



## Health

### The Age of Autism: Amish genes

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WASHINGTON, Nov. 5 (UPI) -- What do the experts say about the idea that genes could explain a lower rate of autism among the Amish? Well, two noted medical geneticists say it's entirely possible.

One of them, in fact, has identified another brain disorder that has a lower incidence among the Amish -- and even the gene she believes helps protect them from it.

"It's like a 'founder effect' -- where you're tracing back a whole large number of people to a few ancestors," Margaret A. Pericak-Vance, director of the Duke University Center for Human Genetics, told Age of Autism. "So if those ancestors do not carry the genes responsible for a particular phenotype (trait), then yes, you'd be less likely to see it."

We asked Pericak-Vance and a second expert, Dr. Anne Spence of the University of California-Irvine, about the possible role of genes because we found what seems to be a lower prevalence of autism among the Amish. There has been no formal study of the Amish autism rate, but doctors who treat them say autism is very rare. **The two experts were recommended by the American Society of Human Genetics, the nation's primary professional group.**

"Could you have an effect which would mean fewer of the genes that I'm personally convinced are important in autism were drawn into this population by the founder?" asked Spence. "I would say yes, that is certainly a possibility."

Pericak-Vance studied dementia in an Amish group and reported -- in a paper published in the journal *Annals of Neurology* in 1996 -- that it is less common than in the outside Caucasian population. She found they also have a lower incidence of a gene called APO-E4.

That gene is associated with Alzheimer's disease; in fact, "it's the one risk factor that's been confirmed in thousands of studies worldwide," Pericak-Vance said.

Her deduction: Because the Amish she studied have less APO-E4, they have a lower incidence of dementia; her findings have "just recently confirmed in some updated data we have with the Amish population.

"So the answer to your general question is yes. It could be the founders of the Amish community you're looking at didn't have any of the risk or susceptibility genes for autism."

It's unclear what role APO-E4 might play in triggering Alzheimer's, Pericak-Vance said. Both she and Spence said they don't see evidence that the gene is linked to autism.

"I am not aware of any report ever correlating APO-E4 with autism," Spence said. "Nor is there any evidence of tangles or plaques or any of those things in the brains of these kids."

Both said that whatever susceptibility genes are involved in autism, an environmental trigger might be needed to activate them in at least some cases.

"Gene-environment interaction could play a huge role in complex traits, and that in fact is what we think is going on," Pericak-Vance said. "For example, the APO-E4 gene is common in the population but not everyone who has it has Alzheimer's. It's obviously other genes (as well) or something going on in the environment that makes people at higher risk."

Spence said the role of genes in autism is the subject of ongoing controversy and uncertainty but that answers are coming.

"People will argue how much the genes contribute in autism. I continue to contend that as long as we say "autism is," and we don't say "autisms are," we're deluding ourselves. I believe there have to be etiologically a lot of disorders under that broad umbrella that we call the diagnosis of autism and autism spectrum.

"Some of those kids (cases) may be absolutely nothing but genes, and some may have very little to do with it, and lots of people in the mix in the middle. Some genes are very important. I cannot name them for you. I wish I could."

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This ongoing series on the roots and rise of autism invites reader comment. E-mail: [dolmsted@upi.com](mailto:dolmsted@upi.com)