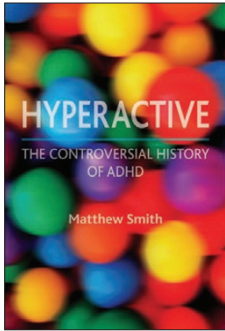


## The war on ADHD



### Hyperactive: The Controversial History of ADHD

Matthew Smith

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Reviewed by Mark Stein

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder that is common, costly, international, on the rise and always controversial. Studies confirm the short-term efficacy of stimulants in treating ADHD, but their long-term effectiveness is unclear. There are varying opinions about the prevalence of ADHD and the relative benefit of medications and other treatments. Moreover, there is debate as to whether ADHD is overdiagnosed, overtreated with medicines and undertreated in terms of nondrug treatments.

Drawing from the medical literature, popular culture and personal experience as a teacher, counselor and father of an active child, Matthew Smith provides a richly textured, historical perspective explaining how we arrived at the current state of ADHD diagnosis and treatment. He gives numerous examples of hyperactivity from popular culture. According to Smith, our views of hyperactivity reflect both modern medicine and the current state of our society.

The author describes sentinel events in the history of ADHD, such as the 1902 portrayal of children with “defects in moral control,” the pandemic of encephalitis and neurological sequelae and the serendipitous discovery in 1937 of the effect of the stimulant Bensedrine on children’s behavior and learning. However, the emphasis of this book is on the 50 years after the synthesis of the stimulant Ritalin in 1944. Multiple factors other than genetics and neurology are described as contributing to the worldwide rise of hyperactivity and how it is viewed or treated. The central thesis is that a confluence of factors in the US, beginning in the early 1960s, such as changes in an overburdened educational system during the baby boom, contributed to the rapid acceptance among physicians of hyperactivity as a disorder that could be treated with medicine. Previously, stimulants were used to treat a variety of age groups and conditions, such as fatigue, obesity and depression. However, beginning in the 1960s, changing expectations for children to perform in school contributed to a demand for a treatment such as Ritalin that targeted a newly recognized syndrome affecting children and their school performance.

ADHD subsequently became a focus of scientific inquiry as empirical evidence on the safety and short-term efficacy of stimulants accumulated. Smith further attributes factors such as “psychiatric ambitions,

corporate avarice and biomedical ideologies” as contributing to the concept of hyperactivity as a neurological disease treated primarily with stimulants. Although noting that Ritalin “worked” in that 80% of those treated experienced symptom reduction, the author expresses the concern that stimulants could change a child’s personality. However, studies have not found this adverse effect.

The multicolored circles on the cover that are either pills or candies reflect the book’s primary emphasis on two treatments: stimulants and diet. The former is popular in North America, whereas the latter is more popular in the UK, where foods with artificial colors now have the warning “may have effects on activity and attention in children.” In this book, personal opinion and anecdote seem to be given similar historical or cultural weight to randomized controlled trials. For example, the chapter on alternative treatments is primarily a description of the Feingold diet, which seeks to improve behavior by eliminating certain foods and additives. In contrast to the hundreds of placebo-controlled studies demonstrating large reductions in ADHD symptoms during pharmacological treatment, studies of dietary changes have had generally mixed results, despite striking personal anecdotes of their effectiveness.

A major oversight of the book is the omission of a discussion of behavioral therapy, which is often a first-line treatment or provided along with medication. Indeed, pharmacological treatment almost never stands alone, as medications wear off and social, developmental and cultural factors affect the presentation of ADHD. Another weakness in Smith’s thesis is that recent clinical or research advances, such as the NIMH Multimodal Treatment Study, which compared intensive behavior therapy with pharmacotherapy and the combination of the two in nearly 600 children, the development in the early 2000s of long-acting medications that have largely replaced immediate release stimulants, and studies using functional neuroimaging, are not even mentioned.

To limit overdiagnosis, Smith suggests curtailing the influence of the pharmaceutical industry and their aggressive marketing practices. The more holistic approach advocated by Smith would include the development of more active, child-centered classrooms, more exercise, nutrition and counseling and other efforts to set up a healthy home environment. Although it seems reasonable to be concerned about overuse of medication, a blanket endorsement of all nonmedical and especially non-evidence-based treatments may result in excessive waste and a delay for some people in receiving appropriate treatment if we do not know for whom such interventions will be most beneficial. Perhaps a call to arms is needed to fund such efforts, including evaluation of each component and its comparative efficacy.

I recommend this book for the clinician who is unfamiliar with the history of ADHD and the context of its treatment, especially those who have had little exposure to the cultural and social aspects of the disorder. It would also be useful for those interested in health and education policy. However, in my opinion, it provides an incomplete review for the patient, parent or practitioner who is interested in the scientific basis of the diagnosis of ADHD and its comprehensive, multimodal treatment.

#### COMPETING FINANCIAL INTERESTS

The author declares competing financial interests: details are available in the online version of the paper ([doi:10.1038/nm.3419](https://doi.org/10.1038/nm.3419)).

Mark Stein is at Seattle Children’s Hospital and University of Washington, Seattle, Washington, USA.  
e-mail: [mstein42@uw.edu](mailto:mstein42@uw.edu)