



a phenomenon is much better than not understanding it, and scientists are now providing us with a much clearer understanding of the nature and neurobiology of adolescence.

This knowledge suggests a shift from controlling to mentoring the adolescents in our lives. As a father of seven, a grandfather of 20, and a teacher of many thousands of young folks who were making this odyssey, I've come to realize that seeking to understand adolescence is far more rewarding over the long haul than seeking to control it. That doesn't mean that no useful adolescent mentoring principles exist. This book will suggest general guidelines, but general guidelines aren't *sure-fire* solutions. Parenting and teaching adolescents is currently more an art than a predictable science.

A variety of collaborative adult mentors accompany the adolescent reach for autonomy. Parents, stepparents, and other relatives form one group, and surrogate parents form the other group. Teachers, coaches, and youth program directors are examples of surrogate parents who work principally with groups of adolescents. Counselors, physicians, psychologists, and social workers are examples of surrogate parents who work principally with individual adolescents.

This creates a problem for readers who expect this book to provide specific suggestions related to their particular roles in adolescent mentoring. Advice and activities that one group (such as high school teachers) can effectively use aren't necessarily useful for other groups (such as grandparents or an adolescent's boss). For example, family mentors are very concerned about the long-range implications of behavior, and a police officer may simply want to defuse an angry adolescent confrontation.

This book will thus focus principally on the biological and cultural universals that all mentoring adults must confront. Comparing a cook and a chef might help to clarify things. Both can create nutritious and delicious food. The difference emerges when things go wrong. For example, a recipe-driven cook who lacks an important ingredient can't proceed without it, but a chef who understands the chemistry of ingredients and cooking processes can imaginatively substitute something else

for the missing ingredient. A cook is thus dependent on the chef who created the recipe. A chef checks out the available ingredients and the dining situation—and then responds with an appropriate meal.

A book focused on practical mentoring suggestions is thus as limiting as a recipe book (and truth be told, most cooks use only a few of the many useful recipes in a cookbook and ignore the others). A book that seeks rather to explain adolescent development and the culture in which adolescents mature provides the much more useful basic knowledge that a variety of adults can use to mentor adolescents in the specific challenges they confront. This book will contain selected illustrative suggestions, but readers should think of them as seasoning, and not the essence.

That adolescents are influenced by their equally immature peers often creates problems. Although such influence seems a recipe for disaster—and it may periodically be just that—the creative, collaborative explorations of adolescents have also led to many recent advances in computers and in other technologies. Further, each adolescent generation creates its own cultural elements, such as clothing styles and music.

We often think of it as rebellion, but they consider it creativity. Imaginative but rebellious young people have sparked many major scientific advances that contradicted current beliefs. For example, Albert Einstein and Charles Darwin were in their mid-twenties when they did their initial transformational work in physics and biology. James Watson and Francis Crick were graduate students when they discovered DNA. And during high school reunions, we all recall great stories about our own creative adolescent explorations and rebellions. Although we fuss about adolescents, human society has progressed much because of the recurring adolescent belief that there must be a better way of doing things than what adults are currently doing.

The 2006 Winter Olympics are coming to an end as I write this Preface. The virtuoso movements of young people during the past two weeks have fascinated the world. All the athletes had helpful adult coaches, but the coaches could only stand on the sidelines and observe the stumbles and falls that

## x The Adolescent Brain

occurred. The athletes had to perform on their own. That's the arrangement for adolescents. We adults can provide mentoring advice, but we can't experience adolescence for another person. We did it on our own, and they will do it on their own—like it or not.

This book thus provides a nontechnical explanation of the underlying neurobiology of adolescence, and then explores the following key developmental phenomena: sexuality and bonding, productivity and vocation, morality and ethics, risks and security, technology and drugs, the arts and humanities, collaboration and autonomy.

I've been teaching and writing for more than a half century, and so I've explored these themes in many different professional settings. This book draws on that experience. I'll tell you about my life and experiences, and that should encourage you to tell your adolescents about your life and experiences, which should encourage them to tell you about their lives and experiences. Getting the cross-generational conversation going is central to mentoring, and to this book. When we adults tell our stories, adolescents will roll their eyes and argue that our experiences are irrelevant to the *more complex* challenges they're confronting—and that's exactly the point of such exchanges. So argue mentally with me as you read about my perhaps *hopelessly dated* experiences and the explanatory models and metaphors I'll use. It will get your creative juices flowing and so help you to connect emerging knowledge about adolescence, universal recurring cultural experiences, and the specific current challenges that you and your adolescents can collaboratively explore.

We're each the world's leading authority on our own experiences and beliefs—and we don't know much more. What adults bring to a discussion is the necessary distance between a related challenge they confronted during their adolescence and their adult perspective of its resolution. What adolescents bring is only the challenge they're currently confronting. Seems like the beginning of a good discussion—if truth and trust are also part of the equation.

It's been interesting this past year to revisit and update what I had earlier thought and written on the issues that constitute this book. I realize that I've matured in my understanding over the years, and it's important for me to recognize the importance of that personal development if I'm going to write about adolescent maturation.

My principal mentors in my own personal odyssey have sequentially been my parents, my siblings, my wife Ruth, and our children. I've further had the opportunity to work with many wonderful colleagues and editors, who helped me to find my professional voice when I was as clueless about a lot of things as the typical adolescent. Many thanks to all of you.

### **PUBLISHER'S ACKNOWLEDGMENTS**

Corwin Press thanks the following reviewers for their contributions to this book:

Renate Caine, Educational Consultant, Caine Learning,  
Idyllwild, CA

Lisa Edwards, Science Teacher, Hickory High School,  
Conover, NC

Sheryl Feinstein, Educational Consultant, Augustana  
College, Sioux Falls, SD

Bob Patterson, Training Manager, Discovery Education,  
Gig Harbor, WA

Rhonda Spidell, Earth Systems Science Teacher, Albuquerque  
Academy, Albuquerque, NM

Charre Todd, Teacher, Norman Junior High, Crossett, AR

Patricia Wolfe, Mind Matters, Inc., Educational Consultant,  
Napa, CA

George Zimmer, Superintendent Richmond School District,  
Sussex, WI