

From 'Refrigerator Mothers' to untangling the genetic roots of autism

March 7 2012

With the "Refrigerator Mother" notion about the cause of autism a distant and discredited memory, scientists are making remarkable progress in untangling the genetic roots of the condition, which affects millions of children and adults, according to an article in the current edition of Chemical & Engineering News. C&EN is the weekly newsmagazine of the American Chemical Society, the world's largest scientific society.

In the story, C&EN Associate Editor Lauren K. Wolf points out that most people in the 1960s believed [autism](#) resulted from a lack of maternal warmth and emotional attachment. It was a hypothesis popularized by Austrian-born American child psychologist and writer Bruno Bettelheim. Now scientists around the globe are focusing on genes that have been implicated in autism and related conditions, collectively termed "autism spectrum disorders." That research may solve mysteries about autism, which affects 1 in 110 children in the U.S. Among them: what causes autism, why does it affect more boys than girls and what can be done to prevent and treat it?

C&EN explains that scientists now have solidly implicated certain genes as being involved in autism. Most of those genes play a role in the transmission of signals through the junctions or "synapses" between nerve cells. Synapses are the territory where one nerve releases a chemical signal that hands off messages to an adjoining nerve. The human brain has an estimated 1,000 trillion synapses, and they are hot spots for miscommunications that underpin neurological disorders like

autism. Scientists now are gleaning information on what those [genes](#) do, what brain circuits they affect and how the proteins they produce function. In doing so, they are paving the way for future medications for autism spectrum disorders.

More information: The Inner Workings Of Autism - cen.acs.org/articles/90/i10/In...-Workings-Autism.html

Provided by American Chemical Society

Citation: From 'Refrigerator Mothers' to untangling the genetic roots of autism (2012, March 7) retrieved 23 April 2024 from <https://medicalxpress.com/news/2012-03-refrigerator-mothers-untangling-genetic-roots.html>

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