



# ECHO

Environmental influences  
on Child Health Outcomes

A program supported by the NIH

## Study Summary

### ***ECHO Study Finds Children with Autism at Higher Risk for a Range of Diverse Health Outcomes***

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#### Who sponsored this study?

The Environmental influences on Child Health Outcomes (ECHO) Program, Office of the Director, National Institutes of Health supported this research.

#### Why was this study needed?

Approximately 3% of children in the United States have a diagnosis of autism spectrum disorder (or autism). A large proportion of autism research focuses on understanding the factors that influence the development of autistic traits. However, many people on the autism spectrum report that they would rather prioritize research into the factors that influence their overall health and well-being. This study addresses that priority by investigating the physical, emotional, and overall health outcomes of children on the autism spectrum.

#### What were the study results?

This study showed that autistic children are at higher risk than non-autistic children for poorer health outcomes indicated by lowest scores in Global Health and highest dysregulation scores (e.g. attention problems, aggressive behavior, and anxious-depressive symptoms). However, there is variability in health outcomes within autistic youth as shown by a group of autistic participants who showed high scores on positive health outcomes across domains. Additionally, compared to non-autistic children, more autistic children were born prematurely, had diagnoses of intellectual disability and ADHD, and had a sibling with autism.

#### What was the study's impact?

The results of this study offer a glimpse into the diversity of emotional, physical, and overall health outcomes for children on the autism spectrum. A deeper understanding of the range of health outcomes children with autism experience, and the factors that can affect these outcomes, may help families and practitioners identify and target areas for support or intervention.

#### Who was involved?

The study included over 4,500 children and adolescents at 29 ECHO research sites across the United States, including 286 participants with autism. The participants varied in age from 5 to 20 years old.

## What happened during the study?

The researchers compared the health outcomes and demographic characteristics of a large sample of children, with 286 participants with autism and 4,225 participants without. They then used a subsample of 1,809 participants, of which 116 were autistic, to group children with similar physical health, emotional health, and overall well-being outcomes into one of three categories, “positive health,” “poorer health,” and “mixed health.” These categories were mostly determined by the results of multiple Patient-Reported Outcomes Measurement Information System (PROMIS) scales and other reports that evaluated participants’ peer relations, life satisfaction, behavior dysregulation, sleep disturbances, physical activity, etc. The three profiles of participants were then further analyzed to study differences in health outcomes between children on the autism spectrum to non-autistic children.

**Footnote:** Results reported here are for a single study. Other or future studies may provide new information or different results. You should not make changes to your health without first consulting your healthcare professional.

## What happens next?

Future work may focus on understanding the factors that influence poor or positive health for children with autism and how those factors change over time. This work might identify opportunities to support these children and promote positive health outcomes.

## Where can I learn more?

Access the full journal article, titled “Describing Multidomain Health Outcomes in Autistic Children in the ECHO Program,” in the [\*Journal of the American Academy of Child and Adolescent Psychiatry\*](#).

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