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**Study Finds Inconsistencies in Broadly Used Autism Test**

The Autism Diagnostic Observation Schedule (ADOS) is less reliable than previously assumed, according to a study published in *Neural Computation*.

Elizabeth Torres, Rutgers University School of Arts and Sciences, New Brunswick, New Jersey, and colleagues digitised the test by attaching wearable technology, like an Apple Watch, to 2 clinicians and 52 children who came in 4 times and took 2 different versions of the test.

When the researchers looked at the scores of the entire cohort, they found they did not distribute normally, which could mean a chance of false positives inflating the prevalence of autism, among other implications.

The results showed that switching clinicians may change a child’s scores and consequently influences the diagnosis. The researchers found similar results when they analysed open-access data of 1,324 people aged 5 to 65 years.

“The ADOS test informs and steers much of the science of autism, and it has done great work thus far,” said Dr. Torres. “However, social interactions are much too complex and fast to be captured by the naked eye, particularly when the grader is biased to look for specific signs and to expect specific behaviours.”

The researchers suggest combining clinical observations with data from wearable biosensors, such as smartwatches, smartphones, and other off-the-shelf technology. By doing so, researchers may make data collection less invasive, lower the rate of false positives by using empirically derived statistics rather than assumed models, shorten the time to diagnosis, and make diagnoses more reliable, and more objective for all clinicians.

Dr. Torres said autism researchers should aim for tests that capture the accelerated rate of change of neurodevelopment to help develop treatments that slow down the aging of the nervous system.

“Autism affects 1 out of 34 children in New Jersey,” she said. “Reliance on observational tests that do not tackle the neurological conditions of the child from an early age could be dangerous. Clinical tests score a child based on expected aspects of behaviours. These data are useful, but subtle, spontaneous aspects of natural behaviours, which are more variable and less predictable, remain hidden. These hidden aspects of behaviour may hold important keys for personalised treatments, like protecting nerve cells against damage, or impairment, which could delay or altogether stop progression.”

Reference: <https://www.mitpressjournals.org/doi/abs/10.1162/neco_a_01263>

SOURCE: Rutgers University-New Brunswick