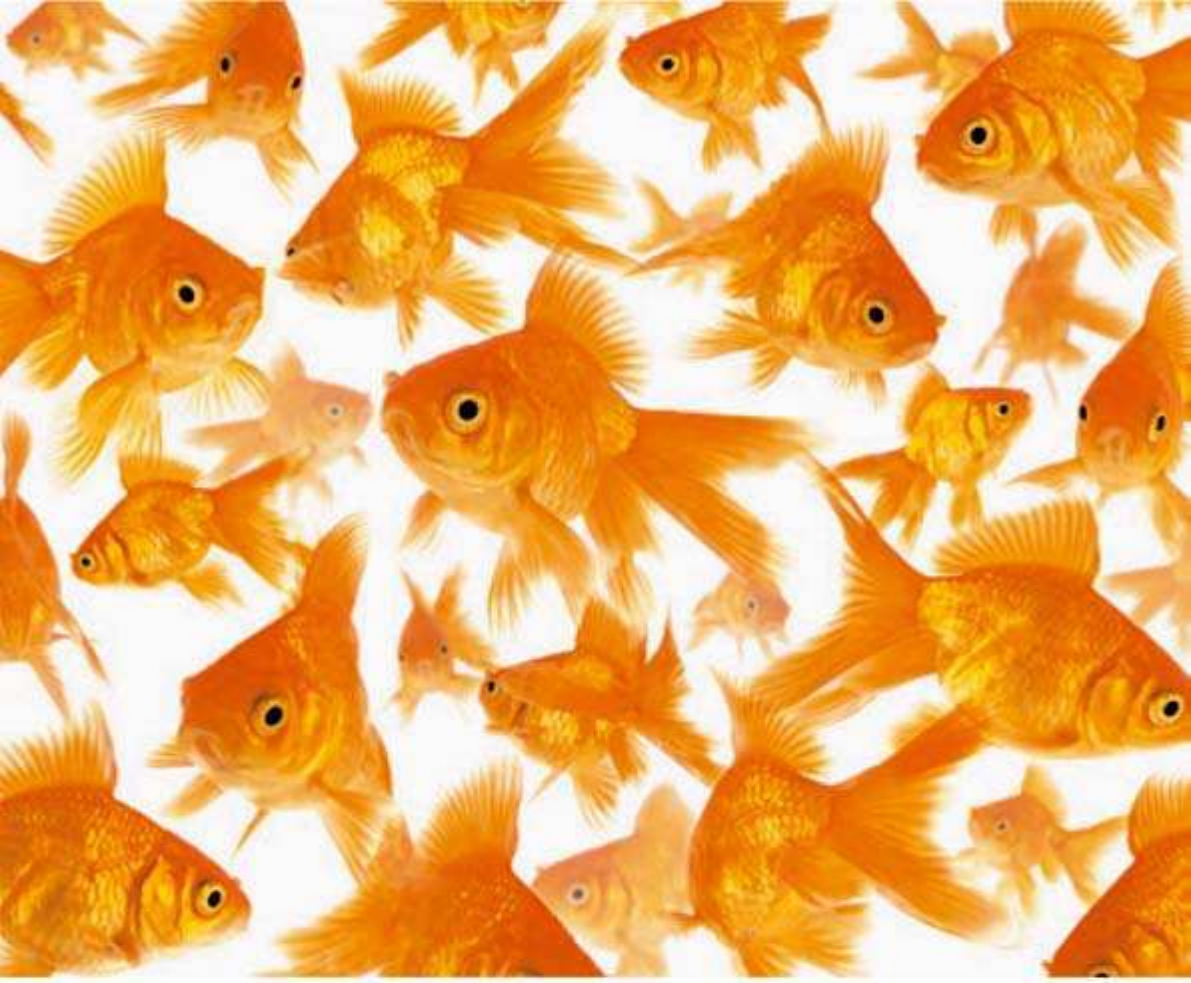

Attention Deficit Disorder

THE UNFOCUSED MIND IN CHILDREN AND ADULTS

Thomas E. Brown, Ph.D.

YALE UNIVERSITY PRESS **HEALTH & WELLNESS**

Attention Deficit Disorder

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Yale University Press New Haven & London

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Designed by Rebecca Gibb. Set in Scala type by Integrated Publishing Solutions.
Printed in the United States of America.

Library of Congress Cataloging-in-Publication Data
Brown, Thomas E., Ph. D.
Attention deficit disorder : the unfocused mind in children and adults /
Thomas E. Brown
p. cm. — (Yale University Press health & wellness)
Includes bibliographical references and index.
ISBN 0-300-10641-6 (alk. paper)
1. Attention-deficit hyperactivity disorder. 2. Attention-deficit disorder in adults.
I. Title. II. Series.
RJ506.H9B765 2005
616.85'89—dc22
2005040895

A catalogue record for this book is available from the British Library. The paper in this book meets the guidelines for permanence and durability of the Committee on Production Guidelines for Book Longevity of the Council on Library Resources.

10 9 8 7 6 5 4 3 2 1

To my wife, Bobbie, with continuing love and gratitude for all you are, all you give, and all we share together

As physicians strive to gather more data, to see more, to be more objective, to be more scientific, they are often experienced by their patients as not listening. . . . Listening is central to learning about and coming to understand a sufferer. . . . The healer learns about the sufferer in direct proportion to the quantity and quality of his listening.

—Stanley W. Jackson, M.D., "The Listening Healer in the History of Psychological Healing" (1992)

The untangling of the complexity has barely begun. . . . But even at its early stages, the whole business of the matter of the mind requires a global view if we are to get anywhere.

—Gerald M. Edelman, M.D., Ph.D., *Bright Air, Brilliant Fire: On the Matter of the Mind* (1992)

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Preface

Over the past decade hundreds of thousands of children, adolescents, and adults have been diagnosed and treated for attention deficit disorder (ADD) or attention-deficit hyperactivity disorder (ADHD). Advocacy groups for individuals and families affected with ADD/ADHD are burgeoning not only in the United States and Canada, but also in the United Kingdom, Germany, Australia, Mexico, Norway, Spain, Japan, and many other diverse cultures around the world.

Despite this popular groundswell and a tremendous amount of scientific evidence supporting the validity of the ADHD diagnosis and the safety and effectiveness of available treatments, a large segment of those in the popular media and many individuals remain skeptical; they consider ADD a trivial problem that is often overdiagnosed and overtreated. Most of this skepticism is based on simple ignorance about the complex nature of the disorder, its often devastating effects on individuals and families, and the safe, effective benefits obtained by the vast majority of those who receive appropriate treatment.

Over the past twenty years I have assessed and helped to provide treatment for thousands of children, adolescents, and adults who suffer from attention deficit disorders. I have studied and participated in relevant scientific research. I have traveled throughout the United States and in twenty-

five other countries to consult with professionals and laypersons about ADHD and to offer lectures and professional education workshops. These experiences have convinced me that there is a continuing and widespread need for a clear, scientifically based explanation of what ADD/ADHD is, what it isn't, and how it can effectively be recognized and treated.

Thirty-six years ago, when I began studying psychology at Yale, we did not have the powerful imaging tools that now make it possible to look within the living human brain and observe moment to moment changes in its neural networks. We were, however, taught another way to learn about problems of brain function: to listen carefully to the way patients describe their experiences.

I have written *Attention Deficit Disorder* to describe what I've learned from conversations with thousands of children, adolescents, and adults who have ADHD. I hope it will be of interest to a wide range of readers in the general public: those who encounter these problems in themselves, family, or friends, and those who simply want to gain a fresh perspective on the fascinating complexity of the human brain. I hope it will also be useful for psychologists, educators, psychiatrists, pediatricians, family practice physicians, internists, social workers, human resource managers, counselors, and other professionals who want to better provide understanding and appropriate support to individuals who suffer from the difficulties described here.

The path to writing this book began one day as I listened to a very bright high school student describe frustrations that interfered daily with his schoolwork. He complained that he could read fluently, but moments later could not recall what he had just read. He said that his mind repeatedly took long excursions in almost every class. Often he was unable to stay focused enough to catch more than snippets of the lecture or class discussion. He explained that despite good intentions to prepare homework and write papers, he ended up procrastinating on assignments and got the inevitable poor results. Something about his description of these persistent struggles made them sound more like problems of "can't" than problems of "won't."

The boy's descriptions led me to suspect he had an attention deficit disorder that had remained undiagnosed because he was bright and not

hyperactive or disruptive. A trial of stimulant medication brought sudden and dramatic improvements in virtually all of his attentional impairments.

That experience ignited my curiosity. How could someone with so much ability, such an intense desire for success, be chronically impaired in so many ways and then overcome these difficulties almost overnight using just a few small daily doses of a short-acting medication?

The following pages are filled with many real-life examples obtained from children, adolescents, and adults suffering from ADHD. These are intertwined with explanations of current research in neuroscience, psychology, and psychiatry that I find helpful in understanding the complex problems of how this disorder can be recognized and effectively treated.

The first chapter poses the perplexing question of ADHD: How can apparently normal persons have chronic difficulty "maintaining focus" for tasks they see as important, while they are able to pay attention very well to less important tasks that interest them? Is this just a simple problem of "willpower?" I argue that, despite appearances, the core problem in ADHD is not lack of willpower, but chronic, often lifelong impairment of the "executive" or management functions of the brain.

In Chapter 2 I use everyday examples to describe six clusters of cognitive problems reported by most persons with ADD. Some of these symptoms are included in the diagnostic criteria for ADHD in *DSM-IV,* the psychiatric diagnostic manual; some are not. These include chronic difficulties with (1) organizing, prioritizing, and getting started, (2) focusing, sustaining, and shifting attention, (3) regulating alertness, sustaining effort, and determining processing speed, (4) managing frustration and modulating emotions, (5) utilizing working memory and accessing recall, and (6) monitoring and self-regulating action. These cognitive functions interact to serve as the management system of the mind. Chronic impairments of these functions constitute what I call "ADD syndrome."

Understanding this syndrome requires at least a minimal grasp of how the brain operates. In Chapter 3 I offer basic explanations of how the brain works to manage daily life: how it uses short-term term memory to get things done; how it selects moment by moment what things are most important to pay attention to; and how it regulates itself to be alert and

"open for business" when needed. The chapter includes information about how two specific chemicals manufactured in the brain regulate these functions, and what happens when those chemicals do not work adequately.

Problems of ADD syndrome are different at different ages. In Chapter 4 I describe how parents and teachers build a supportive environment, or "scaffolding," to help young children gradually develop self-management skills to behave carefully, to cooperate with others, to communicate, and to work to learn to read and write. I also explain how, despite scaffolding, these tasks are much more difficult for children with ADD syndrome.

Chapter 5 explains how that scaffolding is gradually withdrawn as teenagers are required to take more responsibility for managing their time and homework, dealing with their emerging sexuality and developing relationships, working for money and driving a car, and, eventually, leaving home to function more independently. I describe impairments of adolescents with ADD syndrome as they encounter these tasks.

Some adults have less difficulty with ADD syndrome once they get out of school. Others experience increasing difficulty as they struggle to find and hold a job, advance careers, develop relationships, manage households and finances, and negotiate partnerships and childcare. I describe the effects of ADD syndrome on these tasks in Chapter 6.

All the problems of ADD syndrome are experienced by everybody sometimes. Chapter 7 raises the question of how clinicians can differentiate the impairments of ADD syndrome from normal problems of inattention. Here, too, I challenge the validity of popular but overly simplistic efforts to evaluate the impairments of ADD.

Research has established that persons diagnosed with ADHD are as much as six times more likely than others to suffer from one or more other psychiatric or learning disorders at some time during their life. In Chapter 8 I describe a variety of disorders of learning, emotion, or behavior that often overlap with ADD syndrome. I propose that executive function impairments of ADD syndrome are an integral part of many different psychiatric and learning disorders, and I suggest some possible helpful changes to current diagnostic models.

In Chapter 9, I explain options to alleviate ADD syndrome impairments with treatment. The first step in any treatment program is to provide accurate information to the patient and family about the nature and course of ADD impairments. Since ADD syndrome is biochemically based, the most effective treatment is usually medication. Recently, new medications and new delivery systems for older medications have been developed. I outline what is now known about safety, effectiveness, side effects, and practical aspects of these medication treatments. The usefulness and limitations of behavioral treatments, accommodations, and other supports for ADD syndrome are also described. I emphasize that it is important to design for each patient a personalized treatment plan.

In Chapter 10, I provide examples of how untreated ADD syndrome tends to erode hope, and how it can cause severe suffering to individuals and families. This chapter also describes fears, prejudices, and other factors that are barriers to seeking, obtaining, and sustaining adequate treatment. I contrast strategies that offer "unrealistic hope" with interventions that nurture "realistic hope" in the daily lives of individuals and families suffering from ADD syndrome.

Many children, adolescents, and adults whom I have treated over the past twenty years have contributed to what is written here. Their names and identifying data have been removed, but I remain very grateful for their comments and stories, which have infused my understanding and these pages with essential details of real life. I also appreciate deeply the encouragement of patients, parents, and professional colleagues as I worked to write and publish these materials; their enthusiasm has sustained me during the long process of turning ideas and images into sentences and paragraphs.

For helpful comments on earlier versions of the manuscript I am indebted to Dr. Jay Giedd, Dr. Anthony Rostain, Dr. Rosemary Tannock, and Dr. Margaret Weiss. Wendy Hill is the medical illustrator who provided the excellent drawings that illustrate the text. Our son, Dave Brown, helpfully challenged my hesitations about trying to write for a wider audience and our daughter, Liza Somilleda, contributed perceptive comments on

the entire manuscript. I am especially indebted to Jean Thomson Black, my editor at Yale University Press; she has played a pivotal role in helping me to target and shape this manuscript. My sincere thanks also go to Julie Carlson, manuscript editor, who kindly provided skilled guidance to improve the clarity and flow of each chapter. Most of all, I am grateful to my beloved wife, Bobbie, who has skillfully helped me to rework my excessively professorial prose into a much more readable text. To her I am grateful not only for helping me to nurture this book to completion, but also for the countless ways in which her sensitivity, wisdom, wit, and love sustain my work and my life.

Introduction

Often people think of "focus" as holding a camera still and adjusting the lens for a clear picture of an unmoving object. That is not the meaning of focus in the title of this book. Rather, focus refers here to a complex, dynamic process of selecting and engaging what is important to notice, to do, to remember, moment to moment. Much as a careful driver focuses on the task of driving a car in heavy traffic by actively looking ahead while also checking mirrors, observing road signs, braking, and so on (all while monitoring dashboard gauges, keeping in mind the speed limit and destination, and ignoring the temptation to look too long at interesting sights), a person employs this very active, rapidly shifting, repeatedly readjusted deployment of attention and memory as the "focus" needed to plan and control ongoing activity. Such focus is extremely difficult for the 7 to 10 percent of the world's population who suffer from a syndrome of cognitive impairments currently known as attention deficit disorder (ADD) or attention-deficit hyperactivity disorder (ADHD).

"Syndrome" is a term that describes a cluster of symptoms that tend to appear together. For example, nasal congestion, sore throat, headache, fatigue, and fever often appear together as a syndrome commonly referred to as a "cold." One single cause or a variety of different causes might lead to one common syndrome.

In this book, the term "ADD syndrome" is used to refer to a cluster of impairments in the management system of the mind. The *DSM-IV,* the diagnostic manual of the American Psychiatric Association, describes currently accepted diagnostic criteria for attention-deficit hyperactivity disorder (ADHD). The concept of ADD syndrome introduced in this book is not intended to be a new diagnosis, replacing existing diagnostic categories. I am simply proposing a new way of looking at these impairments, of which many, but not all, are encompassed in current diagnostic criteria for ADHD. Other labels have been proposed for this cluster of impairments: "Attention Deficit Disorder," "Executive Dysfunction," "Minimal Brain Dysfunction," "Regulatory Control Disorder," and "Dysexecutive Syndrome," to name a few. The concept of ADD syndrome described here includes many impairments described by these various labels, impairments that often appear together and tend to respond to similar treatments.

Compared to others of the same age and developmental level, persons with ADD syndrome tend often to have an "unfocused mind" not only for driving, but also for many other important tasks of daily life. This does not mean that persons with ADD syndrome are never able to focus adequately. Nor does it mean that those without ADD syndrome are always well focused. ADD syndrome is not like pregnancy, an all-or-nothing status with no in-between. It is more like depression. Every person feels sad sometimes, but a person is not diagnosed and treated for depression simply because he feels unhappy for a few days or even a few weeks. It is only when depressive symptoms are persistent and significantly impairing that the diagnosis of depression is appropriately made. Similarly, persons with ADD syndrome are not constantly unfocused, but they are much more persistently and pervasively impaired in these cognitive functions than most other people.

My purpose in writing this book is to describe more adequately the complex ADD syndrome as it occurs in children, adolescents, and adults. My understanding of ADD syndrome is not universally accepted. Some researchers prefer less cognitive, more behavioral models to describe this disorder. In these pages the reader will find a new, somewhat controver-

sial understanding of ADD syndrome, including how it can be recognized and how it can be treated effectively.

Sometimes an effective treatment for a disorder is discovered by accident, before there is a full understanding of what is being treated or why the treatment works. An effective treatment for ADD syndrome was accidentally discovered in 1937 by Charles Bradley, a Rhode Island physician who was seeking a medication to alleviate severe post-spinal-tap headaches in behavior-disordered children he was studying. The amphetamine compound he tried was not helpful for the headaches, but teachers reported dramatic, though short-lived, improvement in the children's learning, motivation, and behavior while they were on this medication. Gradually this treatment gained wider use for hyperactive children with disruptive behavior problems.

Our understanding of what would later be called ADD syndrome expanded significantly during the 1970s when researchers noticed that hyperactive children tend also to have chronic problems with inattention that, like problems with hyperactivity, improve in response to stimulant treatment. In 1980 the American Psychiatric Association first used the term "attention deficit disorder" as an official diagnosis. At that time they recognized chronic impairment of attention, with or without hyperactive behavior problems, as a psychiatric disorder. The 1980 version of the diagnostic manual also noted that although this disorder usually originates during childhood, impairments to attention sometimes persist into adulthood. A 1987 revision of the manual changed the name of this condition to Attention-Deficit/Hyperactivity Disorder; since that time the official name has continued to bind inattention to hyperactive behavior problems, largely neglecting the independent importance of the syndrome's cognitive impairments.

Over the past decade, specific medicines have proven safe and very useful to many children, adolescents, and adults throughout the world who suffer from ADD syndrome. Yet very little has been published to explain in understandable terms the complex nature of attention and the wide variety of these chronic cognitive problems associated with ADHD.