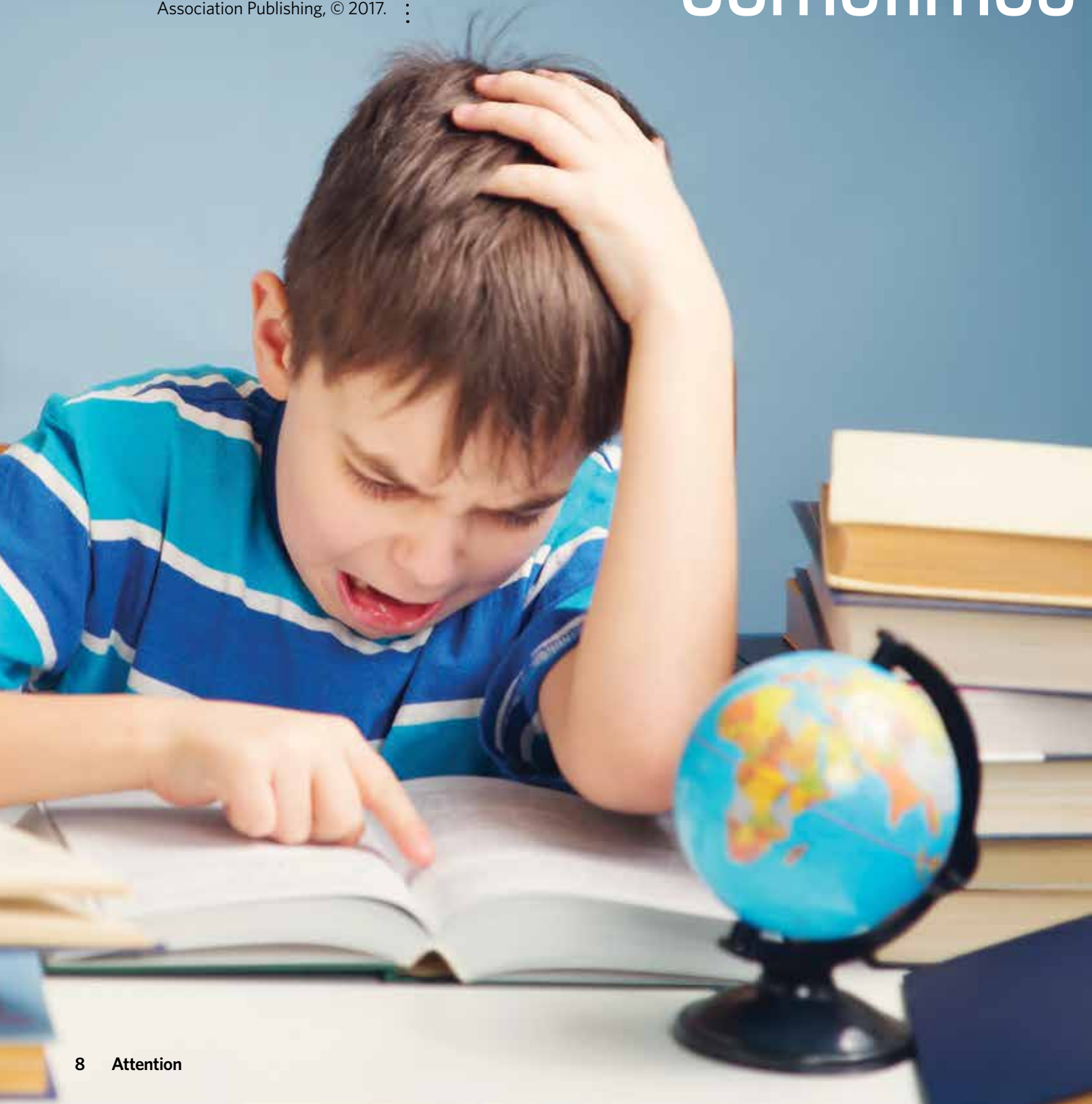


PART ONE

# How ADHD Sometimes

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# WORSE

by Thomas E. Brown, PhD

**WHEN WE SAY THAT A PERSON'S ADHD HAS GOTTEN WORSE**, what we usually mean is that the person's executive functions, his ability to manage himself, have not yet developed enough to meet task requirements usually expected for a person of that age. As a child gets older, family, teachers, friends, and the wider community increase their expectations for how much a person is able to demonstrate adequate self-management. If the discrepancy between what that individual and most other persons of similar age are able to do is too great, people tend to say that he or she is behind in his or her development.

ADHD is a syndrome of impairments in certain brain functions that may cause more or less difficulty, depending on what that person needs to do in daily life. It is important to keep in mind that ADHD is not like an infection or a tumor that gets worse or better. It is a syndrome of impairments of the brain's development and cognitive functioning. To think about such impairments always involves the question, "Impairment for what?" ADHD tends to impair certain functions in affected persons as they encounter tasks that they are expected to perform by a specific age. For example, a young child in preschool or kindergarten is not expected to be able to sit at a desk and do written assignments. If a child with ADHD in fourth grade is consistently unable to work independently on that task, the problem is not really that his ADHD has gotten worse. The problem is that his ability to master the demand for increased attention and self-control has not improved as much as is usually expected for that age.

Perhaps it would make more sense to ask, "What factors make a person's ADHD more problematic?" than to ask, "How does ADHD become 'worse'?" A number of factors may make an individual's ADHD symptoms become more problematic at a particular time of life or in particular situations. Some of these include the following:

**Being required to undertake new challenges without sufficient support.**

Most people would not expect or allow a 3-year-old child to cross a busy street alone. A child that young would not be expected to be able to look carefully at traffic coming from both directions, to estimate accurately the speed of oncoming vehicles, and to move carefully to cross when there is adequate space to get across safely. Any reasonable adult would want to provide careful assistance to help that young child get safely across the street until the child has matured enough to learn, remember, and use the skills needed safely to cross a busy street alone. We also know that some children need much longer to develop these skills than do others.

For some children with ADHD, academic skills such as learning to read, preparing for a spelling test, writing a book report, and keeping track of homework assignments are acquired as readily as for most others of similar age. However, for some, such tasks may be as challenging as it would be for a 3-year-old to cross a busy street alone. Some children with ADHD are very quick to pick up academic skills, but they consistently struggle more than most of their peers with social skills. They are slower to pick up cues from others

about when they are being too pushy or too demanding. They feel chronically bewildered about how to respond to classmates' teasing or how to get others to let them join in a conversation or a game. They may repeatedly be too bossy and be excluded by playmates, or they may simply retreat into solitary activities, avoiding the risk of peer rejection by immersing themselves in playing video games.

Some children with ADHD need much more support from parents or teachers for doing their schoolwork and/or managing social interactions. This need for extra support may emerge early in preschool years, or it may not become noticeable until the child enters middle school or high school when more independent self-management is expected. For some, the need for extra support does not emerge noticeably until the adolescent is preparing to move away from home to go to college. For those who need such support and do not receive it or who receive too much support and do not have ample chances to learn to manage for themselves, such activities at various stages of development may become almost as perilous as trying to cross a busy street before they have learned how to do it.



**Being criticized or punished repeatedly or harshly for failures they cannot adequately control.**

Because children and adolescents with ADHD often fail to meet the usual expectations for their age, many are subjected to what they experience as endless criticism or harsh punishment from teachers, parents, siblings, and/or peers. “Why do you always keep doing what I’ve asked you repeatedly to stop doing?” “You keep promising that you will write down your assignments in your plan book, and then you keep coming home without doing it!” “Why should I keep helping you with your homework

when you don’t even bother to hand it in and get credit for it?” “You spend hours intently focused on playing your video games, but you claim you can’t focus for just 20 minutes on doing your social studies homework.”

Some children and adults report a long history of having been told frequently while growing up that they were hopelessly lazy, stubborn, and stupid and destined for a life of failure. Usually, such verbal attacks result from intense and persistent frustration experienced by parents or others mystified by the child’s seeming refusal to do what is expected, despite a variety of repeated efforts by the adult to encourage appropriate behavior. Such frustration is often intensified as the adult witnesses the child showing strong ability to focus and work persistently on a few self-selected tasks while consistently acting incapable of devoting comparable attention and effort to tasks the adult views as important. This is the result of parents not understanding the “mystery of ADHD:” that ADHD symptoms are situationally variable and that there is much intra-individual variability in the symptoms of this disorder.

**Suffering from additional emotional, cognitive, or behavioral problems that may be co-occurring with ADHD.**

Individuals with ADHD have a greatly increased likelihood of suffering from one or more psychiatric disorders at some time in their lifetime than do most others. One study of children with ADHD found that 62% had at least one other psychiatric disorder, whereas only 19% of population-based control subjects had any such disorder by the same age (Yoshimasu et al. 2012). This is a threefold increased risk of a comorbid disorder for those with ADHD. More than one-third of the children with ADHD in that study had two or more comorbid disorders, whereas just 8% of the control subjects had more than one. A nationally representative study found that adults with ADHD were more than six times as likely as the comparison sample to have an additional psychiatric disorder (Kessler et al. 2005, 2006).

For many individuals, ADHD impairments are made worse by their struggles with excessive anxiety, persistent depression, compulsive behaviors, difficulties with mood regulation, learning disorders, or other psychiatric disorders that may be transient, recurrent, or persistently disruptive of their ability to perform the tasks of daily life.

One comorbid problem that warrants special mention is excessive use of alcohol and/or other drugs. A study based on pooled samples of more than 4,000 persons with ADHD and more than 6,000 control subjects without ADHD assessed at an average age of 18.9 years showed the



magnitude of difference between these groups. Those with ADHD had 1.7 times the risk of a substance use disorder with alcohol, 2.05 with cocaine, 2.29 with marijuana, and 2.84 with nicotine. Overall, those with ADHD had more than two and a half times the risk of having a substance use disorder with one or more of these addictive substances by early adulthood (Lee et al. 2011).

For many persons with ADHD, the overuse of alcohol, marijuana, or other drugs begins with an effort to self-medicate. Often, they struggle daily with feelings of frustration, embarrassment, disappointment, or shame resulting from their ADHD impairments. Occasional use of these substances may, for a time, bring welcome, although very temporary, relief from these painful emotions. The problem is that occasional use can readily lead to more chronic use, which can rapidly lead to a persistent cycle of addiction from which it may be extremely difficult to recover. Addiction to these substances can result in worsening of ADHD impairments in multiple aspects of schooling, employment, social relationships, and other aspects of daily life.

### Stresses resulting from environmental adversities.

Although the primary causes of ADHD are genetic, adverse environmental factors may have considerable negative impact on the life experience of children and adults with ADHD. Examples of environmental adversities include serious medical or psychiatric illness of a parent or other close family member, domestic violence, living in a dangerous neighborhood, separation or divorce of parents, layoff or loss of employment, multiple changes of residence, lack of or loss of health insurance, and serious disability or death of a parent or other close family member.

Such adversities may occur in isolation with just transient effects followed by full recovery. In other cases, adversities may be persistent and may trigger additional adversities. For example, if a parent who has been the primary wage earner for the family suffers a major injury or protracted disabling illness, the parent could lose his or her job and with it health insurance for himself or herself and the family; this could also result in eviction, forcing a move into a more dangerous neighborhood.

Although such adversities can create overwhelming difficulties for any family, their impact may be compounded in a family in which one or more family members have ADHD; the difficulties can worsen considerably if one or both parents have ADHD and are trying to cope with the added stress that results from raising children with ADHD. One study of more than 200 adult patients with ADHD found that those whose ADHD symptoms were more severe tended to have more major adversities than did those whose ADHD symptoms were less impairing (Garcia et al. 2012). One secondary effect of such difficulties is that some adolescents in families suffering significant adversities feel an obligation to remain at home longer than they might otherwise, sometimes sacrificing their own educational or employment opportunities to provide economic and/or emotional support to parents, siblings, or other family members.

### Bodily changes of aging along with their ADHD symptoms.

Many discussions of ADHD refer to it as a developmental disorder, but generally, the focus of such discussions is limited to the first decade or two of life; they do not encompass the full range of development across the lifespan. Yet the few studies that have explored ADHD during adulthood, especially those that have looked at midlife and beyond, clearly indicate that for those individuals whose ADHD persists into middle adulthood and beyond, significant impairments tend to remain and sometimes worsen.

One population-based study of more than 2,000 men and women ages 47–54 years found that 6.2% reported significant symptoms of ADHD; no difference in ADHD symptoms was found between men and women in this sample (Das et al. 2012). Evaluation of those who reported significant ADHD impairments found that those individuals were less likely to be employed full-time, struggled more with physical health problems, and reported more problems in personal relationships and in their personal finances as well as lower quality of social life and well-being.





With or without ADHD, there are a number of physical changes associated with aging in both males and females. Imaging studies have demonstrated age-related decline in various elements of the brain that provide infrastructure for executive functioning, even for healthy adults without ADHD (Backman et al. 2005; Gazzaley et al. 2005; Raz 2005). Nora Volkow and her colleagues (1996) found a 6.6% decrease per decade of life in availability of dopamine transporters in healthy volunteers. Age-related decline in brain dopamine activity even in healthy volunteers has also been documented in several other regions of brain important for executive functions.

White matter decreases in the brain are also associated with aging in the general population. One study found that the total length of white matter fibers decreases by 10% per decade of life in the general population, up to a total decline of about 45% by age 80 years, with about a 16% greater average decline in females (Marner et al. 2003). It should be noted, however, that these percentages of decline in the general population are based on averages that may mask considerable variability among various individuals.

Very little research has assessed ADHD in the geriatric population. Many health care practitioners tend to assume that any attentional difficulties experienced by elderly individuals are due simply to the slow degenerative processes of aging or, possibly, to the early stages of dementia. Adult patients sometimes fear that their ADHD predisposes them to onset of Alzheimer's or some other variety of dementia. Currently, there is no evidence to support that assumption.

ADHD in the older population may be mistakenly diagnosed as mild neurocognitive disorder, a disorder that involves some cognitive decline that does not interfere with the capacity for independence in everyday activities. Mild neurocognitive disorder is sometimes, but certainly not always, a prelude to onset of dementia. Screening for ADHD in any elderly person who presents with symptoms of mild neurocognitive disorder may be helpful not only for increasing understanding of possible relationships between these two disorders but also for identifying adults whose cognitive impairments may be due to

lifelong problems with ADHD rather than to geriatric deterioration (Ivanchak et al. 2012).

Changes associated with menopause are an aspect of aging that is associated with cognitive impairments similar to ADHD. Women with no childhood history of ADHD, many of them well-educated and high-functioning business and professional women, report onset of ADHD-like impairments of working memory, organizational skills, and ability to sustain focus that appear coincident with their decline of estrogen and cessation of their menses. This association makes sense in that estrogen is one of the primary modulators of the release of dopamine in the female brain. Insufficiency of dopamine in the brain networks that manage executive functions is one of the major problems associated with ADHD. Studies published by groups at Yale and the University of Pennsylvania have demonstrated that medications used for treatment of ADHD may help to alleviate these midlife-onset impairments of executive functions (Epperson et al. 2011, 2015; Shanmugan et al. 2016).

#### Lack of appropriate diagnosis and treatment.

Another factor that may contribute to increased impairment from ADHD is lack of appropriate diagnosis and treatment. Among children in the United States ages 4–17 years who have been diagnosed with ADHD, approximately 17.5% received no treatment for their ADHD. However, there is great geographical variability in the availability and use of treatment for this disorder. An analysis of treatment patterns in the United States found that the percentage of children with ADHD who received treatment ranged from a low of 2% in some states to a high of 10.4% in others (Visser et al. 2014).

One survey reported that 49.7% of adults in the United States diagnosed with ADHD had received at least some professional care for emotional problems, but only 10.9% of those had received treatment specifically for ADHD.



For most, treatment was given for anxiety, depression, or some other psychiatric problem, without treatments likely to be directly helpful for alleviating ADHD impairments (Fayyad and Kessler 2015). 📍

#### IN THE NEXT ISSUE: How ADHD Sometimes Gets Better

**Thomas E. Brown, PhD**, is a clinical psychologist who specializes in assessment and treatment of high-IQ children, adolescents, and adults with ADHD and related problems. After serving on the clinical faculty of Yale Medical School for 20 years, Dr. Brown relocated to Los Angeles, where he has joined the faculty at the Keck School of Medicine of the University of Southern California. His new Clinic for Attention and Related Disorders will open in Manhattan Beach in June 2017. His book, *Attention Deficit Disorder: The Unfocused Mind in Children and Adults* (Yale University Press, 2005), has been published in seven languages. He is also the author of *Smart but Stuck: Emotions in Teens and Adults with ADHD* (Jossey-Bass/Wiley, 2014), and *A New Understanding of ADHD in Children and Adults: Executive Function Impairments* (Routledge, 2013).

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