.

**NOTE:** The original [Research Report](#) was written by P. Szatmari and colleagues of the "Pathways in ASD" study and was published in *JAMA Psychiatry*. 2015.