Sensory Studies

Scientists may have found a new way to detect autism in children—by looking at their brain activity.

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The most common way to check a child for autism is with special behavioral tests. But neuroscientists may have developed a way to detect the condition by evaluating kids' brain activity, according to findings in the online journal PLOS ONE.

For the study, researchers fitted 19 children—nine with autism spectrum disorder and 10 without—with sensors that tracked the activity of each child's cortex, a region of the brain. The sensors recorded how different regions of the brain interacted with each other while at rest. Then scientists compared the brain interactions of the control group (the children without autism) with the brain interactions of kids with the condition.

The results? Kids with autism had a significantly stronger connection between their rear and frontal brain areas compared with the kids who weren't autistic. Researchers also detected a patterned flow of information to the frontal brain region but not the rear region of the children with autism.

In addition, brain analysis sensors were able to measure magnetic fields generated by electrical currents in brain cells. Scientists found that this data could then reliably detect autism spectrum disorder with 94 percent accuracy. These findings are promising because they may help identify abnormalities in the brains of autistic kids. The discovery could also lead to new tools that complement the existing behavioral diagnostic tests for autism.

The study's lead researcher, Roberto Fernández Galán, PhD, says, "We asked the question, 'Can you distinguish an autistic brain from a non-autistic brain simply by looking at the patterns of neural activity?' and indeed, you can."
