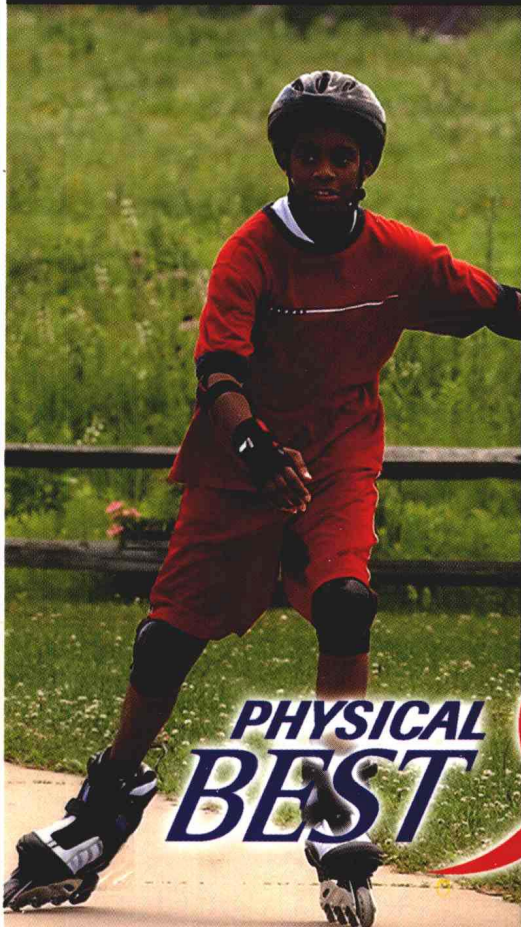


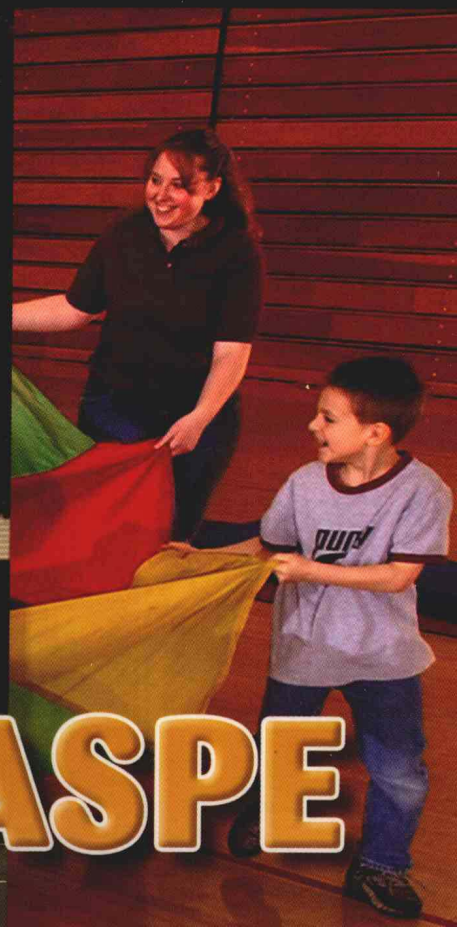
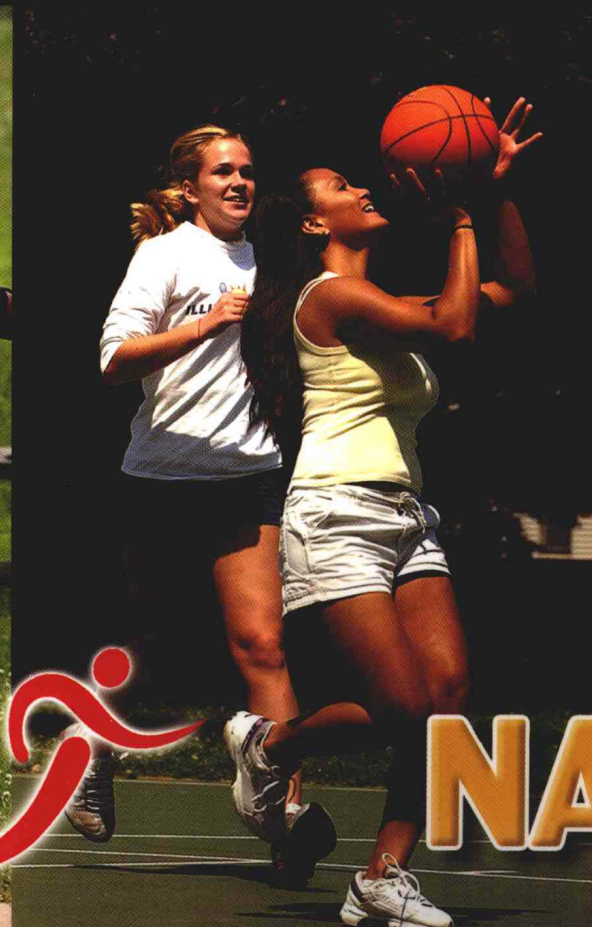
SECOND EDITION

Physical Education for Lifelong Fitness

The Physical Best Teacher's Guide



**PHYSICAL
BEST**



NASPE

SECOND EDITION

Physical Education for Lifelong Fitness

The Physical Best Teacher's Guide



HUMAN KINETICS

PREFACE

As a physical educator, you have an awesome opportunity to have a powerful and positive impact on hundreds of young people each year. By teaching them the skills and knowledge they need to live physically active lives, and by giving them the appreciation and confidence to do so, you are preparing them to avoid many major diseases and to live healthier, less stressful, and more productive lives than those who live sedentary lives.

And what greater preparation can a teacher give students than readiness for a healthy life? In 300 B.C., Herophiles (considered the “father of anatomy”) stated, “When health is absent, wisdom cannot reveal itself, art cannot become manifest, strength cannot be exerted, wealth is useless, and reason is powerless.” For all the technological advances that have taken place since 300 B.C., this one constant remains—without one’s health, all else is useless.

The role physical education plays in preparing students for lifelong health is clear—there is a direct link between participation in regular physical activity and good health. Physical education in the schools affords the best opportunity to reach the majority of the population. However, for a physical education program to successfully prepare students for healthy lives, it must be far more than the “roll-out-the-ball” programs that are stereotyped in the media, remembered by some adults from their experiences with physical education, and sadly, still seen in a few schools today.

This book was written to provide a comprehensive guide to successfully incorporating health-related fitness and lifetime physical activity into physical education programs. It provides a conceptual framework based on recent research and includes a wealth of examples from experienced physical educators. It provides specific advice on integrating all aspects of a quality health-related fitness education program. For example, it will show how to teach fitness concepts through enjoyable physical activities and how to use fitness testing as an educational and motivational tool.

For veteran teachers, this book outlines strategies for placing a greater emphasis on health-related fitness while still maintaining all the excellent components of an existing program. For new teachers, this book details all aspects of creating an excellent fitness education program, illustrating these details with specific examples from master teachers.

In part I, we provide an introduction to health-related fitness, including an in-depth look at physical activity behavior and motivation. We also examine the basic training principles for fitness. Because nutrition is an essential component of body composition, part I concludes with an overview of nutrition that includes the foundations of a healthy diet, categories of nutrients, and dietary tools.

An overview of health-related physical fitness concepts is provided in part II. Specifically, we address aerobic fitness, muscular strength and endurance, flexibility, and body composition as they relate to the teaching of kindergarten through 12th-grade students. Because knowledge of fitness has been rapidly evolving and some disagreement still exists (even among exercise physiologists) about appropriate exercise protocols, we provide discussions of controversial topics along with recommendations for addressing these issues in your program.

In part III, we outline strategies for developing a health-related fitness education curriculum that will serve your needs whatever your unique situation. We also examine effective teaching methods that allow for the inclusion of all students, whether in the gymnasium, on the field, or in the classroom.

Assessment is an important component of effective teaching, and in part IV, we provide a detailed look at assessing health-related fitness. This includes using fitness testing appropriately, assessing knowledge of fitness concepts, assessing participation in physical activity, and assessing evidence of growth in the affective domain.

The book concludes with a glossary, appendixes that provide ready-to-use worksheets and masters, and a reference list that can be used as a reading resource guide.

How This Edition Was Developed

Good teaching is both an art and a science. We developed the first edition by combining extensive research on the science of physical activity for children and young adults with the vast knowledge and experience of master physical education teachers from across the country. This second edition builds on that information by focusing on updated research and current guidelines for youth physical activity and fitness. This edition provides enhanced practical tools and information throughout. Chapter reorganization was another focus for this edition. Information was therefore updated and streamlined while maintaining the high-quality publication and practical focus that made the first edition such a valuable resource for physical educators, teacher educators, and preservice students. Please see page vii for a listing of physical educators who were involved in the editing of this edition. The Physical Best Activity Guides, described further in chapter 1, have also been updated with many new activities and chapters at both levels.

Your Physical Best

As a physical educator, you have a very important job, one that can literally shape the future health of the nation. It is our hope that you will find this book both informative and inspirational in being the best physical educator you can be.

Scott Wikgren
Director

*Health, Physical Education,
Recreation and Dance Division
Human Kinetics*

Gayle Claman, MS
Professional Services Manager
NASPE/AAHPERD

ACKNOWLEDGMENTS

Many physical educators contributed their time and expertise to this project. That started with reviews of the first edition by many of the Physical Best Steering Committee members and Physical Best Instructors from around the country. We would like to thank Jennie Gilbert, who wrote the report for this book, synthesizing feedback from multiple sources and detailing a comprehensive list of recommendations for the second edition.

In addition to the overall guidance of the Physical Best Steering Committee, many researchers and educators generously shared their ideas and experiences, which are referenced throughout the book. Gayle Claman, Professional Services Manager for NASPE, who played a significant role in coordinating the revision, and the following individuals dedicated countless hours

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Debra Ballinger
Rhode Island
Chapters 2, 12, 13, 14

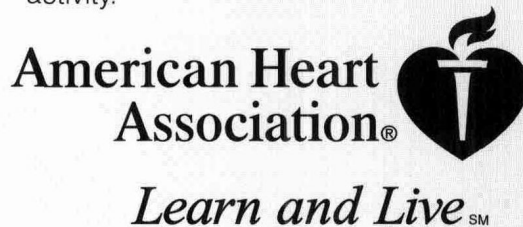
Jennie Gilbert
Illinois
Chapters 3, 5, 6, 7

Melody Kyzer
North Carolina
Chapters 4, 8

Joan Morrison and Ginny Popiolek
Maryland
Chapter 11

Diane Tunnell
Washington
Chapters 1, 9, 10

The Physical Best program has been reviewed by the American Heart Association and is consistent with their science and recommendations for physical activity.



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Web site: www.HumanKinetics.com

United States: Human Kinetics

P.O. Box 5076

Champaign, IL 61825-5076

800-747-4457

e-mail: humank@hkusa.com

Canada: Human Kinetics

475 Devonshire Road, Unit 100

Windsor, ON N8Y 2L5

800-465-7301 (in Canada only)

e-mail: orders@hkcanada.com

Europe: Human Kinetics

107 Bradford Road

Stanningley

Leeds LS28 6AT, United Kingdom

+44 (0)113 255 5665

e-mail: hk@hkeurope.com

Australia: Human Kinetics

57A Price Avenue

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08 8277 1555

e-mail: liaw@hkaustralia.com

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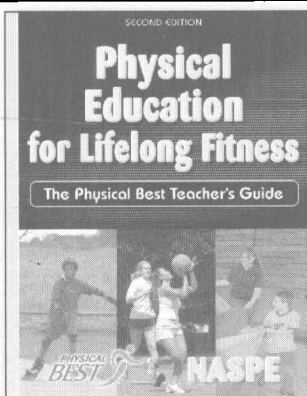
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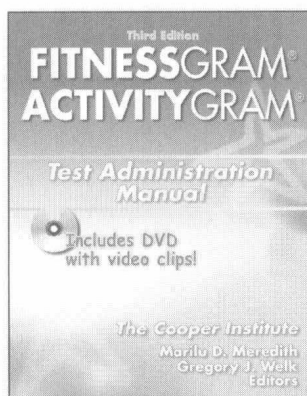
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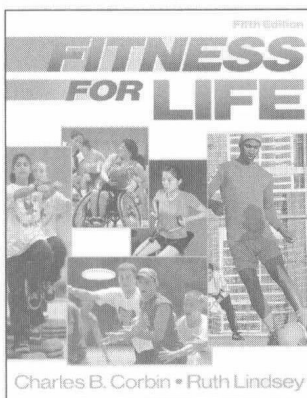
Coordinated resources for a complete health-related physical activity curriculum



New Editions!



New & Improved Test Administration Manual now available.



New Edition!

Physical Best is a program of resources and training for K-12 physical educators. This health-related fitness education program was developed by the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) and is now offered through the National Association for Sport and Physical Education (NASPE). It provides the material teachers need for implementing health-related fitness education, including curriculum development and health-related fitness activities. Physical Best, along with the *FITNESSGRAM/ACTIVITYGRAM* assessment program, provides a comprehensive health-related fitness education program:

- *FITNESSGRAM/ACTIVITYGRAM*, developed by the Cooper Institute, provides the fitness and activity assessment components for physical education programs that include comprehensive health-related fitness education. *FITNESSGRAM* is endorsed and adopted by NASPE as the assessment component of Physical Best.

Other resources also complement the Physical Best materials:

- *Fitness for Life*, from fitness pioneers Chuck Corbin and Ruth Lindsey, is a text for middle and high school students that presents information about health-related physical activity in a way that gets the message across to students. The text complements the *FITNESSGRAM/ACTIVITYGRAM* assessments by providing students with authoritative information about health-related fitness, physical activity, healthy behaviors, and exercise adherence.
- The *Brockport Physical Fitness Test* is specifically designed to test the fitness of youths from ages 10 through 17 who have various disabilities. The associated software is designed to share student data with other sources such as *FITNESSGRAM/ACTIVITYGRAM*.

For a complete description call

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The Information Leader in Physical Activity
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PART I

Foundations of Health-Related Fitness and Physical Activity

Part I introduces the Physical Best program, with an overview of the program's philosophy and components, a description of the behavior and motivational issues related to participation in physical activity and fitness, and an introduction to the basic training principles and nutrition content relevant to health-related fitness education. Chapter 1 examines many terms associated with fitness that are often used interchangeably. It also introduces the philosophy and program components of Physical Best and explains what makes this a comprehensive and unique program for use in a K-12 physical education curriculum. Chapter 2 focuses on how children choose whether or not to be active, how physical educators can motivate students to



be active in an age-appropriate manner, and how that information connects to the Physical Best program. Information about putting the philosophical and behavioral concepts of the program to work is presented in chapters 3 and 4. This includes an overview of the basic training principles to follow when implement-

ing the aerobic fitness, muscular strength and endurance, and flexibility components of health-related fitness. It also includes the basics of nutrition that are important to know when implementing the body composition component of health-related fitness.

CHAPTER

1

Chapter Contents

- What Is Physical Best?
- Current Issues Within Physical Education
- What Makes Physical Best Unique?
- Physical Best Companion Resources
 - Physical Best Activity Guide:
Elementary Level
 - Physical Best Activity Guide:
Middle and High School Levels
- Related Resources
- Physical Best Certification
- Summary

Introduction to Physical Best

The scientific and empirical evidence is indisputable—lifelong participation in physical activity has a significant positive impact on people's health and well-being. In turn, improved health and well-being have significant positive consequences for both individuals and society as a whole. Health-minded organizations such as the American Academy of Pediatrics, the American Medical Association, the American Heart Association, the Centers for Disease Control and Prevention, the President's Council on Physical Fitness and Sports, and the U.S. Department of Health and Human Services, as well as the allied health community, emphasize the importance of lifelong physical activity to good health. This is true for all people, including those with physical and mental challenges, the sedentary population, and even elite athletes, who need to understand the health benefits of lifelong physical activity so they do not become sedentary after completing their athletic careers.

Benefits of Lifelong Participation in Physical Activity

According to the CDC report, *Promoting Lifelong Physical Activity* (USDHHS 2000c), “the percentage of young people who are overweight has almost doubled in the past 20 years,” “inactivity and poor diet cause at least 300,000 deaths a year in the United States,” and “adults who are less active are at a greater risk of dying of heart disease and developing diabetes, colon cancer, and high blood pressure.” While students must know the risks of a sedentary lifestyle, it is also crucial—and more meaningful—for them to know about the many benefits of getting enough physical activity and remaining active for life. It is especially important to emphasize the benefits they will see today. Regular physical activity can (adapted from USDHHS 1996)

- increase muscular strength and endurance,
- increase aerobic fitness,
- increase flexibility,
- help control weight,
- decrease stress, and
- increase feelings of well-being and self-esteem.

Beyond the many positive benefits associated with adequate physical activity, students need to know what diseases can be prevented by being active for life. According to the U.S. Department of Health and Human Services (2000b), regular physical activity can reduce or prevent health problems such as:

- premature death in general,
- death caused by heart disease,
- diabetes,
- high blood pressure,
- some types of cancer, and
- high cholesterol levels.

Not only does physical activity provide tremendous individual health benefits, a physically active population also benefits society as a whole by enabling people to be more productive. Physically active people have healthier attitudes, which allows the larger problems associated with work or home to be handled in a more positive, reflective manner. A happy, healthy person is a productive person.

In recent years, society as a whole has shown an unprecedented interest in health. Newspaper articles discussing health issues appear on a daily basis; more and more “healthy living” classes are being offered through community resources and are being advertised in the daily newspapers; television stations are devoting segments of time on their newscasts to promoting health issues in addition to airing “fitness classes” in their weekly lineup; technology has allowed quick access to the latest health reports or Internet sites to answer your questions on health; government

documents such as *Promoting Better Health for Young People Through Physical Activity and Sports: A Report to the President* (USDHHS, USDOE 2000) are being published and disseminated on a regular basis; and professional organizations such as the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) and the Centers for Disease Control and Prevention (CDC) are actively researching and publishing data on the importance of physical activity. The time seems right for physical education to significantly affect the physical activity and health

of children and adolescents. This concept is not new; there is plenty of documentation from 20 to 25 years ago calling for physical education reform. The best opportunity to prepare the majority of children and adolescents to live physically active and healthy lives is through physical education in the schools. Schools have at least three advantages in the targeting of physical activity:

- Schools work with people at ages where change is most likely to occur.
- Schoolwide strategies should enable virtually all members of an age group to be targeted.
- A delivery structure is already in place, mainly through physical education, but also available through other curriculum areas and school practices (Vanden Auweele et al. 1999).

Physical educators should help community members understand these advantages so that physical education doesn't get the "short end of the stick" when it comes to financial decisions. They should garner support from others who understand this concept, such as physicians and allied community health practitioners, and let their community know that physical activity can help save society money and help prevent drug abuse, violence, and depression. In fact, if people think of a school as a child's "workplace," a health-related physical fitness education program that teaches children about a wide range of healthy habits is similar to a business instituting a workplace health promotion program. Children in school deserve the same assistance in being healthy as adults receive in the workplace, and school is a good time to reach them in order to prevent the development of bad habits.

What Is Physical Best?

In the early 1980s, AAHPERD recognized a need to create a program that would assist physical educators in helping youth understand the importance of a lifetime of activity. It wanted a program that would focus on educating *all* students, regardless of their abilities, from a health-related viewpoint. Thus, in 1987, AAHPERD developed Physical Best.

Physical Best is a comprehensive health-related fitness education program. It provides a series of activities and conceptual information that is critical for a quality physical education program. From a curriculum standpoint, Physical Best helps teach-

P *ractical*
H *ealth related*
Y *outh fitness education*
S *tandards based*
I *nclusive*
C *omprehensive*
A *ge appropriate*
L *ifestyle emphasis*

B *ehavioral approach*
E *njoyable!*
S *elf responsibility*
T *eaching energy balance*

ers assist students in meeting the National Association for Sport and Physical Education (NASPE) national standards for physical education pertaining to health-related fitness. The goal of the program is to assist students in achieving their individual physical best.

To fully understand the mission of the Physical Best program, you must first be able to recognize the difference between a few frequently used terms. Though you often encounter the words *fitness*, *physical activity*, and *exercise*, many reports, particularly in the popular media, fail to distinguish among these terms.

- **Health-related fitness** is a measure of a person's ability to perform physical activities that require endurance, strength, or flexibility. It is achieved through a combination of regular exercise and inherent ability. The components of health-related physical fitness are aerobic fitness (cardiorespiratory endurance), muscular strength, muscular endurance, flexibility, and body composition as they relate specifically to health enhancement.

Physical Best's Mission



The mission of the Physical Best program is to foster healthier youth by providing quality resources and professional development for educators. The mission incorporates partnerships with like-minded programs and organizations. The program emphasizes teaching health-related fitness concepts and attitudes through activity, in a manner that is inclusive of all children, is enjoyable, and promotes a physically active lifestyle.

Skill-related fitness is often confused with “health-related” fitness components. Skill-related components often go hand in hand with certain physical activities and are necessary for one to accomplish or enhance a skill or task. The skill-related components include agility, coordination, reaction time, balance, speed, and power. An individual can still achieve and maintain a healthy lifestyle and lifelong participation in physical activity without possessing a high degree of skill-related components. Health-related and skill-related components are not mutually exclusive, but the Physical Best program primarily focuses on the health-related components of fitness (see figure 1.1).

Further, the USDHHS (1996) offers technical definitions of these terms:

- **Physical activity** is strictly defined as any bodily movement produced by skeletal muscles that results in an expenditure of energy. It includes a broad range of occupational, leisure time, and routine daily activities—from manual labor to gardening, walking, or household chores. These activities can require light, moderate, or vigorous effort and can lead to improved health if they are practiced regularly.
- **Exercise** is physical activity that is planned, structured, and repetitive bodily movement done to improve or maintain one or more of the components of health-related fitness.

Michael Pratt summarizes these terms succinctly: “In a nutshell, physical activity is something you do. Physical fitness is something you acquire—a characteristic or an attribute one can achieve by being

physically active. Exercise is structured and tends to have fitness as its goal” (USDHHS 1999).

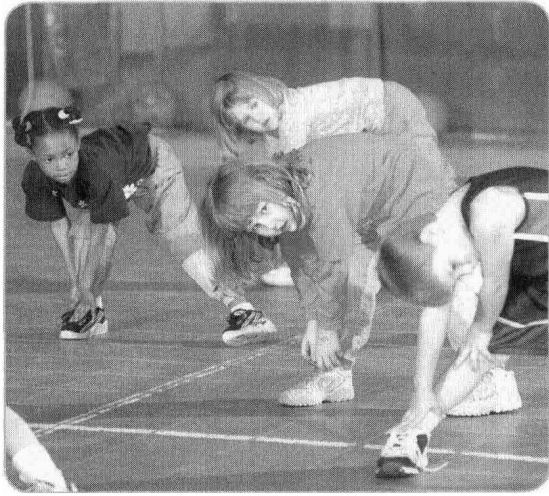
Definitions aside, since research shows that participants, in general, may view the word *exercise* in a negative light (CDC 1995), the Physical Best program has been developed to counter this view. The program focuses on the positive benefits of physical activity (not just exercising), offers a variety of enjoyable activities, and teaches the skills needed to be confident and reasonably successful in a wide range of movement forms.

Current Issues Within Physical Education

There are many excellent physical educators who have been using the Physical Best approach for years—in fact, these experts helped create the Physical Best resources and program. Unfortunately, however, many more physical educators in the United States have been doing more harm than good, because they have turned children off to physical activity as a lifestyle choice. In some districts, the physical education programs have not significantly changed from when the teachers and administrators were children. Physical education has been associated with fitness testing, comparing one person to another, touting the “no pain, no gain” philosophy, and using fitness activities for punishment and embarrassment. Many programs have not made a change from when the goal was preparing for war—when fitness status was critical to our military strength, and programs were focused on physical “training” rather than the “education” necessary to maintain personal health in a new and high-tech age.

Components of health-related fitness

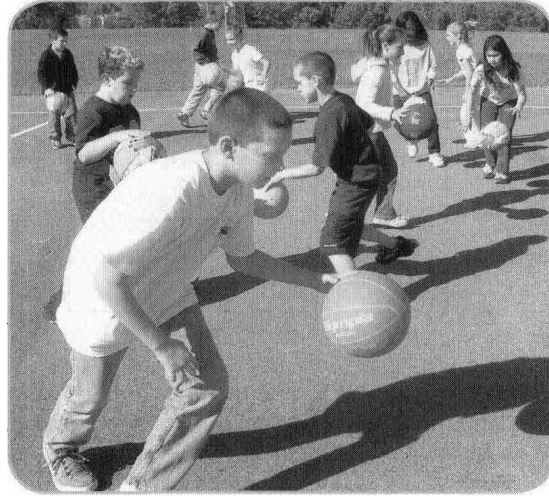
Aerobic fitness
Muscular strength and endurance
Flexibility
Body composition



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Components of skill-related fitness

Agility
Coordination
Reaction time
Balance
Speed
Power



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Figure 1.1 Elements of health-related fitness and skill-related fitness.

Because of this, physical education in the nation's schools has been getting shortchanged at a time when an increasing number of American adults view exercise as important to their health. It should come as no surprise, then, that the availability of physical education and the rate of physical activity among young people are declining:

- Almost half of young people ages 12 to 21 do not participate in vigorous physical activity on a regular basis (CDC 2000).
- Approximately one-fourth of high school students participate in moderate physical activity on four or more days a week (CDC 2000).
- Approximately 44 percent of high school students are not even enrolled in a physical education class; enrollment declines from 79 percent in the 9th grade to 37 percent in the 12th grade (Secretary of Health and Human Services and Secretary of Education 2000).

- In schools requiring physical education, approximately 30 to 40 percent of the teachers teaching it are not physical education teachers, with the largest percentage of non-physical education teachers at the high school level (CDC 2000).
- At the very best, physical education classes account for less than 1.75 hours of physical activity per week (ILSI 1997).
- In many states, requirements for physical education are gradually being reduced (NASPE 1993).

Thus, not surprisingly, children carry more body fat than ever and are more likely to display one or more risk factors for developing heart disease in the future. According to the 2001 *Youth Risk Behavior Surveillance Report of the Centers for Disease Control and Prevention*, only about one-third of students nationwide attend physical education class daily (see figure 1.2, a-d).

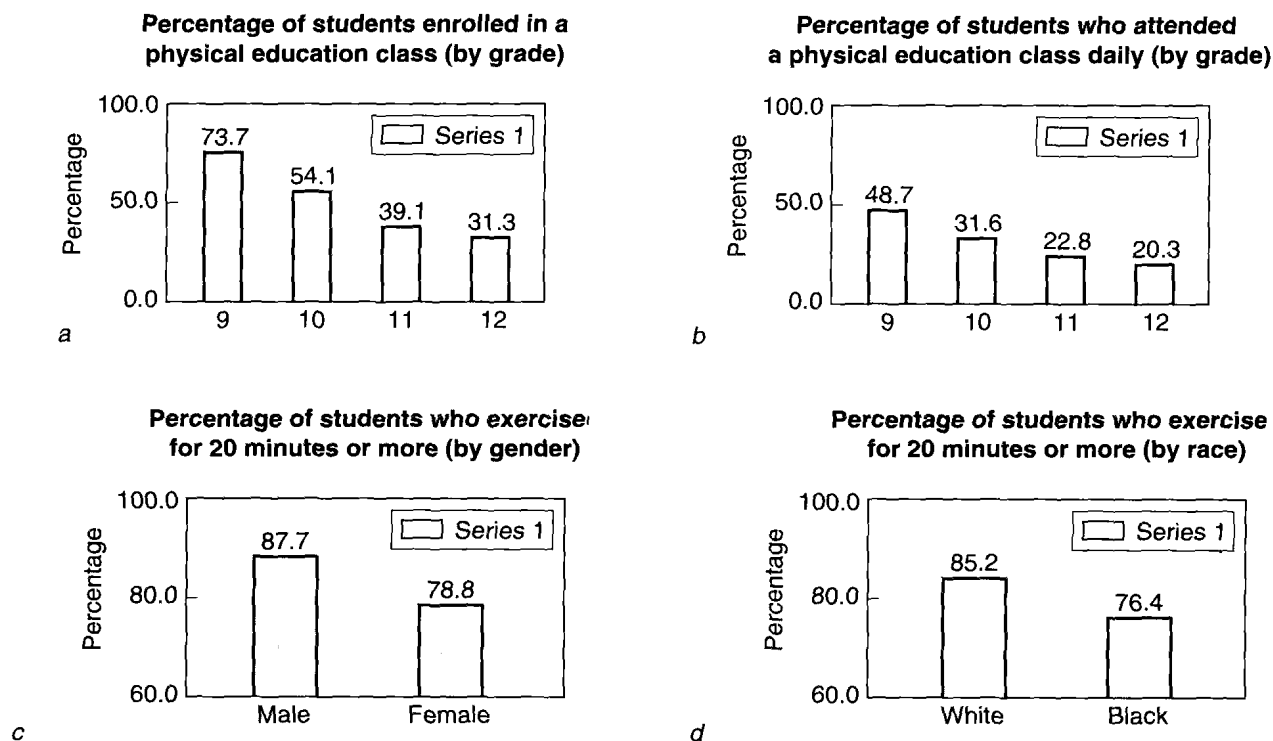


Figure 1.2 According to this research, (a) enrollment in physical education class declines significantly from 9th grade to 12th grade, as well as (b) percentage of students who attended daily. Exercise is also more common (c) for males than for females and (d) for white students than black students.

Centers for Disease Control and Prevention. Surveillance Summaries, June 28, 2002. MMWR 2002;51 (No. SS-4).

The key issue is, How should we be preparing children and adolescents for daily physical activity? According to the U.S. Department of Health and Human Services (USDHHS 1999), young people *must be taught* the skills, knowledge, attitudes, and behaviors that lead to regular participation in physical activity. As a physical educator, you know the value of physical education; you've seen it with your own eyes. Unfortunately, fitness is temporary, and being fit as a child does not guarantee fitness as an adult unless the person remains active. Teaching students *how to remain fit* is the essential component of physical education and a major focus of the Physical Best program.

What Makes Physical Best Unique?

The comprehensiveness of the Physical Best program is what makes it truly unique—combining the latest scientific research with practical experience and activities of physical educators from around the country. The following list highlights the program's

many features that make it a valuable tool for physical educators and for students.

Comprehensive conceptual framework—Physical Best provides a framework for educators to teach conceptual information about physical fitness and nutrition within the activity setting. It provides students with information to help them understand and value the concepts of physical fitness and its relationship to a healthy lifestyle. It also provides information on assessment, goal setting, and motivational strategies. In addition, the Physical Best program offers ideas and suggestions for integrated curricula (across subject areas, in the three learning domains: cognitive, affective, and psychomotor) as well as parental and community involvement.

Active participation—The activities are designed so all students are involved and remain active a majority of the time. Teams are limited in size (two to four students per team) so each student has numerous practice opportunities. Multiple stations are set up so students do not have to wait long for a turn.