



Diseases and Disorders of Youth

Kids and ADHD

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The Most Commonly Diagnosed Disorder in Kids

People with attention-deficit/hyperactivity disorder (ADHD) have trouble paying attention and controlling emotions and behavior. According to the Centers for Disease Control and Prevention (CDC), ADHD is the most commonly diagnosed chronic (long-lasting) psychiatric disorder in kids. The number of diagnoses in children and teenagers rose steadily during the late twentieth and early twenty-first centuries, climbing from 3.3 million in 1997 to 5 million in 2009 and eventually to 6.1 million in 2016.

Why the Increases?

However, experts are not sure whether more children are developing ADHD or whether other factors are increasing the number of diagnoses. Child psychologist Tiffany R. Farchione thinks the increase “might be because of greater public awareness of the disorder and psychiatric illnesses in general.”¹ On the other hand, psychologist Stephen Hinshaw and health economist Richard Scheffler attribute

the increase to school funding issues. Their research shows that US states with the most ADHD diagnoses have laws that tie school funding to the number of students who pass standardized tests. Schools in these states encourage parents of struggling students to seek an ADHD diagnosis and a prescription for ADHD drugs to help children settle down so they can do better on tests. Indeed, CDC data shows that 13 percent of the children in Kentucky, which has such laws, were diagnosed with ADHD, compared to 3.8 percent in Nevada, which does not. As Hinshaw explains, “The diagnosis depends on behavior. We don’t have a laboratory test, so diagnosis is always going to have a subjective component: Does this child’s behavior fit into this classroom, or fit into this family, or this culture?”²

“The diagnosis depends on behavior. We don’t have a laboratory test, so diagnosis is always going to have a subjective component: Does this child’s behavior fit into this classroom, or fit into this family, or this culture?”²

—Psychologist Stephen Hinshaw

Others, like investigative journalist Alan Schwarz, believe aggressive marketing of ADHD drugs by pharmaceutical companies, along with parents and teachers looking for quick ways to calm boisterous children, has led to widespread overdiagnosis and misdiagnosis. Schwarz calls ADHD “the most misdiagnosed condition in American medicine”³ in his 2016 book *ADHD Nation*. He notes that his investigation revealed that parents and teachers commonly pressure doctors to diagnose ADHD in normal, active children who are somewhat disruptive. He cites instances in which teachers and school administrators tell parents that their disruptive children can no longer attend school unless they start taking ADHD drugs, regardless of whether they actually have the disorder. This practice has become so common that child

“[ADHD is] the most misdiagnosed condition in American medicine.”³

—Investigative journalist Alan Schwarz

ways. Nigg defines *self-regulation* as “similar to executive functioning but broader, . . . the capacity to optimize our behavior, thinking and attention, and emotional experience and expression.”⁷ Psychologists Roy F. Baumeister, Brandon J. Schmeichel, and Kathleen D. Vohs simplify this relationship by explaining that “self-regulation is one of the self’s major executive functions.”⁸

Clinical psychologist Thomas E. Brown likens executive function in the brain to the conductor of an orchestra: “The conductor organizes, activates, focuses, integrates, and directs the musicians as they play. Similarly, the brain’s executive functions organize, activate, focus, integrate and direct, allowing the brain to perform both routine and creative work.”⁹ The deficiencies in executive function and self-regulation found in people with ADHD therefore affect an individual’s ability to focus, think, and control and organize thoughts and behavior.

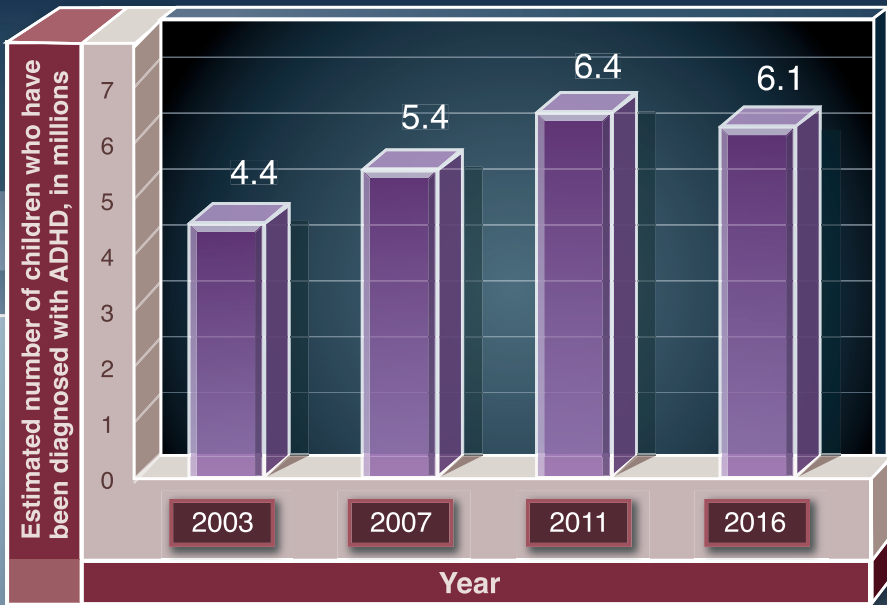
Not a New Disorder

The lack of self-regulation and the characteristic symptoms seen in children with ADHD have appeared in references dating to 1798, even though the disorder was not referred to as ADHD until 1987. Historians attribute the first-known formal description of an ADHD-like disorder to the Scottish physician Sir Alexander Crichton. In 1798 Crichton wrote that “the barking of dogs, an ill-tuned organ, or the scolding of women, are sufficient to distract patients of this description to such a degree, as almost approaches to the nature of delirium.” He also noted that the disorder had adverse effects on an individual’s ability to learn, “inasmuch as it renders him incapable of attending with constancy to any one object of education.” These characteristics are consistent with modern descriptions of ADHD. However, twenty-first-century experts know that Crichton’s observation that the disorder “is generally diminished with age”¹⁰ is often untrue. The CDC states that ADHD is a lifelong disease in more than half of all cases.

How Many Young People Have ADHD?

The number of children and teenagers diagnosed with ADHD has changed over time, according to CDC data that comes from the National Survey of Children's Health and other sources. The CDC report shows that 6.1 million young people, or about 9.4 percent of youth between the ages of two and seventeen, had ever been diagnosed with ADHD.

Estimated Number of Children Who Ever Had ADHD, in Millions



Note: Due to changes in methodology, 2016 numbers are based on an age range of two to seventeen; statistics for previous years are based on an age range of four to seventeen.

Source: Centers for Disease Control and Prevention, "Attention-Deficit/Hyperactivity Disorder (ADHD): Data & Statistics," 2018. www.cdc.gov.

Another well-known early reference to an ADHD-like disorder appears in a children's book titled *Struwwelpeter*, written by the German psychiatrist Heinrich Hoffmann in 1846. One story in the book, "Fidgety Phil," was about a boy named Philipp who constantly fidgets and displays inattention and hyperactivity. In the story, Philipp's father asks him to sit still at the dinner table, "but Philipp did not listen to what the father was saying to him. . . . [He] wriggled and giggled, and then, I declare, swung backward

Is ADHD a Real Disease?

Some experts, including behavioral neurologist Richard Saul, believe ADHD is a catchall label for difficult children and is not a real disease. In his 2014 book *ADHD Does Not Exist*, Saul writes that many children diagnosed with ADHD actually have another disorder, such as anxiety, depression, or oppositional defiant disorder. “Once I treated what I saw as the primary diagnosis . . . the attention-deficit and hyperactivity symptoms usually disappeared, leading me to believe that . . . the symptoms of ADHD are better explained by other conditions. In other words, ADHD, as we currently define it, does not exist,” he explains.

Other experts argue that brain abnormalities in people with ADHD prove it is a distinct and real disorder. In 2017 geneticist Martine Hoogman and her colleagues at Radboud University Medical Center in the Netherlands published a study that found five areas in the brain are abnormally small and underdeveloped in children with ADHD. These areas regulate attention, learning, memory, emotions, and self-control, which are all deficient in people with ADHD. “The results from our study confirm that people with ADHD have differences in their brain structure and therefore suggest ADHD is a disorder of the brain. We hope that this will help reduce stigma that ADHD is ‘just a label’ for difficult children,” states Hoogman. Other studies have found that the prefrontal cortex (part of the cerebral cortex, or the “thinking” part of the brain) in children with ADHD is also smaller than normal.

Richard Saul, *ADHD Does Not Exist*. New York: HarperCollins, 2014, pp. xvii, xvi.

Quoted in Melissa Jenco, “Study: Brain Differences Found in children with ADHD,” AAP News, February 16, 2017. www.aappublications.org.

and forward and tilted his chair.”¹¹ Philipp’s chair then falls over, dragging dishes and food off the table, and his parents become angry. The entire scenario is consistent with the characteristics and family conflicts that occur in households with ADHD.

Despite these early descriptions, doctors did not consider ADHD-like behavior to constitute a specific mental disorder until the 1900s. Many medical historians consider a series of lectures called the Goulstonian Lectures, given by the British pediatrician Sir George Frederic Still in 1902, to represent the beginning of the history of ADHD as a clearly defined medical disorder. Still described a group of forty-three children with hyperactivity, problems

paying and sustaining attention, and problems regulating emotion and behavior. The children also tended to be aggressive, defiant, spiteful, and resistant to discipline. Still attributed these behaviors to a “defect of moral consciousness” that led to a lack “of moral control.” He further noted that these children did not learn from the consequences of their actions, even though they were “without general impairment of intellect.” Indeed, he noted that most were of normal intelligence, which is typical of children with ADHD. However, experts believe Still’s descriptions were of children who had an ADHD-like illness combined with another mental disorder that may have been either what is now known as oppositional defiant disorder or conduct disorder. This is because children with ADHD are not usually spiteful, and even though they often resist the effects of punishment, they are not morally deficient. In any case, Still referred to the disorder he described as “an abnormal psychological condition in children.”¹²

In 1932 the German physicians Franz Kramer and Hans Pollnow referred to an ADHD-like disorder as “a hyperkinetic disease of infancy.”¹³ According to psychologists at the University of Regensburg in Germany, Kramer and Pollnow described affected children who “indiscriminately touch or move everything available without pursuing a goal. . . . These children switch the light on and off, move chairs around the room, climb the table, the cupboard or the windowsill, jump around in their beds, turn keys in the keyhole, go round in circles.”¹⁴ This emphasis on the hyperactivity aspects of the disorder persisted for the next several decades; in 1957 psychiatrists officially named it *hyperkinetic impulse disorder*.

However, numerous experts pointed out that the severity and nature of symptoms varied among individuals, and some thought

“These children switch the light on and off, move chairs around the room, climb the table, the cupboard or the windowsill, jump around in their beds, turn keys in the keyhole, go round in circles.”¹⁴

—Neuropsychologist Klaus W. Lange and colleagues paraphrasing German physicians Franz Kramer and Hans Pollnow

the diverse symptoms of hyperactivity, inattention, and impulsivity should be united under a new name that alluded to the common characteristic of minimal brain damage. Based on this viewpoint, a task force convened by the National Institute of Neurological Diseases and Blindness during the early 1960s recommended calling the disease *minimal brain dysfunction syndrome*. Psychiatry and pediatrics professor Sam D. Clements wrote a description of the syndrome based on the task force's findings, explaining that it affected "children of near average, average, or above average general intelligence with certain learning or behavioral disabilities ranging from mild to severe" and involved "impairment in perception, conceptualization, language, memory, and control of attention, impulse, or motor function."¹⁵

Critics claimed the label of minimal brain dysfunction was too general and vague to be useful, and many insisted that the name should include the word *hyperactivity*. Based on these sentiments, in 1968 the American Psychiatric Association used the name *hyperkinetic reaction of childhood* in the second edition of the *Diagnostic and Statistical Manual* that it publishes to help psychiatrists diagnose and treat mental disorders. But again, experts argued over whether inattention and impulsivity were also hallmark characteristics. In 1980 the American Psychiatric Association renamed it *attention deficit disorder with or without hyperactivity*. In 1987 the American Psychiatric Association renamed it *ADHD*, and in 1994 it subdivided ADHD into the three subtypes that are still used in diagnosis: predominantly inattentive presentation, predominantly hyperactive-impulsive presentation, and combined presentation.

The Characteristics of ADHD

The name *ADHD* reflects the most prominent behaviors that derive from an individual's lack of self-regulation. However, inattention, hyperactivity, and impulsivity are not the only characteristic behaviors seen in children with the disorder. Kids with ADHD also have trouble controlling their emotions, and in many cases they

display what experts call hyperfocus. This refers to the fact that they can pay attention to things they find interesting, such as a favorite video game, for hours.

Other common behaviors in kids with ADHD include not doing what parents or teachers instruct them to do and not remembering things. In some cases, if a parent tells the child to stop banging on a table, he may stop for a minute and then resume the behavior because he forgets what he was told. Other children do not complete tasks like homework because their attention flits from one thing to another. Kids with ADHD also frequently lose things. One mother commented that her son lost his lunchbox nearly every day at school because he would put it down, start doing something else, and completely forget about the lunchbox. The inability to focus and stick with one thing is one factor that accounts for the difficulties kids with ADHD have with learning and doing well in school. Because of these difficulties, some experts have suggested that ADHD should be classified as a learning disability.



Many young people with ADHD display what experts call hyperfocus. This refers to their ability to focus for hours on things they find interesting, such as a favorite video game.

Introduction: The Most Commonly Diagnosed Disorder in Kids

1. US Food and Drug Administration, “Dealing with ADHD: What You Need to Know,” October 12, 2016. www.fda.gov.
2. Quoted in Caroline Miller, “Are Schools Driving ADHD Diagnoses?,” Child Mind Institute. <https://childmind.org>.
3. Alan Schwarz, *ADHD Nation*. New York: Scribner, 2016, p. 2.
4. Quoted in Schwarz, *ADHD Nation*, p. 63.
5. Quoted in Katherine Ellison, “We Can’t Afford to Treat Our ADHD,” *ADDitude*, April 27, 2017. www.additudemag.com.

Chapter 1: What Is ADHD?

6. Joel T. Nigg, *Getting Ahead of ADHD*. New York: Guilford, 2017, p. 2.
7. Nigg, *Getting Ahead of ADHD*, pp. 11–12.
8. Roy F. Baumeister, Brandon J. Schmeichel, and Kathleen D. Vohs, “Self-Regulation and the Executive Function: The Self as Controlling Agent,” in *Social Psychology: Handbook of Basic Principles*, edited by Arie W. Kruglanski and E. Tory Higgins. 2nd ed. New York: Guilford, 2007, p. 517.
9. Quoted in Children and Adults with Attention-Deficit/Hyperactivity Disorder, “The Science of ADHD.” www.chadd.org.
10. Alexander Crichton, “On Attention, and Its Diseases,” in *An Inquiry into the Nature and Origin of Mental Derangement*. Vol. 1. London: Printed for T. Cadell Jr. and W. Davies, 1798, pp. 271, 272. <https://books.google.com>.
11. Quoted in Klaus W. Lange et al., “The History of Attention Deficit Hyperactivity Disorder,” *Attention Deficit and*

Organizations and Websites

American Psychiatric Association

800 Maine Ave. SW, Suite 900
Washington, DC 20024
website: www.psychiatry.org

The American Psychiatric Association is a professional organization for psychiatrists, who are medical doctors who specialize in diagnosing and treating mental disorders. The website has information about ADHD, including symptoms, causes, diagnosis, treatment, and relevant research.

American Psychological Association

750 First St. NE
Washington, DC 20002-4242
website: www.apa.org

The American Psychological Association is a professional organization for psychologists, who are licensed to provide psychological therapy. Its website contains information about all aspects of ADHD, including symptoms, diagnosis, treatment, research, and more.

Centers for Disease Control and Prevention (CDC)

1600 Clifton Rd.
Atlanta, GA 30329
website: www.cdc.gov

The CDC is the US government agency responsible for protecting Americans from health and safety threats. It provides detailed information about all aspects of ADHD, including up-to-date statistics. The CDC also conducts research and shares its findings with the public.

For Further Research

Books

Nicole Horning, *Living with ADHD*. New York: Lucent, 2018.

Carla Mooney, *Teens and ADHD*. San Diego: ReferencePoint, 2017.

John Perritano, *ADHD and Other Behavior Disorders*. Broomall, PA: Mason Crest, 2017.

Whitney Sanderson, *Living with ADHD*. San Diego: ReferencePoint, 2018.

Monique Vescia and Alvin Silverstein, *What You Can Do About ADHD*. New York: Enslow, 2015.

Internet Sources

Traci Angel, "Everything You Need to Know About ADHD," Healthline, July 13, 2017. www.healthline.com/health/adhd.

Denise Foley, "ADHD & Kids: The Truth About Attention Deficit Hyperactivity Disorder," Time.com. <http://time.com/growing-up-with-adhd>.

Richard A. Friedman, "A Natural Fix for A.D.H.D.," *New York Times*, October 31, 2014. www.nytimes.com/2014/11/02/opinion/sunday/a-natural-fix-for-adhd.html.

Medical News Today Editorial Team, "ADD/ADHD: Causes, Symptoms, and Research," Medical News Today, January 5, 2016. www.medicalnewstoday.com/info/adhd.

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