

of the family. The psychologist found that in the morning, Jake would complete one or two steps of his routine before he became distracted and switched activities, despite his mother's constant reminders. During dinnertime, Jake would leave his seat between 10 and 15 times over the course of the meal. Jake's teachers were worried because Jake was only able to complete 50% of his homework. Further, his classmates would not pick Jake for team sports during recess because he often became distracted and wondered off during the game.

In this case, Jake's symptoms would not be considered developmentally appropriate for a 10-year-old child. Further, his symptoms caused him to experience impairment at home and school. Unlike Michael, Jake probably would be diagnosed with ADHD.

Why Do Some Children Develop Behavior Disorders?

The reasons that some children develop ADHD are complex, and it is generally recognized that a single cause is insufficient to explain why an individual child does or does not have the disorder. Researchers have attempted to identify risk factors that predispose a child to develop ADHD. These risk factors range in scope from genetic (e.g., specific gene polymorphisms) to familial (e.g., poor parenting) to cultural (e.g., low socioeconomic status). This section will identify some of the risk factors that are thought to contribute to ADHD. It will conclude by reviewing some of the more controversial ideas about the causes of ADHD, such as poor parenting and children's diets, and review some of the evidence pertaining to these causes.



Studies of twins have shown that genetics are primarily responsible for ADHD. [Image: donnierayjones, https://goo.gl/dgPvFx, CC BY 2.0, https://goo.gl/9uSnqN]

Most experts believe that genetic and neurophysiological factors cause the majority of ADHD cases. Indeed, ADHD is primarily a genetic disorder—twin studies find that whether or not a child develops ADHD is due in large part (75%) to genetic variations (Faraone et al., 2005). Further, children with a family history of ADHD are more likely to develop ADHD themselves (Faraone & Biederman, 1994). Specific genes that have been associated with ADHD are linked to neurotransmitters such as dopamine and serotonin. In addition, neuroimagining studies have found that children with ADHD show reduced brain volume in some regions of the brain, such as the prefrontal cortex, the corpus callosum, the anterior cingulate cortex, the basal ganglia, and the cerebellum (Seidman, Valera, & Makris, 2005). Among their other functions, these regions of the brain are implicated in organization, impulse control, and motor activity, so the reduced volume of these structures in children with ADHD may cause some of their symptoms.

Although genetics appear to be a main cause of ADHD, recent studies have shown that environmental risk factors may cause a minority of ADHD cases. Many of these environmental risk factors increase the risk for ADHD by disrupting early development and compromising the integrity of the central nervous system. Environmental influences such as low birth weight, malnutrition, and maternal alcohol and nicotine use during pregnancy can increase the likelihood that a child will develop ADHD (Mick, Biederman, Faraone, Sayer, & Kleinman, 2002). Additionally, recent studies have shown that exposure to environmental toxins, such as lead and pesticides, early in a child's life may also increase risk of developing ADHD (Nigg, 2006).

Controversies on Causes of ADHD

Controversial explanations for the development of ADHD have risen and fallen in popularity since the 1960s. Some of these ideas arise from cultural folklore, others can be traced to "specialists" trying to market an easy fix for ADHD based on their proposed cause. Some other ideas contain a kernel of truth but have been falsely cast as causing the majority of ADHD cases.