



Conventional intelligence tests, developed for use in preschool-aged children, are not adapted to the developmental characteristics of autistic children at this age.

Assessing intelligence in autistic preschoolers:

mission impossible?

By AUDREY MURRAY

One of the biggest challenges clinicians face when diagnosing autistic children is accurately assessing intellectual potential, especially in preschool-aged children. In an effort to investigate this issue, the Montreal Autism Research Group recently published findings in the *Journal of Autism and Developmental Disorders*.

Why not use traditional intelligence tests?

Conventional intelligence tests, developed for use in preschool-aged children, are not adapted to the developmental characteristics of autistic children at this age.

For example, an autistic child may fail a task because they did not understand the verbal instructions, or simply because the material did not interest them. Since evaluating children this early in their development is difficult, they are often left out of studies. Therefore, little is known about the intellectual profile of very young children.

With this study, the researchers sought to document the intellectual profile of preschool-aged autistic children, by comparing results obtained with conventional testing vs. “strength-based” testing.

What do we mean by “strength-based” testing?

Strength-based assessment tools include all tests on which autistic people generally perform well. These tests seem adapted to the way autistic people think and problem-solve, and are often grounded in perception. Language use is overall quite minimal: there are no instructions and no verbal response is required. Rather, these tests rely on making all information needed

to complete the task readily available, without requiring any prior knowledge or learning from the child. One example of a strength-based test is Raven’s colored matrices. This test involves completing a succession of logical steps by finding the missing piece amongst a selection of pieces. The child has access to all material and can directly place the piece in the appropriate place.

Conventional test

Mullen Scales of Early Learning (MSEL)



Conventional test

Wechsler Intelligence Scale for Children (WPPSI-IV)



Strength-based test

Raven’s Colored Progressive Matrices (RCPM)



The article’s authors report that autistic people tend to perform better with these kinds of “visual” tasks than with conventional tasks, and furthermore that they are linked to their intellectual ability. The task is quick and easy to administer, which also makes it ideal when assessing intellectual potential in young children. This article is actually the first to compare scores obtained by preschool-aged children on these two types of tasks.

A “flexible” assessment method

Beyond the use of strength-based testing, the authors also propose a flexible assessment method. Contrary to conventional methods, where tasks must be administered in a specific order and instructions strictly adhered to, flexible methods emphasize individualized assessment.

For example, let us take a child who, instead of imitating the examiner drawing a small circle within a larger circle, spontaneously draws a car. To illustrate the car’s wheels, he then draws a small circle within a larger circle. Whilst the child did not exactly follow instructions to copy the examiner, the flexible method still allows for assessment of fine motor skills using the child’s spontaneous drawing. Tasks can also be administered in any order deemed fitting, and the child may have access to tools that can help them respond (for example, using a token to indicate the right answer instead of pointing).

The purpose of flexible testing is to make full use of available time by adapting to the characteristics of every child, thereby maximizing opportunities to access their full intellectual potential. With this method, examiners try to evaluate the maximum abilities of young children, instead of their capacity to conform to traditional assessment.

What do we see when using strength-based, flexible testing?

This study’s cohort was based out of Rivière-des-Prairies Hospital, and made up of 52 autistic and 54 neurotypical children aged 2 to 6 years. Each child was evaluated using the flexible method, with two conventional tests (Mullen Scales of Early Learning (MSEL) and the Wechsler Intelligence Scale for Children (WPPSI-IV)) and one strength-based test (Raven’s Colored Progressive Matrices (RCPM)) administered.

First, researchers measured preschool-aged children’s ability to complete intelligence testing. It did not come as a great surprise that younger children were more difficult to assess, and required longer testing. Assessments also tended to last longer with autistic children than neurotypical children. However, the team also found that assessment length was not related to performance! What this tells us is that accurate assessment

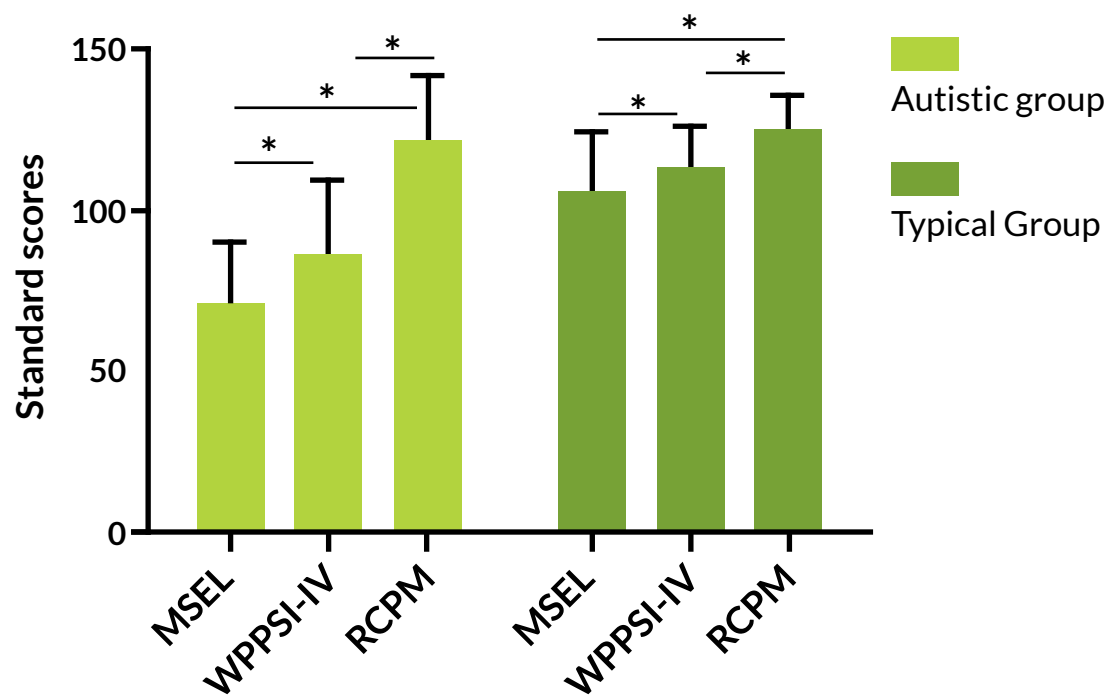
Whilst the child did not exactly follow instructions to copy the examiner, the flexible method still allows for assessment of fine motor skills using the child’s spontaneous drawing



It highlights the importance of using a variety of tests to assess the full intellectual potential of autistic children, and to decrease the risk of underestimating their abilities.

of very young autistic children requires perseverance, several appointments, and time. Indeed, these findings demonstrate that difficulties with testing an autistic child do not actually translate to intellectual difficulties in that same child.

Researchers then evaluated the intellectual profile of study participants. Results indicate that, despite disparities in performance on conventional tests between the two groups, autistic children demonstrate satisfactory performance on strength-based assessment.



This highlights the importance of using a variety of tests to assess the full intellectual potential of autistic children, and to decrease the risk of underestimating their abilities. These results are promising, and may inform clinicians and researchers in selecting tools and methods that allow for a full and thorough assessment of intellectual potential in young autistic children. 🌱

Original article:
Courchesne, V., Girard, D., Jacques, C., & Soulières, I. (2018). Assessing intelligence at autism diagnosis: mission impossible? Testability and cognitive profile of autistic preschoolers. *Journal of autism and developmental disorders*, 1-12.