OBESITY IN YOUTH

CAUSES, CONSEQUENCES, AND CURES

EDITED BY LESLIE J. HEINBERG AND J. KEVIN THOMPSON

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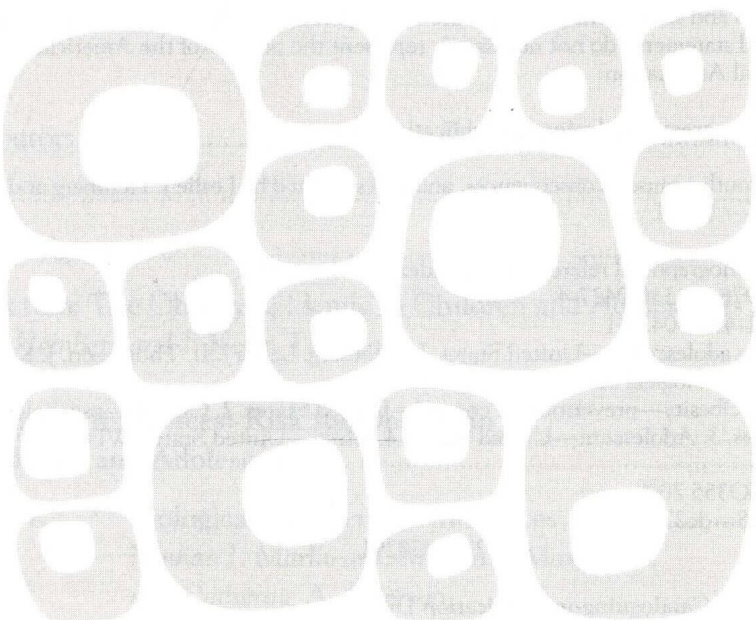

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OBESITY
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PREFACE

The topic of childhood and adolescent obesity has received an extraordinary degree of attention in recent years from psychological and medical professionals and the popular media. As we completed our final edits for this book, *TIME* magazine devoted a special issue to "our super-sized kids." A variety of medical and psychological journals have also devoted special issues to the topic, and there has been an explosion of research articles in the past few years dealing with obesity in youth. Many of the media and research studies have focused on the physical health problems, such as diabetes, associated with an overweight or obese condition. However, the most widespread and immediate sequelae are psychological and social in nature. Unfortunately, these issues, and especially the psychosocial hazards of obesity, have received far less attention than research related to physical problems and medical morbidity. Our book fills the gap by focusing on the psychological aspects of obesity in youth. Although this book was written with psychologists and other mental health professionals in mind, the importance of psychological factors and the psychosocial effects of obesity should be a concern for all who work in pediatric obesity and anyone involved in finding solutions to the obesity epidemic facing children and adolescents in the United States and throughout the world.

Our interest in editing a book on this topic flows mainly from our clinical endeavors and professional research in the area of psychological factors and obesity (in particular, our work on body image) and the need to bring together experts who could provide a distillation of recent findings in this rapidly emerging field. However, we also have a personal interest—we each have two young children and deal on a day-to-day basis with many of the challenges that confront families. Some of our experiences inform our research whereas others sober us to the realities of raising young children in an environment that seems to promote obesity, yet at the same time rejects the young child who has a weight problem.

Leslie's sons (ages 8 and 11) have had to endure countless mind-numbing lectures on media literacy, nutrition, viral marketing, and weight discrimination in response to their comments and questions (e.g., "Will you buy me PowerAde so I can be a better soccer player?" "I had the best cereal at the sleepover—Reese's Peanut Butter Crunch!" "Can we go to Burger King? They have Indiana Jones toys." "Can we rent *Norbert?*"). Most recently, her older son had to suffer the embarrassment of his mother bringing healthy snacks to the baseball game, resulting in complaints from several teammates. Yet, she also struggles with the issue of "How much is too much?" How do you encourage nutrition without encouraging obsession? (There was a bit too much focus on macronutrients after a nutrition unit in her younger son's first-grade classroom; e.g., "How many fat grams does this cheese have?"; "Am I allowed to have protein?") How do we model moderation and enjoyment of good food without using food as a reward ("Of course we'll join the team for ice cream after the game")? Given her difficulty with finding the right balance, it is hard to imagine that other families negotiate these issues easily.

Kevin's son, who is now 12, has always been an active athlete, playing competitive soccer for 5 years as well as team lacrosse and basketball. Yet, he has always been a bit heavier than his friends, and when he was 10, the school nurse sent home a note about his body mass index (BMI; a common practice in schools), saying he was above the 90th percentile. Kevin remembers that Jared had tears in his eyes as he handed him the note, and it took a long conversation to calm him down and frame the issue (BMI is only one measure of overweight and not necessarily accurate for someone who is physically active, etc.) so that he did not take it personally.

We hope this book will provide not only a review of the recent work that is accessible for the researcher and clinician but also a framework for future research activity and a guide for everyone interested in working with youth, their families, and their environments to prevent and treat pediatric obesity.

ACKNOWLEDGMENTS

Our first thanks must go to the many parents, adolescents, and children who struggle with eating and weight issues. In working as a clinical director of a pediatric obesity program, Leslie Heinberg has seen the frustration and the pain, yet also the hope, evidenced by these remarkable families. Today, working with a severely obese population, she sees the challenges of growing up obese faced by her patients; she sees their strengths as well. It is our hope that this volume will lead to better care for these individuals and stimulate even more research designed to prevent and treat pediatric obesity.

Our thanks also go to the contributors to this text. We are acutely aware of the hard work, tedious edits, and quest for excellence that they each engaged in. We also thank the American Psychological Association for its continued interest and support of our work in obesity and other topics.

Leslie acknowledges the support of the National Cancer Institute (U54 CA116867) and the principal investigator, Nathan Berger, whose salary support was beneficial in preparing this volume.

Finally, we thank the people who have been particularly supportive of our work. Leslie thanks two individuals who have provided unfailing support, guidance, and mentorship in her career: Jennifer Haythornthwaite and Sarah McCue Horwitz. She also thanks her coeditor. Kevin Thompson has been a

mentor; colleague; collaborator; and most important, good friend. Finally, she thanks her husband, Tony Inskeep, and sons, Aaron and Alex. Their support, good humor, love, and ability to endure her diatribes with minimal eye-rolling are forever appreciated.

Kevin thanks his wife, Veronica; his two children, Jared and Carly; and numerous research colleagues, including graduate students and collaborators from many different institutions, for their encouragement and input in the research process.

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OBESITY
IN YOUTH

INTRODUCTION: THE OBESITY EPIDEMIC IN CHILDREN AND ADOLESCENTS

LESLIE J. HEINBERG AND J. KEVIN THOMPSON

The prevalence of pediatric overweight and obesity in the United States has more than quadrupled over the past 40 years (Y. Wang & Beydoun, 2007), resulting in a public health crisis for America's youth. U.S. Surgeon General Richard Carmona called obesity the greatest threat to public health today (American Medical Association [AMA], n.d.), and obesity is second only to smoking in frequency of causes of death in the United States (Mokdad, Marks, Stroup, & Gerberding, 2004). It is also a condition riddled with untoward medical, social, and psychological consequences.

To examine overweight in children and adolescents, it must first be defined. Unfortunately, this is not clear-cut in pediatric populations. Because ideal ranges for body mass index (BMI) vary considerably in children and adolescents on the basis of age and sex, age- and sex-specific BMI percentiles are frequently used to define overweight. Many clinicians and researchers use *z*-scores, which are standardized scores where the mean is set to 0 and the standard deviation is set to 1. These standardized scores are informative because at greater degrees of obesity, percentiles are not descriptive. Because the terminology used varies by researcher, *z*-scores, BMI percentiles, excess body weight, and other metrics may be discussed.

A lack of consistency on what is considered overweight may also lead to confusion. Most researchers have used the Centers for Disease Control and Prevention (CDC) cut-off criteria to categorize children and adolescents as "overweight" or "at risk for overweight." Children and adolescents above the 95th percentile for age and sex are deemed overweight whereas those between the 85th and 95th percentile for age and sex are considered at risk for overweight (National Center for Health Statistics, n.d.). Recently, an expert committee of the AMA has strongly suggested replacing the terms *overweight* with *obese* and *at risk for overweight* with *overweight* (AMA, n.d.). This shift in terminology is controversial because *obese* as a diagnostic label is considered pejorative. However, phrases such as *at risk for overweight* are unlikely to motivate behavior change. Another problem with the change in criteria is that the extant literature uses the CDC distinctions. Readers should be aware of the controversy and potential shift in terminology. Generally, we use the AMA terminology in our discussions, but the CDC criteria (e.g., at risk for overweight) may be used for consistency in describing reported results. The criteria used for labels (e.g., *overweight*) will be stated (e.g., 85th–95th percentile for age and gender).

Between 2003 and 2006, based on the most recent National Health and Nutrition Examination Survey (NHANES), Ogden, Carroll, and Flegal (2008) reported that 11.3% of children and adolescents were at or above the 97th percentile for age and sex growth charts, 16.3% were at or above the 95th percentile, and an additional 31.9% were at or above the 85th percentile. More than one third of 6- to 11-year-old boys and 35% of 12- to 19-year-old boys were overweight or obese and 32.6% of 6- to 11-year-old girls and 33.3% of 12- to 19-year-old girls were overweight or obese (Ogden et al., 2008). This represents more than a 700% increase for both age groups since the 1960s and an increase of 250% since the 1990s (Ogden, Flegal, Carroll, & Johnson, 2002). However, the most recent data suggest some plateauing of prevalence rates (Ogden et al., 2008). Between the 1976–1980 and 2003–2004 NHANES surveys, the average annual rate of increase was approximately 0.5 percentage points for children and adolescents (Y. Wang & Beydoun, 2007). Figure 1 shows these trends by age group and gender. The data are more striking when examining children by gender, ethnicity (see Figure 2), and socioeconomic status (SES; Mei et al., 1998; Mirza et al., 2004). The obesity epidemic has disproportionately affected certain ethnic and racial groups such as African Americans, Latinos, and Native Americans (Barlow & the Expert Committee, 2007). Poverty is also a potent risk factor (Barlow & the Expert Committee, 2007), and epidemiological data suggest that minority children from lower SES households have an almost 1 in 2 chance of being overweight or obese (Mei et al., 1998; National Center for Health Statistics, n.d.). Unfortunately, this suggests that children who are already at high risk for poor health outcomes are further compromised by high rates of overweight and obesity.

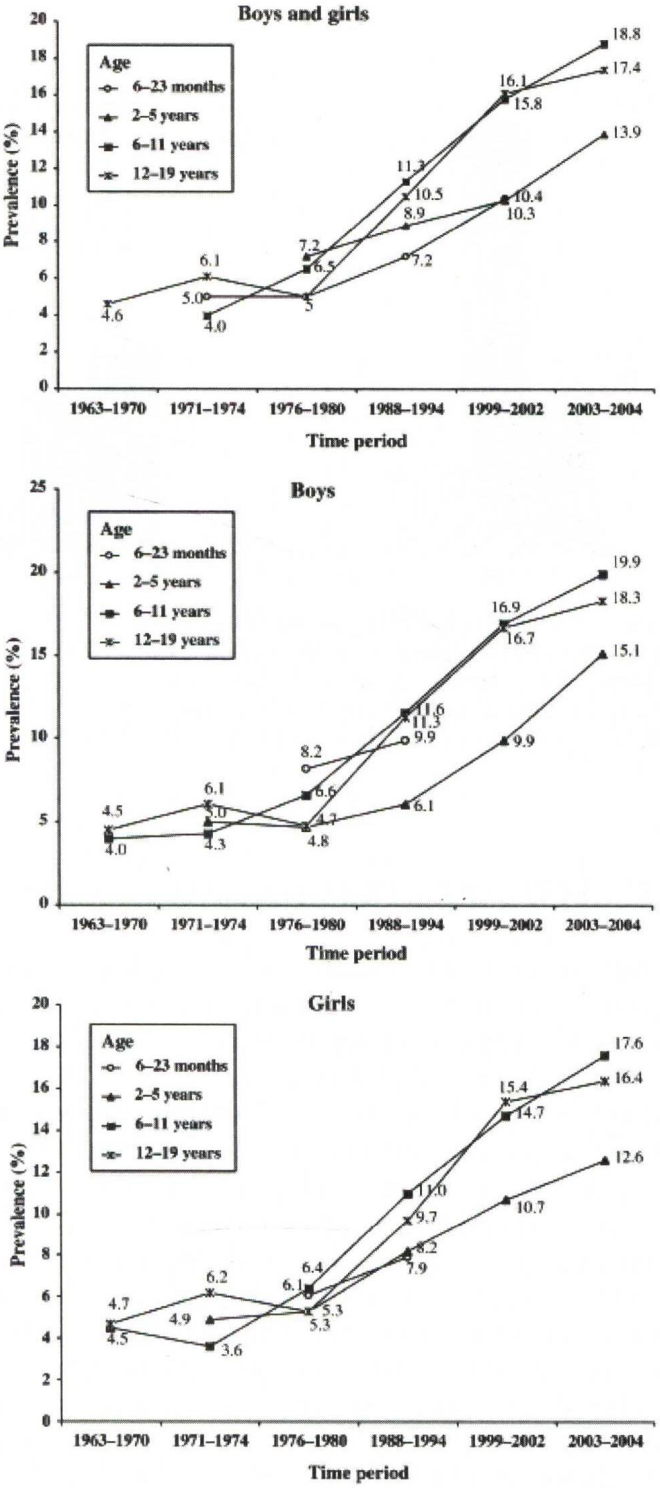

Figure 1. Trends in prevalence of obesity (BMI ≥ 95th percentile) in U.S. children and adolescents by gender. From "The Obesity Epidemic in the United States—Gender, Age, Socioeconomic, Racial/Ethnic, and Geographic Characteristics: A Systematic Review and Meta-Regression Analysis," by Y. Wang and M. A. Beydoun, 2007, *Epidemiologic Reviews, 29,* p. 17. Copyright 2007 by Oxford University Press. Reprinted with permission.