

# Autism may be linked to being firstborn, breech births or moms 35 or older

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Children who are firstborn or breech or whose mothers are 35 or older when giving birth are at significantly greater risk for developing an autism spectrum disorder, University of Utah School of Medicine researchers have reported in a new study with Utah children.

In the April 27, 2009, online issue of the journal *Pediatrics*, the researchers showed that women who give birth at 35 or older are 1.7 times more likely to have a child with an autism spectrum disorder (ASD), compared with women between the ages of 20-34. Children diagnosed with ASD also were nearly 1.8 times more likely to be the firstborn child, the researchers found.

Although they didn't identify a causal relationship between breech births and autism, children diagnosed with the disorder were more than twice as likely to have been a breech presentation, meaning they were not born head first.

"The results of this study give us an opportunity to look more closely at these risk factors for children across the autism spectrum, and not only those diagnosed with autism," said first author Deborah A. Bilder, M.D., assistant professor of psychiatry. "This shows that further investigation of the influence of prenatal factors is warranted."

Autism is a complex brain disorder that impairs social, communicative, and behavioral development and often is characterized by extreme behavior.

Bilder and her colleagues in the U medical school's department of psychiatry and the Utah Department of Health examined the birth records of Utah children who had been identified as having an autism spectrum disorder in a 2002 epidemiological study by the U.S. Centers for Disease Control and Prevention (CDC). That study looked at 8-year-old children in Utah's three most populous counties—Salt Lake, Davis, and Utah—and

used nationally accepted criteria for an ASD classification. The researchers compared birth records for children identified with an ASD with unaffected children born in those three counties in 1994. Of that group, 196 were identified with an ASD. Birth certificates were available for 132 of those children, and the researchers examined those records for possible prenatal, perinatal, and neonatal risk factors related to ASD.

Their investigation showed that the mother's age when giving birth (older than 34), breech presentation, and being firstborn were significant risk factors for the development of an ASD. The researchers also identified a small but significant relationship between the increased duration of education among mothers of those children.

Further investigation would be needed to understand how these three risk factors may relate to ASD. But a possible explanation for the correlation of firstborn children might be that parents are reluctant to have a second child if the first is diagnosed with ASD. A possible interpretation of increased risk associated with advanced maternal age is that changes in genes occurring over time may contribute to autism spectrum disorders. The association found between breech presentation and ASD most likely indicates a shared cause, such as neuromuscular dysfunction. The vast majority of children born breech, however, are healthy.

This study follows several from the University in recent years, which found that Utah has one of the highest autism spectrum disorder rates in the country (one in 133 Utah children has the disorder), helped identify a gene that may predispose people to autism, and showed that Utah adults with autism have a better quality of life than those in other studies.

For the next step in their research, Bilder and her colleagues want to repeat this study, using a larger

population of Utah 8-year-olds from subsequent birth years, to see if it replicates the results of the current study. They also may study the subset of children with breech presentation to determine whether they have a genetic vulnerability that put them at increased risk for developing an autism spectrum disorder.

Source: University of Utah Health Sciences ([news](#) : [web](#))

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