

## TOOLBOX

# Scale tests mental flexibility in children with autism

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A new assessment offers a broad measure of ‘flexible thinking’ in children and teenagers with autism<sup>1</sup>. Flexible thinking encompasses the ability to switch tasks or strategies, and see situations in a new way.

Learning more advanced skills may require unlearning old approaches. For example, children may first learn to tie their shoelaces using the ‘bunny ears’ method (making a loop out of each lace) and later master the faster technique of wrapping one lace around a loop made with the other.

**Inflexible or rigid thinking** — which is common among people with autism— can make this shift harder.

Available tests of flexible thinking, or ‘cognitive flexibility,’ tend to focus on a single aspect, such as a child’s response to interruptions or insistence on sticking to a routine. This narrow focus means researchers can’t relate flexible thinking to other cognitive and behavioral characteristics, such as social engagement.

The new scale provides a more complete picture of flexible thinking by measuring it across several categories of behavior, preferences and thought patterns.

Caregivers of children with autism rank each of 27 phrases on a scale from 0 to 3, based on how often, or to what degree, a child shows that trait. The phrases include “rigid about rules,” “repeatedly talks about, writes or draws the same subjects,” and “likes to know everything about a topic.”

The sum of the responses yields a total flexibility score. (Test givers reverse-score items such as “thinks outside of the box.”)

## Relevant responses:

To develop the new scale, the researchers gave a 50-item questionnaire to the parents of 221 children with autism and 57 children without the condition, all between 6 and 17 years old.

Clinicians verified autism diagnoses using the fourth edition of the “Diagnostic and Statistical Manual of Mental Disorders.” The children — or in some cases, their parents — also completed six other tests, including those that assess intelligence, verbal fluency and interests.

Statistical analysis of the responses to the questionnaire homed in on 27 items that are most useful in distinguishing between children with autism and typical children. The responses from the additional testing helped the researchers understand how the flexibility scores relate to other mental and behavioral skills.

The items fall into five categories: ‘routines and rituals,’ ‘transitions/change,’ ‘special interests,’ ‘social flexibility’ and ‘generativity,’ the ability to generate new ideas or responses. The ‘social flexibility’ items may reveal how behavioral rigidity affects social skills, the researchers wrote 19 May in the *Journal of Autism and Developmental Disorders*.

The assessment could allow clinicians to track changes in flexible thinking over time or in response to therapy. It may also eventually help scientists understand how cognitive flexibility relates to other mental abilities, varies by condition or contributes to different ways of thinking.

### REFERENCES:

1. Strang J.F. *et al. J. Autism Dev. Disord.* Epub ahead of print (2017) [PubMed](#)