Introduction to Physical Education, Exercise Science, and Sport Studies

EIGHTH EDITION

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INTRODUCTION TO PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT STUDIES, EIGHTH EDITION

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Preface

Introduction to Physical Education, Exercise Science, and Sport Studies provides students with an exciting opportunity to discover the diversity of physical education, exercise science, and sport and the wealth of careers available in these fields. Students are introduced to the heritage, current programs, and future potential of the field they are considering. This book introduces students to these multifaceted fields and involves them in examining potential careers in physical education, exercise science, and sport.

The intent of this book is to broaden students' understanding of how the philosophies and programs of physical education, exercise science, and sport evolved as well as to present the current status of these fields. Inherent within the changing nature of physical education, exercise science, and sport is a need to examine how Title IX of the 1972 Education Amendments, the inclusion into classrooms of physically and mentally challenged students, the increased emphasis on physical activity and fitness for all ages, past programs in the United States and in Europe, and various philosophies and ethical perspectives have affected and will continue to influence professionals in these fields.

No longer are physical education, exercise science, and sport just for schools or colleges, although teaching in these settings is certainly an important endeavor. By learning about careers in leisure services, athletic training, corporate fitness, sport management, fitness club instruction and management, recreation for all ages and abilities, coaching, cardiac rehabilitation, and a variety of other activity-related pursuits, students will gain a clearer perspective of the future role physical education, exercise science, and sport will play in American society. Individuals who accept the challenges of these careers will help women, ethnic minorities, senior citizens, individuals in lower socioeconomic classes, individuals with special needs, students, and others benefit from living active, fit lives. Practical suggestions are provided to help students choose and prepare for careers. To enhance this process, the importance of physical education, exercise science, and sport as expanding and diverse fields of service, enjoyment, and employment is emphasized throughout the book.

NEW TO THIS EDITION

The eighth edition of this book provides insights into the increasing emphasis on the interdisciplinary nature of the exercise and sport sciences and careers associated with physical activity. Throughout the book, more information has been provided on the exercise sciences, physical activity and fitness, and the importance of these to the future of each person. Each chapter has been updated with revisions and expansions of key topics and includes some of the latest research to stimulate students' critical thinking and continued study. The review questions,

key points in each chapter, student activities, suggested readings, and Web sites have been revised and updated. Other specific additions by chapter include the following:

Chapter 1 Physical Education, Exercise Science, and Sport Studies— Dynamic Fields

- Expanded information and data about physical activity, including guidelines for flexibility and resistance training
- Added Research View with information from the 2008 Physical Activity Guidelines for Americans
- Included more information about obesity
- Added key points to help students focus on more important information

Chapter 2 Exercise and Sport Sciences

- Added Research View on research methods and the scientific method
- Added information about clinical exercise physiology, exercise epidemiology, and sports nutrition
- Clarified motor program theory
- Revised framework for sport philosophy
- Expanded list of films and videos about sports
- Clarified the difference between sport psychologists and exercise psychologists
- Clarified the definition of sport sociology
- Expanded the exercise sport sciences quiz to show how professionals in these disciplines collaborate
- Added key points to help students focus on more important information

Chapter 3 Profession of Physical Education, Exercise Science, and Sport

- Reordered chapter to emphasize pedagogy and undergraduate specializations followed by professional organizations
- Expanded the athletic training, coaching, fitness, sport management, exercise science, and teaching options
- Added physical therapy option
- Added key points to help students focus on more important information

Chapter 4 Philosophy of Physical Education, Exercise Science, and Sport

- Reduced the information about the five traditional philosophies
- Expanded the information about ethics
- Provided some guidance on how to address ethical situations

- Added tips for writing a personal philosophy
- Replaced two sample philosophies with two better examples
- Added key points to help students focus on more important information

Chapter 5 Selecting a Career

- Provided educational requirements for each career opportunity in a more concise listing
- Added information about PE Central
- Added information about the work of sports nutritionists
- Expanded information about careers in sports with links
- Added key points to help students focus on more important information

Chapter 6 Preparation for a Career

- Added information on how an academic advisor can help you
- Updated information on certifications
- Added information about student engagement in research and how to read peer-reviewed articles in scholarly journals
- Added tips for preparing an effective resume
- Added key points to help students focus on more important information

Chapter 7 Early Heritage in Sports and Gymnastics

• Added key points to help students focus on more important information

Chapter 8 Early American Physical Education and Sport

- Added key points to help students focus on more important information
- Added a new career perspective

Chapter 9 Twentieth and Twenty-First Century **Physical Education and Sport**

- Updated major developments through the first decade of the twenty-first century
- Added key points to help students focus on more important information

Chapter 10 Opportunities and Challenges in Physical Education and Exercise Science

- Revised section on burnout to make the information more broadly applicable
- Added a new career perspective
- Added key points to help students focus on more important information

Chapter 11 Issues in Sports

- Added participation data for intercollegiate athletics
- Added key points to help students focus on more important information

Chapter 12 Leadership for Active Living

- Expanded and revised section on leadership
- Added section on trends in physical education, the exercise and sport sciences, and physical activity
- · Added new section on science and athletics
- Added a new career perspective
- Added key points to help students focus on more important information

CONTENT DESIGN

Written in a conversational and personal style, *Introduction to Physical Education, Exercise Science, and Sport Studies* is designed for students enrolled in their first course related to exercise science, sport management, physical education, athletic training, or other related majors.

An overview of the field is stressed rather than an in-depth examination of the disciplinary areas. The relevant topics discussed include practical suggestions for selecting and obtaining a job in the chosen career; current issues affecting job selection; girls and women in sport; ethnic minorities in physical education and sport; the standards and assessment movement; teacher, coach, athletic trainer, and exercise specialist certifications; educational values of sports; and the importance of physical activity for all.

The book's three units are self-contained and may be read in any order, although each is important to a full understanding of the field. Unit One provides foundational information in the first four chapters before focusing on careers. In Chapter 1, numerous terms, including physical education, exercise science, and sport, are defined to help describe these dynamic fields. The cognitive, affective, and psychomotor development objectives of physical education, exercise science, and sport indicate how these can contribute to improvements in quality of life for all. Chapter 2 provides an in-depth look at the exercise and sport sciences, such as exercise physiology, athletic training, and sport management. An explanation of organizations in the field precedes a discussion about preparation programs for school and nonschool careers in Chapter 3. The five traditional philosophies and a discussion of ethics are presented in Chapter 4 and provide reference points for the development of a personal philosophy.

A career emphasis is integrated throughout and given special attention in Chapters 5 and 6. Chapter 5 describes more than 80 careers in education, recreation, fitness, sports, and athletics. Students learn about job responsibilities, prerequisite education and preparation, and potential availability of positions. Chapter 6 provides practical ideas for preparing for careers, with an emphasis on the importance of internships, volunteer experiences, and obtaining certifications. Recommendations for writing a résumé, developing a portfolio, and seeking a job are provided.

Unit Two covers the history and development of physical education, exercise science, and sport from early cultures through today. Athletics in Athens and Sparta, European gymnastics programs, and sports and games in Great Britain are emphasized in Chapter 7 in terms of their influence on programs in the United States. In Chapter 8, early American physical education, exercise science, and

sport are traced from early sporting diversions through the formalized gymnastics programs of the late 1800s. Chapter 9 completes the chronology of evolving programs that are diverse in philosophy, clientele, and activity.

Unit Three describes issues and trends in physical education, exercise science, and sport. Chapter 10 examines the value of physical activity for everyone; exercise science program developments; curricular features of elementary, middle, and secondary school physical education; challenges facing physical educators; standards and accountability; and career burnout. The beneficial outcomes and associated issues of sports for girls and women, ethnic minorities, senior citizens, individuals with special needs, youth, school and college students, and Olympic athletes are addressed in Chapter 11. The final chapter emphasizes leadership, changes and future challenges, and physical activity for life.

SUCCESSFUL FEATURES

Key Concepts

Each chapter begins with statements that highlight the major topics to be discussed. These provide students with a focus and direction for framing the key ideas to learn.

Introductions

The first paragraphs in each chapter briefly set the stage for and preview the content. They help students gain further perspective on the relevance of the most salient points.

Illustrations

More than 130 photographs help students see the diversity of physical education, exercise science, and sport and potential careers in these fields. The photographs also reemphasize the popularity of sports and activities for all and help reinforce important concepts. Several line figures also help explicate the content.

Boxed Material

Throughout the text, specially highlighted information is designed to enhance students' understanding and provide additional insights into the profession. The insights contained in these boxes expand on and add significantly to the information provided in the text.

Web Connections

Each chapter provides students with annotations about content that can enhance learning at the URLs provided.

Summaries

A summary paragraph at the conclusion of each chapter emphasizes the primary areas of importance, thus complementing the initial key concepts. These summaries help students focus on the major items presented.

Career Perspective

A unique feature of this book is the integration of biographical sketches of sport, exercise science, and physical education professionals in several diverse careers. The featured individuals list their job responsibilities, hours, course work, and degrees, discuss experiences needed for their careers, describe satisfying aspects of their careers and job potential, and offer suggestions for students.

Review Questions

To enhance retention of each chapter's content, students are encouraged to answer the review questions. Rather than seeking rote memorization of facts, these questions stress understanding key concepts.

Key Points

To help students focus on what is most important to learn. These short statements help student emphasize important "take-home" points.

Student Activities

The student activities encourage students to think about and use the chapter content in greater depth and to extract practical ideas for career application. These activities also encourage active participation in the learning process.

Suggested Readings

Suggested readings furnish students with additional information and potential resources for further study. The annotations are beneficial for expanding students' knowledge.

Glossary

A comprehensive glossary of important terms reinforces students' understanding of the terminology used in the book and in physical education, exercise science, and sport.

Instructor Download Web site (www.mhhe.com/lumpkin8e)

This Web site offers resources for instructors: an Instructor's Manual, Test Bank, and PowerPoint presentations. The manual includes practical teaching suggestions, chapter overviews, instructional objectives, and chapter outlines. Also for each chapter, there are suggestions for guest lecturers, resource books, helpful Web sites, and recommended videos/DVDs. The Test Bank contains nearly 600 short answer, multiple choice, true/false, and discussion test items with answers, and suggested audiovisual materials.

Comprehensive and extensively illustrated PowerPoint presentations for each chapter accompany the text. These PowerPoint presentations may be converted to outlines and given to students as a handout. You can easily download the PowerPoint presentations from the McGraw-Hill website at www.mhhe.com/lumpkin8e.

Adopters of the text can obtain the login and password to access these presentations by contacting their local McGraw-Hill sales representative.

Resources for the student include updated appendices; Selected Physical Education, Exercise Science, Sport Journals; and Certifying organizations at the OLC.

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I would like to express my deepest appreciation to my parents, Janice and Carol Lumpkin, who instilled in me a love for learning, provided me with many educational opportunities through personal sacrifice, and have continually encouraged all of my endeavors. I dedicate this book to them with my love.

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Principles and Scope of Physical Education, Exercise Science, and Sport Studies



1

PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT STUDIES— DYNAMIC FIELDS

KEY CONCEPTS

- Physical education, exercise science, and sport studies programs have the potential to improve the quality of life for everyone.
- The purpose of physical education, exercise science, and sport studies is to enhance lives through participation in physical activity. The growing interest in health and fitness contributes to the achievement of this purpose.
- Cognitive development, affective development, and psychomotor development objectives are achieved through programs in these dynamic fields.
- Physical educators, exercise scientists, and leaders in sports programs are continually challenged to instill in Americans of all ages the importance of participating in regular physical activity.
- Participation in a variety of physical activities is intrinsically satisfying and can lead to health benefits.

Children love to move because it is fun. Adults choose to engage in physical activities because they find them enjoyable. With increased leisure time, people of all ages are seeking instructional, recreational, competitive, and entertaining physical activity and sport programs. This interest promises a dynamic future for professionals who want to contribute to the well-being and quality of life of others. The millions who enroll in aerobic dance classes, join fitness clubs, bowl in leagues, hike, camp, swim, jog, climb, sail, walk, skate, and engage in many other physical pursuits already have determined that these activities are fun. Many also value the mental, social, and physical development resulting from their regular participation. Others enjoy being entertained by watching highly skilled individuals compete.

Although many people value maintaining a physically active and fit lifestyle, others are not yet convinced. Motivating this latter group is the challenge



Aerobic activities develop cardiorespiratory endurance, an important aspect of physical fitness.

awaiting you when you begin your career. Historically, the term physical educator has been used to encompass professionals in various careers who teach fitness and sport skills. This descriptor identifies individuals who are committed to using physical activities to develop the whole person.

To help you meet the challenge to contribute to the wellness of others, this text introduces you to the current concepts and objectives in the dynamic fields of physical education, exercise science, and sport studies and their rich heritage. Past physical education programs provide the foundation for today's ever-expanding programs in the United States, shaping the way we structure and describe these fields. Understanding the definition and objectives of physical education today and in the past will help you conceptualize the breadth and depth of these fields. Understanding affective, cognitive, and psychomotor domains of learning will ensure that you know what physical education, exercise science, and sport studies programs seek to accomplish.

THE DYNAMIC FIELDS OF HUMAN MOVEMENT

The human body is like a machine because it will no longer function efficiently or effectively if unused and left to waste away. For example, a broken arm placed in a cast for several weeks will noticeably atrophy as its muscular strength and endurance and flexibility diminish. The human body is designed to move, and its potential for future movement is predicated upon past movement. The functioning of the cardiovascular, musculoskeletal, metabolic, endocrine, and immune systems is enhanced through movement.

Because of their natural predisposition to move, humans learn to walk, catch, throw, and kick as they model their movements after what they see; at the same time, moving contributes to their growth and development. Watching children hop, skip, and jump with exuberance reinforces the idea that moving is intrinsically rewarding.

Adults of all ages who choose to engage in activities that require moderate to vigorous movement usually do so because they personally reap physical, emotional, mental, or social benefits. That is, there are inevitable positive outcomes accruing to those who prioritize keeping their bodies moving (an analogy would be a well-oiled machine). Human movement, in its many types, variations, and settings, also appeals to individuals' tendency to want to share active experiences that are socially rewarding. This may entail joining a health club to work out with friends, joining a recreational softball team, or playing golf with associates from work.

Choosing to work in a field that can help people engage in enjoyable activities has a built-in advantage, because it is easier to get people to engage and persist in activities that are fun. Because this book provides a comprehensive examination of the dynamic fields that help facilitate human movement, it will introduce numerous terms that will help you gain a greater appreciation of the various aspects of human movement as well as the breadth and depth of these dynamic fields. Learning and understanding the terminology of human movement will help you prepare for a career in one of these professions.

Physical education, exercise science, and sport are allied fields that share a common heritage and have grown more distinctive with the knowledge explosion and through disciplinary specificity. They relate to, but are not synonymous with, exercise, play, games, leisure, recreation, and athletics. Defining each of these terms can help clarify the distinctions and similarities. **Exercise** involves physical movement that increases the rate of energy use of the body. **Play** refers to amusements engaged in freely, for fun with less formality in rules. **Games,** usually implying winners and losers, can range from simple diversions to cooperative activities to competitions with significant outcomes governed by rules. Similarly, **recreation** refreshes or renews one's strength and spirit after work; it is a diversion that occurs during leisure hours. **Athletics** are organized, highly structured, competitive activities in which skilled individuals participate.

Sports may be played both for exercise and as a game. Sports participants may use their leisure time to play games recreationally. Some describe bridge and chess games as sports, while others claim that rock climbing, fly fishing, and sky-diving are sports. When the rules governing the skill levels required of participants and significance placed on the outcome are rigidly structured, sport becomes athletics. Usually sport refers to a contest in which the outcome is viewed as important by the players, who will emerge as either winners or losers. Broadly defined, **sports** are physical activities governed by formal or informal rules that involve competition against an opponent or oneself and are engaged in for fun, recreation, or reward.

To encompass the various outcomes experienced by all people in diverse programs, **physical education** is defined as a process through which an individual obtains optimal physical, mental, and social skills and fitness through physical



Walking is a moderate activity that can be enjoyed throughout life.

activity. In recent years, many colleges have chosen to rename their departments, using terms such as kinesiology, exercise science, human movement, and sport studies. **Kinesiology**, which many prefer as a more scientific descriptor than physical education, is the study of human movement. **Exercise science** describes the scientific analysis of the human body in motion. This broad term encompasses exercise physiology, biomechanics, kinesiology, anatomy, physiology, motor behavior, and some aspects of sports medicine. Exercise science researchers are exploring how to maximize the potential of human movement through physiological, biomechanical, and psychological studies. Practitioners are applying these findings to improve the quality of life for all who incorporate physical activity into their lives. Thus, the term exercise science rather than physical education may more broadly define what people know and do relative to human movement.

QUALITY OF LIFE

What does quality of life mean? Is it happiness, wellness, health, fitness, or fun? Maybe it refers to leisure time, relief from stress, safety from harm, or the absence of disease. In today's world quality of life, although defined individually, increasingly means a long and healthy life. Inherent therein is the concept that a feeling of well-being or some level of fitness enhances life. Maybe it is an outgrowth of Americans' search for the fountain of youth, but fitness, or at least the appearance of fitness, appears to be valued.

This commitment to fitness is not a fad; it has become an integral part of life for many. Executives may choose where to take a job based on the availability of exercise programs, or employers may hire only healthy and fit employees. Families often plan vacations and leisure time around various recreational and sports activities. Thousands of people sign up for marathons, 10-kilometer road



Aerobic activities are important for all ages and both genders.

races, and fun runs. Walking has become popular for people of all ages. Sporting goods and sports clothing sales continue to gross millions of dollars. Sports facilities, such as health clubs, aerobics centers, tennis courts, swimming pools, and golf courses, are increasingly attracting people who take both their health and sports seriously.

The contributions of physical education, exercise science, and sport to quality of life can be enhanced by encouraging participation in team sports and individual sports. Schools, recreation departments, and independent organizations offer league competitions in baseball, basketball, football, soccer, softball, and volleyball. Within these settings, team members potentially can learn and demonstrate teamwork, cooperation, communication skills, and the ability both to lead and to follow. Team camaraderie may lead to lifelong friendships and the willingness to place the team's benefit above individual goals. Although some of these sports can become lifelong pursuits, many individuals discontinue participation because their teams lack sufficient players or because of the physical demands of the sport.

Individual sports are often called lifetime sports because of the greater likelihood of continued participation throughout life. Most of these sports can be engaged in by an individual either alone or with only one other person. Aerobics, bowling, fishing, golf, hiking, jogging, racquetball, swimming, tennis, walking, and weight lifting are the most popular of these sports and activities. They can be engaged in recreationally or competitively through leagues, tournaments,



Individuals of all ages are seeking to achieve the healthy benefits of physical activity.

and organized events. Individual sports, like team sports, can teach fair play, self-confidence, and how to win and lose graciously, as well as specific sports skills.

Typically, interscholastic athletic teams and city or business recreational leagues attract skilled participants or those at least moderately comfortable with their skills. Those lacking skills, however, are often relegated to spectator roles or to their easy chairs in front of their televisions, video games, or computers. More instructional programs and beginning-level leagues and teams are needed for individuals of all ages. Often though, there is an overlap between the lower skilled and the economically disadvantaged. Because of their cost, golf, swimming, and tennis, for example, have often been categorized as upper-class sports. To bridge this gap, tax-supported recreation departments need to provide opportunities for these and other activities for all individuals.

Senior citizens, a growing percentage of the U.S. population, also have recreational needs. For example, exercise has been found to reduce osteoporosis (a breakdown of calcium in the bones), especially for women in their post-menopausal years. Senior citizens need activities matched with their capabilities. On the other end of the spectrum, children have many needs for physical activity that remain unfulfilled. Daily physical education from kindergarten through the twelfth grade would greatly enhance children's movement skills and fitness capacities, if all school students were provided this instruction. Nonschool sport programs can also provide opportunities for physical activity and play. Increased fun-filled opportunities for physical activities will contribute to the development of a healthy lifestyle for everyone. You, as a coach, recreation leader, personal trainer, or teacher, hold the key to unlocking the door of opportunity to the physical, psychological, and social benefits of physical activity.

IMPORTANCE OF PHYSICAL ACTIVITY

Research has documented the health benefits of regular physical activity. Adults should get at least 150 minutes of moderate-intensity physical activity a week; children and adolescents need 60 minutes or more of physical activity each day. By increasing the intensity or the amount of time engaged in physical activity, the individual reaps even greater benefits.

The health benefits associated with regular physical activity include the following:

Children and Adolescents

Strong evidence

- Improved cardiorespiratory and muscular fitness
- Improved bone health
- Improved cardiovascular and metabolic biomarkers
- Favorable body composition

Moderate evidence

Reduced symptoms of depression

Adults and Older Adults

Strong evidence

- · Lower risk of early death
- · Lower risk of coronary heart disease
- Lower risk of stroke
- Lower risk of high blood pressure
- Lower risk of adverse blood lipid profile
- Lower risk of type 2 diabetes
- Lower risk of metabolic syndrome
- Lower risk of colon cancer
- Lower risk of breast cancer
- Prevention of weight gain
- Weight loss, particularly when combined with reduced caloric intake
- Improved cardiorespiratory and muscular fitness
- Prevention of falls
- Reduced depression
- Better cognitive function (for older adults)

Moderate to strong evidence

- Better functional health (for older adults)
- Reduced abdominal obesity

Moderate evidence

- Lower risk of hip fracture
- Lower risk of lung cancer
- Lower risk of endometrial cancer
- Weight management after weight loss
- Increased bone density
- Improved sleep quality

(Taken from page 9 of the 2008 Physical Activity Guidelines for Americans. Available at: http://www.health.gov/PAGuidelines/pdf/paguide.pdf)

Making physical activity a priority in one's daily schedule is relatively easy, even for the person who is really busy. Among the tips for becoming more active are taking 10-minute fitness breaks at work, school, or home; choosing to walk or cycle to work, school, or the store; walking up stairs instead of taking the elevator or escalator; parking the car farther away from a destination and walking (rather than seeking the closest possible spot); and exercising while watching television or a DVD by using hand weights, riding a stationary bicycle, or performing stretching exercises. The key point is to choose a fun and rewarding physical activity and one that will continue to be enjoyable.

Significant health benefits can be obtained by including a moderate amount of physical activity in weekly routines (e.g., 30 minutes of brisk walking, 15 minutes of running, or 45 minutes of playing volleyball on most, if not all, days of the week). Regular physical activity improves health by reducing the risk of premature death, dying from heart disease, developing diabetes, developing high blood pressure, or developing colon cancer. Daily, moderate physical activity helps reduce blood pressure in people who already have high blood pressure, reduces feelings of depression and anxiety, helps control weight, helps older adults become stronger and better able to move without falling, and promotes psychological well-being.

However, many people have a plethora of excuses or rationalizations for why they are not physically active. At the top of most lists is "I don't have time." Rather than rationalizing that it is impossible or inconvenient to find time for exercise, most people should be able to look at the 1,440 minutes in each day and allocate at least 20 minutes to exercise. Many people claim that they need to spend time with family or friends, so setting aside time for personal exercise would be too selfish or neglectful. Exercising with a group allows all to benefit. On a very personal level, some people find physical activity boring, do not like to sweat so much that a shower is required, or they have had a bad experience with sports or exercise in the past. A moderate and enjoyable activity, such as gardening or walking, could address each of these excuses, especially when a friend joins in the activity. Individuals who are worried about existing or anticipated injuries, aches, and pains should check with their physicians, who can prescribe the appropriate types of exercises and the slow, progressive initiation of exercise programs. Few people are too old to start or learn how to be physically



Developing and maintaining fitness can be fun.

active in a way that will benefit them not only physically but also emotionally, mentally, and socially. The motivation comes from within each person, so everyone is encouraged to set a goal to get moving. The reward will be an increased feeling of well-being.

A few other tips for exercise programs include starting slowly at an easy pace and then increasing time or distance gradually as muscles warm up; listening to the body—monitoring the level of fatigue, heart rate, and any physical discomfort; being aware of any signs of breathlessness, muscle soreness, and overexertion; wearing comfortable and appropriate clothing and shoes for the activity; finishing by stretching the muscles used; and drinking water before, during, and after exercise.

In 1996, the first-ever Surgeon General's report on *Physical Activity and Health* emphasized that Americans could substantially improve their health and the quality of their lives by participating in regular physical activity. Despite the Healthy People 2000 goals, the patterns and trends in physical activity reported in the Surgeon General's report indicated little progress and even some decreases in activity levels. A few of these low participation levels included the following:

- Approximately 15% of adults and about 50% of individuals 12 to 21
 years old in this country engage in vigorous physical activity at least
 three times a week for at least 20 minutes.
- Approximately 22% of adults in this country engage in sustained physical activity at least five times a week for at least 30 minutes.

- About 25% of adults and 25% of individuals 12 to 21 years old in this country engage in no physical activity.
- Daily attendance in high school physical education classes between 1991 and 1995 declined from approximately 42% to 25%.

These data verified the significant challenge facing this nation and confirmed a national concern for the physical welfare of most citizens.

Healthy People 2010, published by the federal government in 2000, continued to report disturbing statistics (as did Healthy People 2000, published in 1990) about the poor status of Americans' overall health. Millions of citizens were overweight and inactive, and suffering the consequences of unhealthy lifestyles. The Healthy People 2010 goals listed in Box 1.1 are important guidelines for the work of physical educators, exercise scientists, and sports leaders.

BOX 1.1 HEALTHY PEOPLE 2010

Healthy People 2010 is a national health promotion and disease prevention initiative that seeks to unite agencies at all levels in their efforts to improve the health of all Americans, eliminate disparities in health, extend lives, and improve the quality of life. Healthy People 2010 builds on initiatives pursued over the past two decades to achieve national health objectives. Healthy People 2010 seeks to attain two overarching goals and specifically addresses physical activity and fitness goals in Objective 22.

Goal 1: Increase Quality and Years of Healthy Life

Healthy People 2010 seeks to help individuals of all ages increase life expectancy and improve their quality of life.

Goal 2: Eliminate Health Disparities

Healthy People 2010 seeks to eliminate health disparities among different segments of the population. These include differences that occur by gender, race or ethnicity, education or income, disability, living in rural localities, or sexual orientation.

Objective 22: Deals with Physical Activity and Fitness—to Improve Health, Fitness, and Quality of Life through Daily Physical Activity

Physical Activity in Adults

- **22-1.** Reduce the proportion of adults who engage in no leisure-time physical activity.
- **22-2.** Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.
- **22-3.** Increase the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness three or more days per week for 20 or more minutes per occasion.

BOX 1.1 HEALTHY PEOPLE 2010 (continued)

Muscular Strength/Endurance and Flexibility

- **22-4.** Increase the proportion of adults who perform physical activities that enhance and maintain muscular strength and endurance.
- **22-5.** Increase the proportion of adults who perform physical activities that enhance and maintain flexibility.

Physical Activity in Children and Adolescents

- **22-6.** Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes on five or more of the previous seven days.
- **22-7.** Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness three or more days per week for 20 or more minutes per occasion.
- **22-8.** Increase the proportion of the nation's public and private schools that require daily physical education for all students.
- **22-9.** Increase the proportion of adolescents who participate in daily school physical education.
- **22-10.** Increase the proportion of adolescents who spend at least 50% of school physical education class time being physically active.

See the Healthy People 2010 Website for more information: www.health.gov/healthypeople/default.htm.

OBESITY

A major problem in the United States is the increasing prevalence of obesity. According to the Centers for Disease Control and Prevention (CDC), obesity is defined as having a very high amount of body fat in relation to lean body mass, or Body Mass Index (BMI) of 30 or higher. BMI is the measure of an adult's weight in relation to his or her height, specifically the adult's weight in kilograms divided by the square of his or her height in meters (http://www.cdc.gov/ nccdphp/dnpa/obesity/trend/maps/index.htm). The CDC reports that in 2007, only Colorado had a prevalence of obesity less than 20%. Thirty states had a prevalence of obesity of equal to or greater than 25%; three states (Alabama, Mississippi and Tennessee) had a prevalence of obesity equal to or greater than 30%. Among adult males, 33.3% are obese; and 35.3% of adult females are obese. The CDC also reported that in the combined years of 2005-2006, over 17% of children and adolescents aged 2-19 years were obese. Obesity has significant implications for health because it increases the risk of diseases and health problems like coronary heart disease, type 2 diabetes, endometrial, breast, and colon cancers, high blood pressure, high cholesterol, stroke, liver and gallbladder disease, sleep apnea and respiratory problems, osteoarthritis (a degeneration of cartilage and its underlying bone within a joint), and gynecological problems like abnormal menses and infertility.

Hypokinetic disease refers to those diseases and health problems associated with physical inactivity and a sedentary lifestyle. Coronary heart disease, high blood pressure, stress, ulcers, obesity, and low back pain often afflict individuals who fail to engage in regular exercise. When school, work, family, and use of leisure time place few physical demands on our bodies, degenerative diseases may develop. Health education and physical activity can help alter or deter the disease process.

In 1992, the American Heart Association identified physical inactivity (along with high blood pressure and high cholesterol) as a primary risk factor for coronary heart disease. Millions need to realize that participating in regular physical activity and exercise is essential to good health. Physical activity has numerous beneficial physiological effects on the cardiovascular and musculoskeletal systems, but it also benefits the metabolic, endocrine, and immune systems. Maintaining normal muscular strength, joint structure, and joint function occurs only when activity is sustained. Thus, the health benefits can be enjoyed only if physical activity becomes a regular part of a person's life.

Seeking to engage more people in physical activity, in 2008 the U.S. Department of Health and Human Services established the *Physical Activity Guidelines for Americans*. A summary of these research-based guidelines and their importance is provided in the Research View. The guidelines can also be found at http://www.health.gov/PAGuidelines/guidelines/default.aspx#toc.

RESEARCH VIEW

2008 Physical Activity Guidelines for Americans Summary

The *Physical Activity Guidelines for Americans* describes the major research findings on the health benefits of physical activity:

- Regular physical activity reduces the risk of many adverse health outcomes.
- Some physical activity is better than none.
- For most health outcomes, additional benefits occur as the amount of physical activity increases through higher intensity, greater frequency, and/or longer duration.
- Most health benefits occur with at least 150 minutes (2 hours and 30 minutes) each week of moderate intensity physical activity, such as brisk walking. Additional benefits occur with more physical activity.
- Both aerobic (endurance) and muscle-strengthening (resistance) physical activity are beneficial.

- Health benefits occur for children and adolescents, young and middle-aged adults, older adults, and those in every studied racial and ethnic group.
- The health benefits of physical activity occur for people with disabilities.
- The benefits of physical activity far outweigh the possibility of adverse outcomes.

Key Guidelines for Children and Adolescents

- Children and adolescents should do 60 minutes (1 hour) of physical activity daily.
 - Aerobic: Most of the 60 or more minutes a day should be either moderate- or vigorous-intensity aerobic physical activity and should include vigorous-intensity physical activity at least 3 days each week.
 - Muscle-strengthening: As part of their 60 or more minutes of daily physical activity, children and adolescents should include musclestrengthening physical activity on at least 3 days each week.
 - Bone-strengthening: As part of their 60 or more minutes of daily physical activity, children and adolescents should include bonestrengthening physical activity on at least 3 days each week.
- It is important to encourage young people to participate in physical activities that are appropriate for their ages, that are enjoyable, and that offer variety.

Key Guidelines for Adults

- All adults should avoid inactivity. Some physical activity is better than none, and adults who participate in any amount of physical activity gain some health benefits.
- For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) each week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) each week of vigorous-intensity, aerobic physical activity, or an equivalent combination of moderateand vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes and, preferably, it should be spread throughout the week.
- For additional and more extensive health benefits, adults should increase their aerobic physical activity to 300 minutes (5 hours) per week of moderate-intensity, or 150 minutes a week of vigorous-intensity, aerobic physical activity, or an equivalent combination of moderateand vigorous-intensity activity. Additional health benefits are gained by engaging in physical activity beyond this amount.
- Adults should also do muscle-strengthening activities that are moderateor high-intensity and involve all major muscle groups on 2 or more days per week, since these activities provide additional health benefits.

Key Guidelines for Older Adults

The key guidelines for adults also apply to older adults. In addition, the following guidelines are just for older adults:

- When older adults cannot do 150 minutes of moderate-intensity aerobic activity per week because of chronic conditions, they should be as physically active as their abilities and conditions allow.
- Older adults should do exercises that maintain or improve balance if they are at risk of falling.
- Older adults should determine their level of effort for physical activity relative to their level of fitness.
- Older adults with chronic conditions should understand whether and how their conditions affect their ability to do regular physical activity safely.

Key Guidelines for Safe Physical Activity

To do physical activity safely and reduce the risk of injuries and other adverse events, people should:

- Understand the risks, and yet be confident that physical activity is safe for almost everyone.
- Choose to do types of physical activity that are appropriate for their current fitness level and health goals, because some activities are safer than others.
- Increase physical activity gradually over time whenever more activity
 is necessary to meet guidelines or health goals. Inactive people should
 "start low and go slow" by gradually increasing how often and how
 long activities are done.
- Protect themselves by using appropriate gear and sports equipment, looking for safe environments, following rules and policies, and making sensible choices about when, where, and how to be active.
- Be under the care of a health-care provider if they have chronic conditions or symptoms. People with chronic conditions and symptoms should consult their health-care provider about the types and amounts of activity appropriate for them.

Key Guidelines for Women During Pregnancy and the Postpartum Period

- Healthy women who are not already highly active or doing vigorousintensity activity should get at least 150 minutes of moderate-intensity aerobic activity each week during pregnancy and the postpartum period. Preferably, this activity should be spread throughout the week.
- Pregnant women who habitually engage in vigorous-intensity aerobic activity or who are highly active can continue physical activity during

pregnancy and the postpartum period provided that they remain healthy and discuss with their health-care provider how and when activity should be adjusted over time.

Key Guidelines for Adults with Disabilities

- Adults with disabilities, who are able to, should get at least 150 minutes
 per week of moderate-intensity, or 75 minutes per week of vigorousintensity, aerobic activity, or an equivalent combination of moderateand vigorous-intensity aerobic activity. Aerobic activity should be
 performed in episodes of at least 10 minutes and, preferably, should
 be spread throughout the week.
- Adults with disabilities, who are able to, should also do musclestrengthening activities of moderate- or high-intensity that involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.
- When adults with disabilities are not able to meet the guidelines, they should engage in regular physical activity according to their abilities and should avoid inactivity.
- Adults with disabilities should consult their health-care provider about the amounts and types of physical activity that are appropriate for their abilities.

Key Messages for People with Chronic Medical Conditions

- Adults with chronic conditions obtain health benefits from regular physical activity.
- When adults with chronic conditions do activity according to their abilities, physical activity is safe.
- Adults with chronic conditions should be under the care of a healthcare provider. People with chronic conditions and symptoms should consult their health-care provider about the types and amounts of activity appropriate for them.

PURPOSE

What exactly do physical education, exercise science, and sport programs seek to accomplish? A **purpose** is a stated intention, aim, or goal that provides the answer to the question "why." Used interchangeably, these terms describe desirable long-range achievements that will occur only after many hours of effort and incremental progress. Working to make the dean's list this semester, earning an athletic grant-in-aid based on performance as a walk-on athlete, getting invited into an academic honor society, and saving money from a part-time job to purchase a car are all examples of setting and accomplishing goals. Whether you call



WEB CONNECTIONS

1. www.health.gov/healthypeople/default.htm

This site includes extensive information about the Healthy People 2010 initiative, including the links to the Physical Activity Guidelines for Americans and Developing Healthy People 2020.

2. www.cdc.gov/

The Centers for Disease Control and Prevention provide a plethora of information and data about healthy living and health-related topics.

3. www.nih.gov/

The National Institutes for Health provide research-based fact sheets, health information, MedlinePlus (a health database maintained by the National Library of Medicine), and many other resources.

4. www.fitness.gov/

Visit this site of the President's Council on Physical Fitness and Sports to learn more about its activities to coordinate and promote opportunities in physical activity, fitness, and sports for all Americans, as well as to find links to other health and fitness resources.

5. www.cdc.gov/nccdphp/sgr/sgr.htm
Read the text of the Surgeon General's report on *Physical Activity and Health*.

6. www.healthfinder.gov/

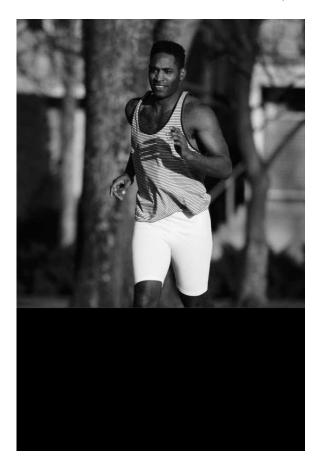
This handy reference site of the U.S. Department of Health and Human Services provides links to a wealth of information about health and nutrition topics.

7. www.projectfitamerica.org/

Project Fit America provides funding to schools for developing exemplary fitness education programs for students in grades K–12. Over 700 schools have benefited from donations from hospitals and health-care organizations to get youth engaged in cardiovascular health and fitness.

8. www.ncppa.org/

The National Coalition for Promoting Physical Activity is a collaborative partnership of national organizations that seeks to engage all Americans in more physically active lives through coordinated educational campaigns, including numerous facts sheets on this Website, and policy development.



Jogging contributes to health-related fitness.

it an aim, a goal, or a purpose, each is achieved by meeting several objectives, such as spending long hours studying or perfecting athletic skills. The purpose of physical education, exercise science, and sport programs is to optimize quality of life by encouraging people to make long-term commitments to enjoyable physical activity and sport experiences that will meet their varied needs in a changing world. Secondarily, people who make this commitment will find themselves better prepared to meet other goals because they will have successfully made attitudinal and behavioral changes.

Physical activity, physical fitness, health, and wellness are components essential to the achievement of the purpose of physical education, exercise science, and sport. **Physical activity** is defined as repetitive movements by the skeletal muscles that require energy and produce health benefits. **Physical fitness** is the body's capacity to adapt and respond favorably to physical effort. The physically fit person can move efficiently and effectively in meeting physical demands. Physical fitness includes the five components of **health-related fitness**, which is the level of positive well-being associated with enhanced functioning of the heart, muscles, and joints to improve the healthfulness of life. Physical fitness also includes six components of **skill-related fitness**, which entails achieving

levels of ability to perform physical movements that are efficient and effective. (See the Research View for a description of these 11 components of fitness, principles of training, and guidelines for flexibility and resistance training.) The physically fit person, who is better able to handle the daily demands of work and enjoy recreational activities during leisure time, is healthier and better able to resist hypokinetic diseases or conditions. **Health**, often defined as the absence of illness or disease, is a positive state of physiological function that includes physical fitness and the five dimensions of wellness. **Wellness**, which is very personal and individualized, includes the emotional, mental, physical, social, and spiritual factors that lead to an overall state of well-being, quality of life, and ability to contribute to society.



Fundamentals of Physical Fitness

Components of Health-Related Physical Fitness

- Cardiorespiratory endurance—the ability of the lungs, heart, and blood vessels to deliver adequate amounts of oxygen to the cells to meet the demands of prolonged physical activity
- Muscular strength—the ability to exert maximum force against resistance
- Muscular endurance—the ability of a muscle to exert submaximal force repeatedly over a period of time
- Flexibility—the ability of a joint to move freely through its full range of motion
- Body composition—percentage of body fat or lean body mass

Components of Skill-Related Physical Fitness

- Agility—ability to change directions rapidly and accurately
- Balance—ability to maintain equilibrium while stationary or moving
- Coordination—ability to perform motor tasks smoothly and accurately
- Power—ability to exert force rapidly through a combination of strength and speed
- Reaction time—ability to respond or react quickly to a stimulus
- Speed—ability to quickly perform a movement

FITT Principles

- Frequency—how often a person should train
- Intensity—how hard a person should exercise

- Time—how long, or the duration, a person should exercise
- Type—kind, or mode, of exercise performed

Principles of Training (PROVIRRRBS)

- Progression—increasing gradually the stress on the muscles so the body can adapt
- Regularity—number of times exercising per week
- Overload—placing increasing amounts of stress on the body to cause adaptations that improve fitness
- Variety—changing equipment, exercises, and activities to avoid boredom, reduce risk of overuse injuries, and increase motivation or adherence
- Individualism—knowing personal capabilities and limitations to be able to maintain strength and work on weaknesses
- Realism—setting achievable training plans and goals to help maintain an exercise program
- Recovery—ensuring optimal amount of rest and sleep to allow for rebuilding tissues and replenishing stored energy
- Reversibility—loss of fitness improvements when demands on the body are not maintained
- **B**alance—focusing on all of the health-related components of physical fitness, the push and pull movements of each joint, and both upper body and lower body fitness.
- **S**pecificity—training exact areas of muscles, energy systems, and ranges of motion to improve fitness

Guidelines for Flexibility and Resistance Training

Flexibility

- Warm up muscles, such as by walking
- Stretch after moderate or vigorous physical activity
- Stretch slowly and under control, with no bouncing, to the point of tension but not pain
- Relax and breathe freely while stretching
- Focus on the major muscle groups like calves, hips, lower back, neck, shoulders, and thighs
- Hold stretches comfortably for 15 to 30 seconds and repeat each stretch 3 to 5 times
- Stretch every day, but at least a minimum of 3 times per week

Benefits of Stretching to Develop and Maintain Flexibility

- · Increases flexibility for exercise and other daily activities
- Improves range of motion of joints
- Enhances circulation of the blood and healing of muscular injuries
- · Relieves stress and relaxes muscles

Resistance Training

- Select 8 to 10 exercises, such as abdominal crunch, chest press, shoulder press, leg press, leg curls, triceps extension, and biceps curls that develop the major muscle groups
- Execute each set of each exercise between 8 and 15 repetitions to the point of volitional fatigue (working to the point of exhaustion is what causes changes in muscle fibers leading to increased muscular strength and endurance during the recuperation time between workouts)
- Complete all exercises at least 2 days per week and preferably 3 days per week
- Perform exercises in a controlled manner using proper form and technique including movements through the full range of motion
- Maintain a normal breathing pattern throughout each exercise
- Exercise with a partner, who can provide feedback, assistance, and motivation

Benefits of Resistance Training

- Increases muscular strength
- Enhances muscle fiber adaptation and hypertrophy (increase in the size of the muscle)
- Increases bone mineral density and offsets osteoporosis
- Decreases the percentage of body fat and increases fat-free mass
- Enhances functioning of the cardiovascular system

OBJECTIVES OR OUTCOMES OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT PROGRAMS

The objectives of physical education, exercise science, and sport programs are often stated more specifically than the purpose because they consist of particular learning outcomes. Professional colleagues and the general public often learn about a program's worth through an examination of its objectives and their fulfillment.



Flexibility is one of the health-related components of physical fitness.

Cognitive Development

Cognitive development focuses on the acquisition, comprehension, analysis, synthesis, application, and evaluation of knowledge. Increased cognitive involvement usually leads to better execution of a skill and a better understanding of the activity. In meeting cognitive objectives, teachers and exercise leaders in all settings need to explain not only how but especially why the body's movements result in certain outcomes. For example, they can explain why hand position, release technique, and follow-through are critical to the success of throwing a ball. They can emphasize learning rules, strategies, skills, safety principles, and proper etiquette. Playing any sport requires at least some knowledge of the rules.

Affective Development

Affective development emphasizes the formation of attitudes, appreciations, and values; this domain contains both social and emotional dimensions. In the social realm, both individual and group needs are met while positive characteristics are developed. Learning self-confidence, courtesy, fair play, sportsmanship, and cooperation benefits all students. In team sports, decision-making abilities, communication skills, and affiliation needs are enhanced, as long as winning is not overemphasized. Individuals' values and attitudes toward involvement in physical activity are solidified, as are appreciations for participation and performance when the achievement of realistic personal goals is paramount. On the emotional side, self-discipline, fun, learning how

BOX 1.2 EDUCATIONAL OBJECTIVES WHOSE ACHIEVEMENT IS ENHANCED THROUGH PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT PROGRAMS

Mental (Cognitive)

- Improve academic performance
- Increase interest in learning
- Improve judgment
- Promote self-discipline
- Encourage goal setting and achieving these goals
- Prevent or ameliorate feelings of depression

Social-Emotional (Affective)

- Improve self-confidence, self-esteem, and self-control
- Strengthen peer relationships
- Reduce the likelihood of depression
- Promote healthier lifestyles

Physical (Psychomotor)

- Reduce risk of coronary heart disease, diabetes, obesity, high blood pressure, and colon cancer
- Improve muscular strength and endurance, flexibility, and cardiorespiratory endurance
- Regulate weight and improve body composition
- Promote overall health and fitness
- Strengthen bones
- Develop movement skills

to win and lose, tension release, self-control, and self-expression are enhanced through the give-and-take of challenging oneself and competing with and against others.

Psychomotor Development

Movement undergirds all physical education, exercise science, and sport programs that seek to achieve the objectives of **psychomotor development**, which is an educational outcome that emphasizes the learning of fundamental movements, motor skills, and sports skills. Although any person can learn fundamental movement skills, children learn more easily because they do not have to break habitual inefficient motor patterns. Also, if the basic locomotor, manipulative, and perceptual-motor skills are learned early in life, they provide the foundation for lifelong enjoyment of physical activity. Box 1.2 provides examples of cognitive, affective, and psychomotor objectives.



Tennis is both a lifetime activity as well as an opportunity to spend time with friends.

Movement concepts include body awareness; spatial awareness, including space, direction, level, and pathways; qualities of movement such as time, force, and flow; and relationships with objects and with people. Walking, running, jumping, leaping, and sliding are some of the basic locomotor movements; conversely, stretching, twisting, pushing, lifting, and swinging are nonlocomotor movements. Manipulative skills, involving propelling or absorbing force from an object, include throwing, catching, striking, and kicking.

Developing and improving fundamental movement skills and game or sport skills are important objectives, since sport, aquatic, and dance skills begin with learning basic and efficient movement patterns. Children explore their bodies' capabilities as they learn to walk, run, or jump independently, in conjunction with others, or by using a piece of equipment. Similar principles can apply as individuals experiment with solving other movement challenges. Manipulative skills are developed by exploring the potential of hoops, ropes, balls, rackets, bats, and other implements. Perceptual-motor skills, such as the eye-hand coordination needed to strike a ball with a racket or the reaction time needed to judge how quickly a partner's thrown ball will arrive, are also fundamental skills. Once these abilities are mastered developmentally and independently, skills such as catching, throwing, and batting can be incorporated into lead-up games and playing sports.

Figure 1.1 summarizes the objectives of physical education, exercise science, and sport. It is essential to recognize that these objectives interrelate rather than exist in isolation. For example, while learning to hit a tennis ball, people not only enhance their eye-hand coordination but also learn proper body position

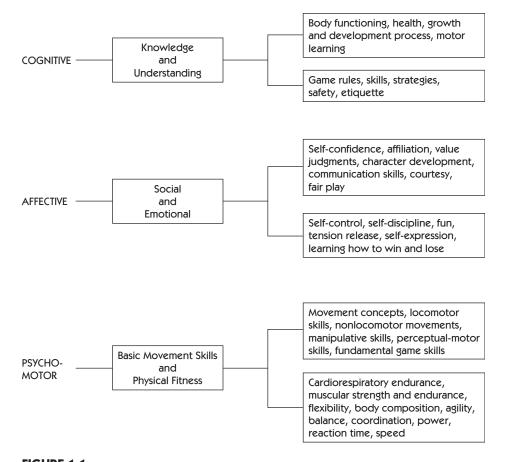


FIGURE 1.1Objectives of physical education, exercise science, and sport studies.



Rafting can contribute to cognitive, affective, and psychomotor outcomes.

BOX 1.3 EXAMPLES OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT OBJECTIVES

Cognitive Development

- The participant will explain the principles for playing zone defense in basketball.
- The participant will analyze the technique for executing a tennis serve.
- The participant, using the entire stroke (whole teaching method), will synthesize the
 principles of learning the crawl stroke in swimming.
- The participant will apply knowledge of cardiovascular functioning in establishing a
 personal fitness program.
- The participant will evaluate another person's weight-lifting technique and provide corrective feedback.

Affective Development

- The participant will express appreciation for the excellence of an opponent's performance.
- The participant will enjoy playing hard and doing his or her best, regardless of the outcome of the game or event.
- The participant will cooperate and take turns with others.
- The participant will demonstrate fair play in unsupervised and non-officiated sports and activities.
- The participant will value the rights of others and the regulations governing the situation.

Psychomotor Development

- The participant will improve eye-hand coordination by regularly practicing racquetball forehand and backhand shots. (motor skill development)
- The participant will explore ways to manipulate a ball without using the hands. (motor skill development)
- The participant will demonstrate the proper technique for executing a volleyball spike.
 (motor skill development)
- The participant will execute four exercises designed to improve flexibility of the shoulders. (physical fitness)
- The participant will develop and implement a daily program of at least 30 minutes of aerobic activity. (physical fitness)
- The participant will engage in a weight-lifting program at least 3 times a week. (physical fitness)

for a level swing and cooperation with those with whom they take turns tossing the ball. Box 1.3 provides several examples of how the objectives of physical education and sport are achieved and interrelated. It should also be emphasized that the breadth of the outcomes sought in physical education, exercise science, and sport programs makes it challenging to maintain a focused field of study.



Physical activity enhances quality of life beginning in the early years.

SUMMARY

Physical education, exercise science, and sport programs seek to improve the quality of life and the physical well-being of participants. People of all ages enjoy playing games, engaging in recreational activities, and exercising to maintain good health. Competitive, rule-bound sports provide opportunities to test one's skills against opponents. Through these programs, the all-around development of the individual is enhanced during activity. The purpose of these programs is to optimize quality of life through enjoyable physical activity and sport experiences. Educational objectives through cognitive, affective, and psychomotor (physical fitness and motor skill) development are sought and achieved. A significant challenge facing physical education, exercise science, and sport professionals is to help all Americans participate in regular physical activity so they can enjoy the associated health benefits. Complete the lifestyle survey in Box 1.4 to see what your personal status is. You also might want to take advantage of resources like those for Student Fitness Assessments in (Box 1.5).

BOX 1.4 LIFESTYLE SURVEY

Do you make healthy choices and behave in ways that contribute to living a physically fit life? Do you daily act in ways that positively contribute to each of the dimensions of wellness? Complete this short survey by answering yes or no and see whether this is the case. If not, what changes should you make to better achieve these healthy behaviors?

(continued)

		BOX 1.4 LIFESTYLE SURVEY (continued)		
Yes	No			
		I engage in vigorous physical activity that elevates my heart rate for at least 30 minutes at least 3 days a week.		
		2. I engage in exercises to increase my muscular strength and endurance at leas 3 times a week.		
	3. I engage in stretching exercises to increase my flexibility at least 3 times a wee			
		I eat a balanced diet based on the appropriate number of servings from the food pyramid guide each day.		
	5. I eat the same number of calories that I expend so that I mainta			
		6. I am able to identify and appropriately deal with the stress in my daily life.		
		7. I take time out each day to relax and relieve the tension that I experience.		
		8. I get an adequate amount of sleep each day.		
		9. I do not smoke or use smokeless tobacco products.		
		10. I do not abuse alcohol.		
		11. I do not use performance-enhancing drugs.		
		12. I do not use drugs other than those prescribed by a physician.		
		13. I follow the directions of athletic trainers and physicians in recovering from injurio		
		14. I avoid behaviors that will lead to the transmission of sexually transmitted disease		
		15. I spend time with family and friends in socially enjoyable situations.		
		16. I set aside quiet time for myself whenever it is needed.		
		17. I have an identified value system that I live by each day.		
		18. I am a good friend to other people and enjoy the friendship of others.		
		19. I am committed to using my intellectual abilities to learn and develop.		
		20. I have set career goals that I am working to achieve.		

BOX 1.5 STUDENT FITNESS ASSESSMENTS

Check out these resources to help determine how fit you are.

- 1. Go to www.mayoclinic.com/health/target-heart-rate/SM00083 to calculate your target heart rate.
- 2. Go to www.healthchecksystems.com/heart.asp to calculate your exercise or training heart rate zone.
- **3.** Go to www.mypyramid.gov to determine a healthy nutritional plan just for you.
- **4.** Go to www.nhlbisupport.com/bmi to calculate your body mass index.
- 5. Go to http://hp2010.nhlbihin.net/atpiii/calculator.asp?usertype=pub to calculate your estimated 10-year risk for having a heart attack (you will need to have your cholesterol and systolic blood pressure).

CAREER PERSPECTIVE



MIKE BARWIS

Director of Strength and Conditioning University of Michigan Ann Arbor, Michigan

EDUCATION

B.S., exercise physiology, West Virginia University M.S., athletic strength and conditioning, West Virginia University Additional course work taken at Temple University

JOB RESPONSIBILITIES AND HOURS

Mike was responsible for the development and implementation of sports-specific, comprehensive, and year-round strength and conditioning programs for 16 NCAA Division I sports at his previous institution. He currently trains football and ice hockey athletes. He supervises the schedules and delegates the responsibilities of nine professional staff members as well as graduate assistants and interns in their work with student-athletes at the University of Michigan. He coordinates rehabilitation strength programs for student-athletes in coordination with athletic trainers and medical staff. He oversees scheduling of team workouts, the budget, and equipment. Strength and conditioning coaches do not work normal work days. He typically works between 6:00 A.M. and 8:00 P.M., or between 60 and 100 hours per week year round. The pay for a head strength and conditioning coach ranges between \$40,000 and \$200,000 depending on scope of job responsibilities and the level of competition.

SPECIALIZED COURSE WORK, DEGREES, AND EXPERIENCES NEEDED FOR THIS CAREER

Mike is a Certified Strength and Conditioning Specialist (certification received from the National Strength and Conditioning Association) and holds first aid and cardiopulmonary resuscitation certifications, both of which are essential for this position. A director also must have a master's degree and years of experience as a strength and conditioning coach. The courses that Mike believes best prepared him for his career include exercise physiology, anatomy, physiology, kinesiology, and biomechanics. His experiences have been broadened and enriched by successfully training professional, Olympic, and international athletes in several sports.

SATISFYING ASPECTS

Mike really enjoys motivating student-athletes to achieve their dreams in sports. He emphasizes teaching discipline, self-worth, confidence, and toughness because he believes that these help individuals succeed in athletics as well as in their lives. He enjoys sharing his expertise through presentations at camps, clinics, and conferences and in other settings. This career is personally rewarding to Mike, although the long hours make it difficult for him to spend as much time with his family as he would like.

JOB POTENTIAL

Students usually gain access into and advance in this field according to the following pattern: intern to graduate assistant to assistant coordinator to associate director to director. Mike emphasizes that the more successful the program in which you train athletes, the greater the opportunity for advancement. A person's job potential also is enhanced by staying active professionally by taking advanced course work, sharing knowledge through writings, and participating in professional organizations like the National Strength and Conditioning Association.

SUGGESTIONS FOR STUDENTS

Mike suggests that each student focus on getting a science-based education. He strongly encourages gaining experience as a volunteer. He emphasizes that strength and conditioning coaches need to be inspiring in their attitude and energetic at all times. He stresses that there is no substitute for a tremendous work ethic.

KEY POINTS FOR CHAPTER 1

Physical education Educational process of developing physically, mentally,

and socially and emotionally.

Sports Competitive physical activities governed by rules.

Exercise science Application of science to the study of the body in

motion.

Quality of life Physical activity is for everyone because it is essential to

health and well-being.

Health benefits of participating in physical activity Children and adolescents: Improved cardiorespiratory and muscular fitness; improved bone health; improved cardiovascular and metabolic functioning; favorable body

composition.

Adults: Lower risk of coronary heart disease, stroke, high blood pressure, type 2 diabetes, colon cancer, and breast cancer; prevention of weight gain; improved cardiorespiratory and muscular fitness; prevention of

falls; reduced depression.

Surgeon General's report on *Physical Activity and Health*

Americans could significantly improve their health and the quality of their lives by participating in regular

physical activity.

Obesity Adults: Over one-third are obese.

Children and adolescents: Over 17% are obese (have high

body mass index).

Healthy People 2010

Established specific objectives and goals for increasing

the quality and years of healthy life.

2008 Physical Activity Guidelines for Americans Regular physical activity reduces the risk of many adverse health outcomes, with additional benefits occurring as the amount of physical activity increases through higher intensity, greater frequency, and/or longer duration.

Components of health-related physical fitness FITT principles

Cardiorespiratory endurance; muscular strength; muscular endurance; flexibility; body composition.

Benefits of flexibility

Frequency; intensity; time; type.

Increases flexibility for exercise and other daily activities;

improves range of motion of joints; enhances circulation of the blood and healing of muscular injuries; relieves stress and relaxes muscles.

Benefits of resistance training

Increase muscular strength; enhances muscle fiber adaptation and hypertrophy (increase in the size of the muscle); increases bone mineral density and offsets osteoporosis; decreases the percentage of body fat and increases fat-free mass; enhances functioning of the cardiovascular system.

Basic movement skills

Locomotor skills like running and jumping; non-locomotor skills like twisting and balancing; manipulative skills like swinging a racket or a bat; perceptual-motor skills like heading a soccer ball or catching a fly ball.

REVIEW QUESTIONS

- 1. What are the two overarching goals of Healthy People 2010 and two examples of fitness outcomes of objective 22?
- 2. What are the five components of health-related physical fitness?
- 3. What are six components of skill-related physical fitness?
- 4. How does the overload principle of training impact the development of muscular strength and endurance, flexibility, and cardiorespiratory endurance?
- **5.** What types of knowledge are important within the cognitive domain of physical education, exercise science, and sport?
- **6.** How are the social and emotional outcomes of the affective objective achieved in physical education, exercise science, and sport programs?
- 7. What are locomotor skills, non-locomotor movements, manipulative skills, and perceptual-motor skills?

STUDENT ACTIVITIES

- 1. Interview three individuals of different ages (for example, below 18, mid-30s, and over 60) to determine what role physical activity plays in their lives.
- 2. Ask at least two friends who are not majors in your field what they think physical education, exercise science, and sport are.

- **3.** Write a one- or two-page description of how you would incorporate three movement concepts or skills into a youth soccer program.
- **4.** Write a one-page summary of how the three domains of physical education, exercise science, and sport objectives have influenced your life and career choice.
- 5. Investigate the physical fitness status of youth with special emphasis on the level of obesity. Write a one-page description of this health crisis.

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2

EXERCISE AND SPORT SCIENCES

KEY CONCEPTS

- An academic discipline includes a body of knowledge that is scholarly and theoretical and seeks to lead to greater insights.
- Ten exercise and sport sciences continue to make significant contributions to the knowledge base of their disciplines.
- As a multidisciplinary field, the exercise and sport sciences share content knowledge with technology and the humanities.

A critical issue in the fields of physical education, exercise science, and sport is whether they can be considered academic. While physical education is inherently applied, kinesiology is both applied and research-oriented. A major question debated has been whether kinesiology possesses a theoretical body of knowledge that is formally organized and merits scholarly study. An emphasis on the theoretical and scholarly content of kinesiology led to the use of this more accurate descriptor. This chapter provides an overview of the contributions of 10 exercise and sport sciences to demonstrate their academic and scholarly content.

WHAT IS AN ACADEMIC DISCIPLINE?

An **academic discipline** is a formal body of knowledge discovered, developed, and disseminated through scholarly research and inquiry. The components of an academic discipline include

- A body of knowledge
- A conceptual framework
- Scholarly procedures and methods of inquiry
- Both the process of discovery and the end result

If physical education, exercise science, and sport merit the distinction of being called academic disciplines, these criteria must be met.

A body of knowledge refers to an area of study yielding answers to important questions. Researchers have discovered and continue to share information

of value to other researchers and practitioners. Examples of their contributions include studies about the effects of drugs on physical performance, the importance of feedback to learning, and the role of sports in developing cultures. Exercise scientists examine the physiological, psychological, historical, or sociological impact of physical activity on people.

Similarly, research studies in an academic discipline must be guided by a conceptual framework. Hypotheses and experimental designs, strict controls, absence of bias, accurate reporting of findings, and interpretive analyses should characterize each attempt to gain new knowledge. This process requires stringent adherence to protocols to give credibility to the results (see the Research View Research Methods for descriptions of these and other terms).



Research Methods

Research questions are the specific inquiries the experiment or investigation intends to answer.

Hypothesis is a tentative assumption or statement established to test its empirical consequences.

Experimental design is the process through which researchers properly develop experiments or data collection methods to ensure that the data collected will answer the research questions.

Experiment is the imposing of a treatment on a group of subjects in order to observe the response.

Controls are subjects who receive no treatment.

Experimental bias favors certain outcomes over others in the absence of controls. **Randomization** occurs when subjects are assigned randomly to experimental groups to create homogeneous treatment groups and eliminate potential biases.

Placebo effect prevents subjects from perceiving a positive outcome even though they receive no treatment.

Double-blind studies prevent experimental bias and the placebo effect by ensuring that neither the researcher nor the subjects know what treatment is being received by whom.

Replication is the repetition of an experiment on another or larger group of subjects. **Validity** is the degree to which a study accurately assesses what the researcher is measuring.

External validity is the extent to which the results can be applied or generalized more broadly.

Internal Validity describes inferences regarding cause-and-effect or causal relationships.

(continued)

Reliability is the accuracy of the measuring instrument or procedure.

Sampling is a statistical procedure for selecting units from a population of interest to measure in a research project so the results can be generalized back to this population.

Data analysis is the process of examining and transforming data in order to summarize a situation, highlight useful information, discover relationships, and suggest conclusions.

Observational studies collect and analyze data without making any changes.

Primary sources are first-hand testimony, direct evidence, or original materials or information about a topic being investigated.

Secondary sources are after-the-fact accounts, interpretations, or summarizations of primary sources.

Steps of the Scientific Method

- 1. Ask a question or state a problem that is measurable.
- 2. Conduct background research and gather information in order to learn from the work of others what is already known and what might be the best way to answer the stated question.
- 3. Formulate a hypothesis, which is an educated guess of what you think will happen.
- 4. Perform an experiment to test the hypothesis.
- 5. Collect and analyze the data from the experiment to determine if the hypothesis is true or false, possibly using statistical software, charts, and graphs.
- 6. Draw conclusions based on the results of the experiment, which may lead to a new hypothesis or replication of the study in a different way to confirm the results.
- 7. Communicate the results to others.

A **research study** typically includes an introduction; a review of the literature to explain and analyze previous, related research; methods that describe how the data were collected and analyzed; results and discussion; and conclusions.

Scholarly procedures and methods of inquiry are built on a conceptual framework. For example, the sport historian, whenever possible, uses primary, rather than only secondary sources in examining significant events. Motor development specialists evaluate the role of genetics and the environment in assessing readiness to learn. The exercise physiologist controls extraneous variables when analyzing the effect of a treatment, such as consuming a different diet or taking a specific drug, on a training regimen.

In seeking knowledge, the process of discovery and the end result are equally important. How the researcher collects data influences the findings; therefore,

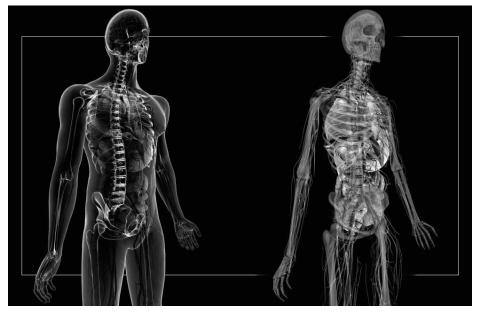
accuracy in reporting and interpretation is vital. Also, replication studies should consistently verify the results.

Other characteristics of an academic discipline include a substantial history and tradition, a broad scope that is unique in comparison with other fields, and a specific language. Thus, to qualify as an academic discipline, a field of study must contribute to the body of knowledge by using a conceptual framework, scholarly procedures and methods of inquiry, theoretical processes of discovery, and analyses of the end results.

THE SCIENTIFIC FOUNDATIONS OF THE EXERCISE AND SPORT SCIENCES

Kinesiology is broadly defined as the study of human movement. This term is used commonly in higher education to describe academic departments that take an interdisciplinary approach to studying physical activity and human movement and their consequences, such as through exercise physiology, sport psychology, biomechanics, and motor learning.

Numerous academic fields of study contribute principles and methods of scientific inquiry used by researchers in kinesiology. One cornerstone is biology, the study of life and life processes. On these biological facts and information are built anatomy, physiology, chemistry, and physics. Anatomy and physiology are the studies of the structure and function, respectively, of the human body. Chemistry is the study of the composition, properties, and reactions of matter. The specialization of biochemistry focuses on biological substances and processes, such as how the body's cells use food to obtain energy through respiration. The study of physics examines interactions



Kinesiology is the study of human movement as affected by the various systems of the body.

TABLE 2-1 RELATIONSHIPS AMONG DISCIPLINES				
Anatomy Biology Chemistry Physiology	Exercise physiology	Motor learning Sport biomechanics Athletic training Sport and exercise psychology		
Anatomy Physical therapy Physiology Psychology	Athletic training	Exercise physiology Sport biomechanics Sport and exercise psychology		
Physiology Psychology	Motor development	Motor learning		
Anatomy Physiology Psychology	Motor learning	Exercise physiology Motor development Sport biomechanics		
Mathematics	Sport biomechanics	Exercise physiology Motor learning Athletic training		
History Philosophy Sociology	Sport history	Sport philosophy Sport sociology		
Accounting Ethics Finance Law Management Marketing	Sport management	Sport ethics and sport philosophy Sport sociology		
History Philosophy	Sport philosophy	Sport history Sport sociology		
Physiology Psychology Sociology	Sport and exercise psychology	Exercise physiology Athletic training Sport sociology		
History Philosophy Sociology	Sport sociology	Sport history Sport philosophy		

between matter and energy, including various types of motion and forces. These and other sciences rely on applied mathematical concepts and computations.

History, philosophy (including sport ethics), psychology, and sociology are often called social sciences because they seek knowledge in more experiential ways and involve people. Table 2-1 shows relationships between these disciplines and those specific to sport.

SUB-DISCIPLINES IN THE EXERCISE AND SPORT SCIENCES

Exercise physiology is the study of the body's response to physical activity and stress. This disciplinary field includes the analysis and improvement of fitness and health, guidance of active individuals as they adapt to exercise programs, and the prescription of exercise for rehabilitation from diseases and disabilities.

As described in Chapter 8, George Fitz helped establish the first exercise physiology laboratory at Harvard University over a century ago through which he advocated using research to substantiate or refute physical activity claims. Exercise physiology, which became the cornerstone of early collegiate physical education programs, grew in stature after the establishment of the American College of Sports Medicine in 1954. This organization brought together (or rejoined—see Chapter 8) the medical and scientific communities in the shared quest to investigate all aspects of the impact of physical activity on the body.

The study of exercise physiology is built on an understanding of the anatomical and physiological bases for human movement, including the 208 bones in the human skeleton; joint structure, which includes cartilage, ligaments, and muscular



Exercise physiologists study the effect of exercise on the functioning of the cardiovascular system.

attachments; muscular system; nervous system; and circulatory and respiratory systems. More than 400 muscles, through a system of levers in conjunction with the skeletal system, provide the physiological key and guide to human movement. This potential for motion is released through the initiation of the nervous system and the biochemical reactions that supply muscles with energy.

Exercise physiologists measure the metabolic responses of the body to exercise and training through various endurance, flexibility, and strength programs. Some researchers examine changes in the cardiovascular system, stroke volume, pulse rate, blood composition, and other physiological parameters. Other researchers study how the body utilizes carbohydrates, fats, and proteins during exercise; the effects of diet, smoking, and temperature on performance; and differences between trained and untrained individuals based on a variable such as sleep, diet, or gender.

Because of their expertise in understanding bodily functions under the stress of muscular activity, exercise physiologists are often consulted about or given responsibility for prescribing and monitoring exercise programs for cardiac patients. Specialists in cardiac rehabilitation monitor exercise paradigms for individuals who have experienced cardiovascular trauma or prescribe preventive programs for people demonstrating coronary disease risk factors. Biomechanists and exercise physiologists often work together to design the most appropriate training programs for elite athletes, such as those at the United States Olympic Training Center in Colorado Springs.

Researchers in exercise physiology often prescribe workouts on treadmills to monitor oxygen uptake and expired carbon dioxide, take heart rate and function measurements, and analyze the chemical activities of the body. Exercise physiologists also conduct research projects with athletic trainers concerning the prevention and rehabilitation of injuries and with physicians in the areas of muscle biopsies and blood lactate analyses.

Exercise physiologists are interested in studying how the body utilizes food relative to energy output. They have found that numerous factors, such as sleep, drugs, work, and stress, influence how the body reacts to a specific diet or exercise paradigm. Biochemical and physiological tests isolate those nutritional factors that most dramatically affect performance. Studies include the effects of marathon training on nutritional needs, the risks or benefits of vitamin supplementation, and the effects of caffeine on various heart parameters. Nutritional information also is vital for the athlete in training who needs to maintain a specific weight, the individual with a disabling condition who is minimally active, and the senior citizen whose metabolic rate has slowed.

Clinical exercise physiology uses exercise and physical activity, in clinical and pathological situations, to provide functional benefits to clients at high risk for or living with chronic diseases. Specialists in this area promote scientific inquiry and the application of research findings to the prevention and treatment of chronic diseases and specific medical conditions. Those served include patients with cardiovascular, pulmonary, metabolic, neuromuscular, and other diseases. Environmental exercise physiology focuses on examining how factors such as climate and altitude may impact the abilities of humans to develop their

RESEARCH VIEW

Exercise Physiology

In studying how the body functions during muscular activity, exercise physiologists may conduct research to answer these questions:

- What are the metabolic responses of nonfit adult bodies during endurance training?
- What is the most effective method for developing and maintaining muscular strength for female athletes?
- How do various diets or nutritional supplements affect the performances of elite athletes?
- What types of fitness programs are appropriate for senior citizens?
- How do individuals with high levels of cardiorespiratory fitness differ in their stroke volume, blood lactates, perceived exertion, and pain tolerance from those who engage in no cardiorespiratory fitness training?
- What kinds of fitness routines should an exercise physiologist prescribe for participants in a cardiac rehabilitation program?
- What should be the optimal frequency, intensity, and duration for a off-season conditioning program for athletes on a baseball team?
- What effect does ethnicity have on athletic performances such as sprints in track or rebounding in basketball?
- What is the current physical fitness status of school-age children?

fitness levels. For example, the military benefits from knowing how its personnel deal with carrying weapons while wearing protective armor or clothing in arid countries; or the military may need to know how to ensure that its personnel maintain adequate hydration when engaged in extended military engagements. Exercise epidemiology studies the public health benefits of physical activity. Since researchers in this branch of medicine deal with the study and control of diseases, the exercise epidemiologist determines how individuals of different demographic groups may improve their quality of life, and possibly length of life, through regular participation in physical activity. For example, research on the effects of asthma on respiration has helped exercise physiologists develop specialized conditioning programs for athletes who have exercise-induced asthma (see the Research View Exercise Physiology).

Sports nutrition is an emerging field of study and interest as professionals discover and disseminate information about the science of applied nutrition. The 2005 Dietary Guidelines for Americans promotes health and, if followed, will help reduce the risk of chronic diseases. Physical inactivity and poor diet are

major contributing factors to health problems like cardiovascular disease and obesity. These nutritional guidelines, by focusing on weight control and calorie counting, fail to emphasize balance, moderation, and variety in food choices. Everyone, including athletes and those who are physically active, should eat a healthy balance of nutritious foods. Sometimes, problems like eating disorders can result from an overemphasis on calories leading to an inadequate intake of nutrients, especially calcium and iron for females.

Some exercise physiologists concentrate their research on sports nutrition because of its impact on athletic performance. One way that athletes differ is in their need for carbohydrates, the body's most efficient energy source. While protein helps build muscle mass, a balanced diet meets the body's needs without protein supplementation. Similarly, there is no research that shows that performance is enhanced by taking vitamin or mineral supplements. Sports nutritionists can provide guidance to athletes and other active people on these and other topics, such as when to eat relative to competition and hydration issues.

Athletic training is the study and application of the prevention, analysis, treatment, and rehabilitation of sports injuries. The term sports medicine includes athletic trainers, physicians (who may be general practitioners), orthopedic surgeons, or other specialists. Physicians often are responsible for clearing athletes for practice and competition as well as attending to the needs of athletes in events in which the risks of injury are high. Athletic trainers are involved with athletes almost daily. They help design conditioning programs appropriate to specific sports during the preseason, postseason, and off-season; they tape, preventively



Athletic trainers can help athletes increase their range of motion following an injury.



Athletic Training

The athletic trainer studies the prevention, evaluation, management, and rehabilitation of injuries through seeking answers to questions like these:

- What type of flexibility training will help reduce injuries in football?
- Why do more female athletes suffer from anterior cruciate ligament damage than do male athletes?
- What should athletes who seldom play during competitions do to maintain their cardiorespiratory conditioning?
- What is the optimal type of weight training for youth below age 12?
- What is the optimal rehabilitation program for a soccer athlete recovering from a hamstring strain?
- What is the athletic trainer's role in evaluating an injury in the absence of a physician?
- How can an athletic trainer help a gymnast who suffers from an eating disorder?
- What is the best treatment for ankle sprains?
- What is the athletic trainer's role in the nutrition of athletes?

as well as protectively, athletes before activity; and they are responsible for assessing injuries at the time they occur, providing immediate and appropriate first aid, and supervising the rehabilitation process, which may include recommendations from a physician.

Extensive knowledge of the anatomy and physiology of the body and skill in applying this knowledge to injury situations are essential for athletic trainers. Sometimes they need to be able to console injured athletes and keep them from trying to return to competitions or practices too quickly. At other times, athletic trainers need to encourage athletes to work more diligently during their rehabilitation (see the Research View Athletic Training).

Athletic trainers are expected to use various treatments, such as ultrasound, whirlpool, ice massage, or heat. These professionals constantly help athletes play despite minor injuries by using various treatments or taping techniques.

The National Athletic Trainers' Association (NATA) seeks to enhance the quality of health care for athletes and those engaged in physical activity and also advances the profession of athletic training through education and research in the prevention, evaluation, management, and rehabilitation of injuries. NATA was founded in 1950 and has grown to more than 22,000 members; over 100 universities and colleges offer NATA-approved curricula. NATA publishes the *Journal of Athletic Training*, a quarterly scientific journal.



Motor development researchers examine the process and sequence of learning movement skills.

Motor development encompasses the maturation and changes in motor behavior throughout life and the factors that affect them. Researchers in this field examine factors that influence the performance of motor skills, including developmental differences that occur over time. Movement competencies are influenced by contributions from genetics as well as the environment. Throughout life, individuals continually progress from unskilled movements to the demonstration of complex motor skills with accommodations made for age and any physical limitations. Motor development includes the process and results of motor behavior as well as the factors that affect it.

Motor development historically has been closely aligned with developmental psychology, such as through studies that examined behavioral sequences and the maturational process. Motor development includes the relationships between physical performance and growth and maturity and the positive influence of physical growth and development on motor performance. Educational psychology

studies in perceptual-motor development concluded that improved motor skills lead to an enhancement of academic performance and cognitive development positively affects skill acquisition over time. These findings were especially important because data from studies in this area were used to justify school physical education programs for children. Researchers have found that dynamic systems, more than cognitive processes, account for enhanced motor performance.

Specialists in motor development investigate questions such as these:

- When are children developmentally ready for weight training and cardiorespiratory training programs?
- What are the hereditary and environmental factors that most significantly influence obesity in children?
- How and why do weight training and cardiorespiratory training programs combat decreases in strength and endurance associated with advancing age?
- What are the characteristics of children who are developmentally ready for competitive sports?
- What are the developmental stages for learning fundamental movement skills?
- How does socioeconomic status, which affects nutritional health, affect the development of motor skills?
- How does a person's developmental level limit his or her ability to learn or improve performance of a motor skill?
- What factors determine the relationship between cognitive development and motor development in learning a complex motor skill?
- How does gender affect developmental readiness in motor development?

Much of the research in motor development is associated with children as they learn fundamental motor skills. However, adults also can learn new perceptual-motor skills. Longitudinal studies are especially beneficial in determining the varied factors that determine what, how, and why motor performance progresses. Interdisciplinary research, such as with exercise physiologists or motor learning specialists, not only strengthens present understanding but also paves the way for improved motor behavior.

Motor behavior is a broad term that encompasses motor control, motor learning, and motor development. Motor control is the study of the integration and maturation of muscular, skeletal, and neurological functions in executing movements. **Motor learning** is the study of the internal processes associated with movement or repetitive actions that result in changes in response or performance. Research in solving industrial problems (such as safe and efficient movements in the workplace) and military needs (such as pilot selection and training) laid the foundation for the emergence of the fields of motor learning. Motor learning specialists have expanded their research and published scholarly manuscripts in journals such as the *Journal of Motor Behavior*. They completed studies dealing with



Motor learning knowledge, such as various types of feedback, can enhance an archer's performance.

- Closed-loop theory—investigated how feedback following slow and discrete movements can be used to improve subsequent motor performances
- Open-loop theory—investigated how motor patterns, such as striking skills, can be generalized to a variety of sports or settings, with or without limited feedback
- Dynamic systems theory—investigated how degrees of freedom in joints and muscles, along with neural control, can lead to enhanced motor performance
- Types of practice—investigated the appropriateness and effectiveness of massed or distributed, blocked or random, mental or physical, and fullor reduced-speed practice sessions
- Cognitive processes in learning motor skills—investigated how knowledge of results and knowledge of performance can affect subsequent motor patterns
- Transfer of learning—investigated how motor skills learned in one setting can be generalized to another sport
- Types of feedback—investigated how intrinsic, extrinsic, terminal, concurrent, visual, verbal, constant, and interval feedback can influence motor performance
- Special needs—investigated how individuals with special needs, including senior citizens, can regain and maintain their balance, coordination, reaction time, fundamental movement skills, and fitness levels

Motor program theory states that many movements or actions are performed with no explicit conscious control. In this open-loop control system, an individual identifies a stimulus, selects a response, initiates a motor program, and executes the movement. This motor program works efficiently in executing rapid serial skills that do not require feedback.

The fields of motor control and motor learning grew out of the area of psychology dealing with human performance and behavior. Whereas motor control focuses on the neurophysiological factors of how and why people move as they do, motor learning integrates the cognitive processing of information with motor skill acquisition. Specialists in motor control and motor learning examine the variables that lead to improved performance of motor skills by responding to questions such as these:

- How and why do people's muscles respond differently to similar stimuli?
- How do massed and distributed types of practice affect motor performance?
- How do neurological responses to cues affect motor performance?
- What type of feedback should be provided to enhance motor skill acquisition and with what frequency?
- What type of practice, mental or physical, is optimal for the learning of a skill such as putting a golf ball or shooting a basketball free throw, and why?
- What is the relationship among a student's learning style, information-processing system, and ability to learn a motor skill?
- How do varying cognitive abilities affect the learning of motor skills?
- What is the interrelationship between information processing and skill acquisition?
- How does a person's reaction time influence the learning of motor skills?
- How does the aging process affect motor control and motor learning?

The objective of these researchers independently, as well as collectively, is to understand and enhance human movement. In motor control, it is essential to investigate the neuromuscular pathways to improve the learning of motor skills. In motor learning, it is essential to build on this information and add knowledge of feedback and optimal practice methods. Motor control and learning researchers may use imaging or manipulation to help children with special needs learn new motor patterns. They may use verbal and kinesthetic cues to help young athletes learn complex motor skills such as heading a soccer ball.

Sport biomechanics is the study of the anatomical and physiological effects of natural laws and internal and external forces acting on the human body during movement. Biomechanists study the musculoskeletal system, the principles of mechanics, and activity analyses. They examine the force of muscular contractions; flexion, extension, pronation, and supination of the muscles during



Pole vaulters can benefit from biomechanical analysis of their technique to enhance the height they can jump.

activity; the composition of muscle fibers; equilibrium, center of gravity, and base of support; transfer of momentum; and projection of the body or an object. Their findings have contributed to improved athletic performance and have been used to prevent injuries, which is of special interest to physical therapists and athletic trainers. For example, through biomechanical analysis, minor flaws in throwing technique for the discus or stride length for sprinting can be identified and corrected to enhance distance or reduce time. Scientific answers can be provided to questions such as What kind of shoe support is needed for individuals participating regularly in aerobics? What type of weight training is appropriate for judo or volleyball players? What type of exercise program is best for increasing joint flexibility for senior citizens?

Biomechanists explain movement in relation to acceleration, energy, mass, power, torque, and velocity. They rely on mechanical principles such as force application and absorption, leverage, and stability. Use of cinematography (motion picture photography) has become common among coaches and teachers for the analysis of performance. Electromyography is the measurement of electrical discharges from a muscle to study the action potential and the sequence of muscular activity. An analysis of the position and movements of joints is possible with electrogoniometry. Biomechanists also measure muscular forces using a force platform, determine speeds or frequencies using a stroboscope, and record movements and electrical responses (such as heart rate) using a telemeter. Computer-assisted analyses have helped isolate components of physical skills that can be corrected or changed to improve efficiency.



Sport Biomechanics

The sport biomechanist investigates questions such as these:

- What are the optimal design and composition of the pole used in pole vaulting?
- How can a sport biomechanist use computer-enhanced images to analyze and improve the performance of sport skills?
- What biomechanical factors contribute to muscular and joint injuries in baseball pitchers?
- How can fundamental movement skills such as running, jumping, and throwing be taught most effectively and efficiently?
- What mechanical principles are most important for reducing injuries and increasing the attainment of strength goals in weight-training programs?
- How does weight transfer affect force and aerodynamics in striking motions?
- Biomechanically, why did the crawl stroke and the Fosbury flop revolutionize swimming and the high jump, respectively?
- What are the most effective approaches for increasing an athlete's vertical jump?
- How and why does stride length differ between a sprinter and a distance runner?
- What biomechanical factors contribute to an effective tennis serve?

Interest in the science of applying mechanics to human movement can be traced to the early 1900s, when the focus was on understanding anatomy and physiology. Notable curricular and research emphases during the following decades included body dynamics, efficiency of work, cinematic studies of sports skills, mechanical analysis of human performance, electromyography, and neurophysiology. Several scholars have conducted kinesiological studies grounded in the scientific foundation of physical education and sport that provided the basis for the development of this field. The founding of the International Society of Biomechanics and its publication of the *Journal of Biomechanics* were leading forces in the emergence of biomechanics as a specialty (see the Research View Sport Biomechanics).

Sport history is the descriptive and analytical examination of significant people, events, organizations, and trends that shaped the past. Sport historians investigate the past seeking to explain how, what, when, where, and why things occurred. Descriptive history explores events, individuals' contributions, and pivotal happenings using primary sources, such as archeological artifacts,



Sport historians examine how and why sporting events, such as the 1932 Los Angeles Olympic Games, have impacted the popularity of sports.

original writings, and eyewitness accounts. Such first-hand information is judged to be reliable and accurate, especially when confirmed by other primary sources. When no original information is available, secondary sources must be used to document history. History reported in secondary sources, however, must be verified meticulously to ensure accuracy. The narrative approach is often used in descriptive history to chronicle events, individual lives, and developments.

Vital to an understanding of why events happened as they did is the more difficult interpretive or analytical work of historians. Such analyses attempt to explain the significance of events within their historical and social contexts. Sport historians record biographies, examine organizations and their activities, describe trends and movements, and analyze how and why societal events occurred as they did.

A clear understanding of modern sports depends on an examination of the significant events and practices of the past. Changes in this country that have influenced the emergence and predominance of sport include colonialism, the expanding frontier, rural life, the industrialized age, military involvement, the information age, and technological advances. Seminal works that laid the foundation for the emergence of the field of sport history include Foster Dulles's *Americans Learn to Play* (1940), John Betts's *America's Sporting Heritage, 1850–1950* (1974), and Robert Boyle's *Sport—Mirror of American Life* (1963). Led by physical educators, the North American Society for Sport History was established to legitimize the rising academic interest in this field. Through its *Journal of Sport History*, this organization, which includes individuals from a diverse group of disciplines, serves as the central forum for the promotion of sport history (see the Research View Sport History).

Sport management is the study of the theoretical and applied aspects of leading, planning, organizing, staffing, funding, and conducting sporting events. It includes accounting and budgeting, marketing, financing, the law, personnel, facilities, and organizational operations. This field encompasses the spectator sport and fitness industries, sporting goods sales, and recreational and sport programs in schools and colleges.

Academics and practitioners in sport management are interested in learning the answers to questions such as these:

- What amenities and experiences are important for increasing attendance at sporting events at the high school, college, and professional levels?
- How can private health and fitness clubs attract and retain members?
- What recreational and leisure-time activities are of most interest to individuals of all ages?



Sport History

The sport historian may examine questions such as these:

- What was the significance of Greek athletes competing in the nude?
- When African Americans were excluded for decades from Major League Baseball, what developed and what role did they serve?
- Why were women initially excluded, then gradually included, in the modern Olympic Games?
- What role did the Industrial Revolution play in the growth and development of organized sport?
- What factors contributed to the establishment of the National Football League? How and why did its relationship with college football evolve as it did?
- How have sports played a role in the Americanization of various immigrant groups in this country?
- How and why was basketball spread internationally?
- How did upper-class sport affect the popularity of commercialized sport in this country?
- What role has gambling played in sports?
- Why do many consider the National Collegiate Athletic Association the most powerful amateur sports organization in the United States?
- How can professional sports teams in smaller metropolitan areas financially compete within Major League Baseball given the disproportionate revenues in comparison to teams in larger metropolitan areas?
- What economic factors are involved in joining a major college athletic conference? How does such a change affect the college's revenue- and nonrevenue-producing sports?
- What are the legal liabilities for a professional franchise when fans are injured or cause injury to other fans?
- What leadership and management characteristics or traits are most important for the success of sport managers?
- What are the costs and benefits of awarding naming rights to a stadium or an arena?
- How is market research important in sports?
- What responsibility does an athletic director have for the ethical conduct of interscholastic or intercollegiate athletes?



Sport managers are responsible for ensuring that fans enjoy all aspects of sporting events.

Professionals working in the management of sport and leisure programs in the 1980s recognized the need to study and develop a specialized body of knowledge. The North American Society for Sport Management (NASSM) was established to promote, stimulate, and encourage research, scholarly writing, and professional development in sport management. This cross-disciplinary field encompasses management, leadership, and organizational behavior in sport, sport ethics, sport marketing, sport finance, sport economics, sport business in the social context, sport law, and sport governance. NASSM's *Journal of Sport Management* provides a venue for the publication of theoretical and applied aspects of management related to sport, exercise, and play in a variety of settings, such as professional sports, intercollegiate athletics, interscholastic sports, health and sport clubs, and recreational sports.

Broadly defined, the sport industry involves sport products and services, all of which need sport managers. Career options exist in professional sports, intercollegiate athletics, high school sports, recreation programs, the leisure and travel industry, private and public health and sport clubs, and sporting goods businesses.

Sport managers must be competent in a number of areas to qualify for such careers. These include communication skills, facility and event management abilities, sport marketing skills, financial management skills, and personnel management abilities.

Philosophy is defined as the love, study, and pursuit of wisdom, knowledge, and truth. Kretchmar (2005) suggests that philosophy can be divided into areas of study based on the questions asked. Metaphysics is concerned with the nature of things, or how actions or events are related to one another. This philosophical

study describes the qualities or characteristics of physical as well as nonphysical things. Metaphysical philosophers might answer questions, such as "What is the nature of sport?" or "What is the role of creativity in sport or play?" Axiology deals with the value of things and discovering whether actions, things, or circumstances are good and virtuous. In seeking truth, the axiologist attempts to answer the question of how people should act in certain situations. Questions that relate to axiology include "What should be the value of competitive sports?" or "Is intentionally harming an opponent right?"

Epistemology is the branch of philosophy that examines what people know and how and why they hold certain beliefs. This philosophy is an examination of the specifics of understanding. The epistemologist might ask, "Will having been a successful athlete make a person a successful coach?" or "Does a former professional athlete necessarily have the instructional abilities to teach sport skills effectively?" Aesthetics is the philosophical area that focuses on the artistic, sensual, or beautiful aspects of movement. A person who values aesthetics is pleased more by the beauty of the human body in motion than by the outcome of the contest or athletes' skills. Questions a person stressing aesthetics might ask include "What is the beauty of the figure skater or hurdler?" or "What is the rhythm of the gymnast's movements during a floor exercise routine?" Ethics refers to the study of moral values or the doing of good towards others or oneself. The ethical person believes that it would be morally wrong to violate the rules of the game in order to win. Ethical questions might include "When, if ever, is it fair for an athlete to take performance-enhancing drugs?" or "When, if ever, is it morally wrong for a coach to do whatever it takes to win?"

Sport philosophy is the study of the beliefs and values of humans as displayed within sport and an analysis of their meaning and significance. That is, sport philosophers examine the beautiful and ugly and the good and bad in sport as well as seek to understand how and why people play and engage in sport. Every person has a philosophy, although it may be unstated. One's philosophy is revealed through thought patterns, aspirations, and behaviors. Sport philosophers analyze concepts, make normative statements that guide practical activity, and speculate or extrapolate beyond the limits of scientific knowledge. Sport philosophers examine how physical education contributes to both educational objectives and social values by explaining the nature, importance, and reason for play and physical activity. Meeting people's needs, relating physical activity to human performance of all kinds, and enhancing the quality of life for others are the roles of sport philosophy outside the schools. The establishment of the Philosophy of Sport helped establish the identity of this field.

The sport philosopher seeks truth and understanding by investigating questions such as these:

- What is the meaning of competition to the athlete?
- Why do sports fans develop strong allegiances to an athletic team?
- How and why does sport lose its element of fun for many competitors?

- If sportsmanship is considered integral to sport, why do so many unsportsmanlike actions occur?
- Does participation in sport lead to the development of moral values? If so, how does this occur?
- Why is "taking out an opponent" considered ethical by some athletes?
- What is beautiful about sport?
- What is the role of play in life?
- Why is sport of such paramount interest to millions in this country?

Most individuals in physical education and sport use philosophy to analyze issues of today. For example, what are the moral values depicted in films like *Chariots of Fire* or *Hoosiers?* (See a list of other sports-related films and videos in Box 2.1.) Why do problems such as gambling, unscrupulous sports agents, and a lack of sportsmanship plague intercollegiate athletic programs today? Why do many athletes, even at the high school level, use performance-enhancing drugs? What lesson is learned by youth soccer players when the congratulatory handslap at the end of the game is eliminated because members of one team spit on their hands and then slapped their opponents' hands? Sport philosophy seeks to understand why such actions occur and what values they reflect.

Sport and exercise psychology is the study of human behavior in sports, including an understanding of the mental processes that interact with motor skill performance. Theories and laws of learning, the importance of reinforcement, and the linking of perceptual abilities with motor performance contribute to this body of knowledge. Sport and exercise psychologists utilize this information when studying topics such as achievement motivation, arousal, attribution, and personality development. Achievement motivation research examines how individuals perceive themselves and their accomplishments. Excitement and relaxation (as well as tension reduction) are among the parameters of arousal studies. The study of causal attribution weighs the importance placed on ability, effort, luck, and task difficulty relative to contest outcome. Aggression, competitiveness, anxiety, independence, extroversion, and self-confidence are among the personality traits researched. Sport and exercise psychologists also examine the influence of group dynamics, exercise addiction, and enhanced body image on people who are physically active.

The mental aspect of sports has intrigued researchers for years. Some have stated that at the elite level of sport, where all athletes are highly skilled, the outcome of the contest is overwhelmingly dependent on mental preparation and cognitive execution. Early researchers, who stated there were psychological benefits from participating in sport and physical activity, laid the foundation for the emergence of this field of study. The founding of the North American Society for the Psychology of Sport and Physical Activity in 1967 and the Association for Applied Sport Psychology in 1985, and their publications, the *Journal of Sport Psychology* (later the *Journal of Sport and Exercise Psychology*) and the *Journal of Applied Sport Psychology*, respectively, strengthened the development of this discipline.

BOX 2.1 FILMS AND VIDEOS ABOUT SPORTS

The Bad News Bears—A team of misfits, along with their alcoholic coach, exposes abuses in Little League baseball and, after adding a girl pitching ace and motorcycle punk who happens to be an outstanding player, seeks revenge in the championship game against their nemesis

Bang the Drum Slowly—The true meaning of teammates is revealed as a star pitcher helps ensure that his teammate and friend who is dealing with a terminal illness has a memorable last season of baseball

Baseball—Ken Burns' eighteen-and-a-half-hour history of the game of baseball features drawings, lithographs, newsreels, paintings, photographs, and a chorus of distinguished voices

Basketball Diaries—This film is an adaptation of a high school athlete's downward spiral into drugs and hustling

Ben-Hur—A Roman conqueror makes a galley slave of a rich Jewish prince and merchant who, through fate and good fortune, avenges his unfair treatment and the imprisonment of his mother and sister by defeating his rival in a chariot race

Blue Chips—A college basketball coach succumbs to the pressures to win by allowing recruited players to be paid by boosters

Breaking Away—Four high school graduates, especially one who is enthralled by the Italian culture, try to break away from their small town through cycling

Brian's Song—The true story of the extraordinary friendship between Chicago Bears teammates Gale Sayers and Brian Piccolo, who has cancer

Bull Durham—A baseball classic shares clubhouse camaraderie in minor league baseball, as a veteran catcher is assigned to handle a young pitcher with maturity problems

Caddyshack—This golf comedy shows the snobs versus the slobs in the most quotable sports movie ever

Chariots of Fire—In portraying the rivalry between an upper-class Jew and a Scottish missionary on the British Olympic team in 1924, the passion to compete transcends money, class, or fame

Cinderella Man—An impoverished ex-prizefighter during the Great Depression becomes a hero of the common man by taking on the heavyweight champion of the world

Coach Carter—A high school coach controversially benches his undefeated basketball team due to the poor academic work of some of the team members

The Cutting Edge—A spoiled, yet talented, figure skater and a battered ice-hockey player, both of whom fail to win at the Olympic Games in 1988, become a pairs team and undergo grueling training to prepare for the national championships and a chance to win a gold medal in the Olympics

Days of Thunder—A hot-tempered NASCAR driver, who excels on the track, has an attitude problem that gets him into trouble with other drivers and his own team

Dogtown and Z-Boys—The extreme, acrobatic sport of skateboarding evolves from a land-bound pastime for surfers, through the use of surfing moves on asphalt slopes and empty swimming pools, to its own championships

Eight Men Out—Eight Chicago White Sox players are implicated in the gambling scandal of the 1919 World Series and banned from baseball

(continued)

BOX 2.1 FILMS AND VIDEOS ABOUT SPORTS (continued)

Everybody's All-American—A football legend struggles after college to deal with the complexities of life

Field of Dreams—The ghosts of Shoeless Joe Jackson and other Chicago White Sox players appear to play on a baseball field transformed from a corn field, as lowa farmer Ray Kinsella reconnects with his father

For Love of the Game—A baseball legend pitching the last game of the season, and possibly his career, pushes himself to his emotional and physical limits to achieve a perfect game while battling the loss of his one-time lover

Friday Night Lights—The Permian High School football team in Odessa, Texas, represents the hopes of the entire community while racism and the pressures to win rage

Gladiator—A general defies an emperor, mourns the murder of his wife and son, and becomes a slave; he later becomes a gladiator and defies the emperor

Glory Road—The Texas Western College basketball team with its five African American starters wins the 1966 NCAA basketball championship against an all-Caucasian team from the University of Kentucky

A Hard Road to Glory—The compelling story of African American athletes in the United States is chronicled

Hoop Dreams—This documentary tells the real-life story of two Chicago basketball players, Arthur Agee and William Gates, during high school as they deal with tragedy, joy, life in the inner city, and an uncertain future while retaining their hoop dreams

Hoosiers—The riveting story of how a small town team wins the Indiana High School Basketball Championship in 1952

The Hurricane—African American Rubin "Hurricane" Carter, contender for the middle-weight boxing title, is falsely imprisoned for triple murder; he doggedly tries to prove his innocence through an autobiography. With the help of an African American boy and his Canadian mentors he fights the racist establishment that profited from this travesty of justice

Jerry Maguire—Turning his back on the prototypical sports agent approach of doing anything to maximize his clients' contracts and thus his commission, Jerry Maguire seeks to resurrect his career with his only client, egomaniacal football player Rod Tidwell

The Junction Boys—Paul "Bear" Bryant as the new head football coach at Texas A & M University subjects 100 potential players to grueling practices without water in the over 100-degree temperatures of Junction, Texas, in 1954. Only 35 survive to form the nucleus of his undefeated team two years later

Knute Rockne All American—An immigrant from Norway, Knute Rockne stars at football and develops with a teammate the forward pass as an offensive weapon at University of Notre Dame, before becoming the head football coach at his alma mater and leading it to national prominence

A League of their Own—The story of the beginning of the All-American Girls Professional Baseball League

The Longest Yard—A sadistic warden offers early release from prison to a former professional football quarterback to intentionally lose a game between his team of inmates and a team of prison guards

The Loretta Claiborne Story—The riveting story of a mentally retarded woman and her experiences as a track athlete.

(continued)

BOX 2.1 FILMS AND VIDEOS ABOUT SPORTS (continued)

Million Dollar Baby—The story of a thirty-one year old waitress and her experienced, hardened boxing trainer, who is painfully estranged from his daughter

Miracle—The remarkable story of the United States ice hockey team's triumph over the Soviet Union team and subsequent winning of the gold medal in the 1980 Lake Placid Olympic Games

The Natural—Roy Hobbs dreams of starring in the major leagues, he sees his dreams derailed for 16 years, and achieves superstardom for one year

Olympia 1 (Festival of Peoples) and Olympia 2 (Festival of Beauty)—Leni Riefenstahl's documentary films of the 1936 Berlin Olympic Games are remarkable celebrations of the poetry of bodies in motion and athletes in the heat of competition

One on One—A small-town high school basketball star is recruited to a big-city university but is overwhelmed by the time demands of his sport, the "business" of college sports, and his weak academic preparation, until his tutor strengthens his resolve

Paper Lion—Having entered the ring with a professional boxer and pitched in the All-Star Game in baseball, George Plimpton plays quarterback in training camp for the Detroit Lions so he can write a story for Sports Illustrated about his experiences

Power, Passion, and Glory: The Real Story of Texas Football Madness—This depicts the real story of the Celina Bobcats, winners of more games in Texas, where football is a religion, as it faces the struggle of promotion to a tougher division

Pride of the Yankees—The story of Lou Gehrig, the Iron Man of the New York Yankees, whose career and life are cut short by amyotrophic lateral sclerosis, who still considers himself "the luckiest man on the face of the earth"

The Program—This film reveals many of the problems associated with "big time" college football programs

Raging Bull—This tragedy tells the real-life story of Jake LaMotta's downfall as his life passes through successive stages of punishment, compromise, and a self-destructive, violent fall

Remember the Titans—When forced school integration in 1971 in Alexandria, Virginia, results in the replacement of the successful Caucasian coach by an African American coach, these coaches overcome their differences to lead an integrated T.C. Williams High School football team to the championship

Rocky Bleier—The true story of a Vietnam veteran who is rehabilitated from a war injury to star for the champion Pittsburgh Steelers

Rocky—A "nobody" struggling boxer fights against the odds in an exhibition match in Philadelphia against the heavyweight champion and takes him to 15 rounds

The Rookie—After Jim Morris, a high school coach, bargains with his team that he will try out for a major league baseball team if it will win the district championship, he discovers that the shoulder injury that ended his minor league career has recovered and he has the ability to pitch in the major leagues

Rudy—Despite low grades, poor athletic talent, and his small stature, Rudy's drive and spirit propel him onto the Notre Dame football team and into the final game of his senior year

Running Brave—A true story of Sioux Indian Billy Mills' triumph over cultural barriers and deeply-rooted insecurities to win the gold medal in the 10,000-meter race at the 1964 Tokyo Olympic Games

(continued)

BOX 2.1 FILMS AND VIDEOS ABOUT SPORTS (continued)

61*—In the summer of 1961, as Roger Maris and Mickey Mantle pursue the hallowed single-season record of 60 home runs, Mantle is the favorite of fans and the media while Maris is the reclusive interloper who surpasses the record in 162 games, leading to the insertion of the asterisk by the Commissioner of Baseball

Slap Shot—Facing the elimination of the team at the end of the season, the player-coach of a small town, minor professional league hockey team deals with the on-ice use of sticks as weapons, especially by the Hanson Brothers, as his team excels through intimidation

Talladega Nights: The Ballad of Ricky Bobby—When the number one NASCAR driver is beaten by a French Formula One driver and loses his wife and job to his best friend, he seeks to reclaim his fame and fortune on the asphalt

Tin Cup—The story of a has-been West Texas golf pro seeking to win the US Open golf championship

"There Was Always Sun Shining Someplace": Life in the Negro Leagues—This documentary chronicles the history of baseball in the Negro Leagues

When We Were Kings—This documentary describes the heavyweight championship bout in Zaire between champion George Foreman and challenger Muhammad Ali in 1974

White Men Can't Jump—When an African American and a Caucasian think they are the best basketball hustlers in town, they join forces and nothing can stop them, except themselves

A Winner Never Quits—After losing his right arm in a childhood accident, Peter Gray persisted to bat .333, steal 63 bases, and lead in fielding percentage for outfielders as a rookie with the Memphis Chicks in the Class A Southern Association, become the league's Most Valuable Player, and play for the St. Louis Browns in 1945

Applied sport psychology focuses on understanding psychological theories and techniques to help athletes improve their performances. This area has grown in popularity as coaches and athletes seek a competitive edge. Specific strategies assist athletes in managing stress, concentrating more effectively, and maintaining confidence. Sport psychologists help athletes achieve their physical potential by improving their mental state (see the Research View Sport and Exercise Psychology).

The clinical interventions used by sport psychologists include relaxation training, biofeedback, breath control, desensitization, and mental imaging. These interventions help athletes cope with the pressures of competition.

Exercise psychologists advocate for the benefit that physical activity and physical fitness have on mental health and overall well-being. For example, exercise psychologists may work with individuals who are battling depression, which is an overall and persistent feeling of being dejected. Exercise psychologists use a variety of cognitive and behavioral therapies to help individuals deal with their depression through exercise, and especially cardiorespiratory exercise.

RESEARCH VIEW

Sport and Exercise Psychology

The sport and exercise psychologist studies how to enhance motor performance through an examination of and interventions in areas such as these:

- How does an athlete's self-efficacy (how one feels about one's self and abilities) affect performance?
- Why is managing stress essential to success in sport?
- What role does mental imaging play in the execution of motor skills?
- How does participation in physical activity affect performance in cognitive tasks?
- What is the relationship between the body's psychological and physiological responses within sports?
- How does attribution influence the way an athlete deals with winning and losing?
- What is the difference in the arousal states of football linemen and elite golfers, and how can appropriate levels of arousal be shaped?
- How does the traditional pep talk given by a coach prior to a competition affect individual athletes?
- What are the most effective techniques for relaxation training?
- Why are sport psychologists increasingly being hired by individual athletes and teams?



Sport psychologists can help athletics deal with poor performances by visualizing how they will improve the mental and physical aspects of how they will play in the future.

Sport sociology is the study of the social relationships of gender, race, ethnicity, class, and culture in the context of sport, and the social behavior of individuals, groups, organizations, institutions, and societies in sporting contexts. Sport sociologists examine social relationships in sports relative to equity, power, the media, politics, economics, and religion, as well as investigate issues of social inequality, social mobility, and social justice. They also analyze how sports shape society and society shapes sports. This discipline examines the role of sports in society by seeking to determine why people play and how participation in various physical activities influences them. The sport sociologist examines play, games, sports, recreational activities, and leisure-time pursuits in analyzing the expected outcomes of fun, relaxation, self-expression, wish fulfillment, and social interaction. The dynamics of socialization may reveal examples of racial and gender integration, exclusion, affiliation, competition, cooperation, conflict, rivalry, teamwork, and fair play.

Sport sociologists investigate sport as a game and as an institution. They examine the concepts of social mobility, class and gender stratification, status, racial and ethnic discrimination, team dynamics, social consciousness, and social values. Understanding the sociology of sport requires dealing with the relationship between sports and social institutions.

Sport is woven into the daily and seasonal fabric of American society. The social significance of sporting pastimes emerged from the British emphasis on



Gender issues, such as how females at early age may be encouraged to cheer for boys rather than participate in sports themselves, are studied by sports psychologists.

sports in private boarding schools for boys in the mid-1800s. Schoolmasters and fathers came to believe that manly virtues learned through playing sports would prepare upper-class youth for their anticipated leadership roles in business, politics, and the military. This emphasis on character development through sports was adopted by organized sports in this country and has influenced attitudes toward sports at all levels.

Publications such as the *International Review of Sport Sociology* and the *Sociology of Sport Journal*, as well as the establishment of the North American Society for the Sociology of Sport, marked the emergence and acceptance of sport sociology as a distinct discipline. While a positivist, empirical-analytical paradigm that focused on describing and analyzing the social order of sport continues, sport sociology has moved to an interpretive research model. Scholars of this genre examined sport cultures from a variety of theoretical and methodological perspectives with an emphasis on interpretation. Today many sport sociologists take a critical inquiry approach that not only analyzes and interprets social dynamics but makes suggestions for transforming social structures.

The sport sociologist addresses questions such as these:

- What sociological factors may have contributed to a mother purchasing a death contract on a girl who beat out her daughter for a spot on a high school cheerleading squad?
- Why did a sophomore in high school commit suicide after leading his team to the state football championship?
- What are the sociological factors that have contributed to the inequitable funding of girls' and women's athletic teams?
- Why are so few African Americans hired to coach professional and college sports teams?
- How are males and females socialized differently in and through sport?
- Why do over half of all children drop out of organized sports by age 12?
- Why are athletes permitted to act in violent ways during sporting events when these same acts would be illegal if they occurred outside of sport?
- Why has television been allowed to dictate rule changes and starting times for sporting events?
- How do socioeconomic factors affect individuals' participation in physical activity and sport?
- Does sport reflect society, or does society reflect what occurs in sport?

As shown in Table 2-1 and in the Research View Examples of Research Areas for Exercise and Sport Scientists, each of these exercise and Sport Sciences has important disciplinary components. Take the Exercise and Sport Sciences Quiz in Box 2.2 to review the key areas of emphasis for each science. All of the



WEB CONNECTIONS

1. www.asep.org

At this site learn more about how members of the American Society of Exercise Physiologists expand knowledge about the physiological mechanisms underlying physical activity; analysis, improvement, and maintenance of health and fitness; and rehabilitation of heart disease and other chronic diseases and disabilities.

2. www.nassm.org/

Visit this site to learn more about the North American Society for Sport Management, its services, and convention.

3. www.nata.org/

This site for the National Athletic Trainers' Association provides a wealth of information for certified athletic trainers and describes the requirements for becoming an athletic trainer.

4. www.naspspa.org/

Learn more about the multidisciplinary North American Society for the Psychology of Sport and Physical Activity and its work to improve the quality of teaching and research in sport psychology, motor development, and motor learning and control.

5. www.gssiweb.com/

The Gatorade Sports Science Institute seeks to help athletes optimize their health and performance through education and research in nutrition and hydration.

6. www.sportinsociety.org/staffBio.php?eid=3

Sport in Society is a university-based center dedicated to creating social change through research, education, and advocacy as it promotes physical activity, health, violence prevention, and diversity among young people and college and professional athletes.

7. www.asbweb.org/

The American Society of Biomechanics fosters an interdisciplinary exchange of information and ideas about the biological sciences, exercise and sport sciences, health sciences, ergonomics and human factors, and engineering and applied science.

8. www.asmi.org/

The American Sports Medicine Institute seeks to improve the understanding, prevention, and treatment of sports-related injuries through research, technology-based education, and dissemination of information.

BOX 2.2 EXERCISE AND SPORT SCIENCES QUIZ

Individual Exercise and Sport Sciences

- 1. Which of the exercise and sport sciences includes the study of oxygen utilization during cardiorespiratory exercise and metabolic responses to exercise and training?
- 2. Which of the exercise and sport sciences includes descriptions and analysis of past performances of athletes?
- 3. Which of the exercise and sport sciences includes the study of how people learn skills, especially through practice and feedback?
- **4.** Which of the exercise and sport sciences includes the study of the social relationships of gender, race, ethnicity, class, and culture in the context of sport?
- 5. Which of the exercise and sport sciences includes analysis of the impact of motion, force, and energy on sport performance?
- **6.** Which of the exercise and sport sciences includes analysis of the developmental patterns associated with movement and skill performance?
- 7. Which of the exercise and sport sciences includes extensive knowledge of the body to help athletes stay injury free and return to competition safely?
- **8.** Which of the exercise and sport sciences includes the study of why people act as they do based on their values?
- 9. Which of the exercise and sport sciences includes the study of the theoretical and applied aspects of leading, planning, organizing, staffing, funding, and conducting sporting events?
- **10.** Which of the exercise and sport sciences includes the study of various mental coping strategies to enhance sport performances?

Exercise and Sport Sciences Working Collaboratively

- 11. In which two of the exercise and sport sciences would professionals be interested in, and possibly conduct research studies about, the development of muscular strength and endurance following injury or surgery?
- **12.** In which two of the exercise and sport sciences would professionals be interested in, and possibly conduct research studies about, how acceleration or force affects the learning and enhancement of motor skills?
- 13. In which two of the exercise and sport sciences would professionals be interested in, and possibly conduct research studies about, how race and gender have historically limited competitive opportunities in sports?
- **14.** In which two of the exercise and sport sciences would professionals be interested in, and possibly conduct research studies about, how developmental readiness for strength and endurance training might help combat depression?
- **15.** In which two of the exercise and sport sciences would professionals be involved when a director of athletics is confronted with the issue of non-compliance with academic standards by athletes?
- **16.** In which two of the exercise and sport sciences would professionals be interested in dealing with an individual athlete's performance and the interactions among team members with different ethnicities?

(continued)

BOX 2.2 EXERCISE AND SPORT SCIENCES QUIZ (continued)

- 17. In which two of the exercise and sport sciences would professionals be interested in, and possibly conduct research studies about, how skills in a lifetime sport are developed and participation in this sport maintained by formerly sedentary and overweight individuals?
- **18.** In which two of the exercise and sport sciences would professionals be interested in designing a rehabilitation program that would enable an athlete to increase his or her ability to exert greater force and velocity when swinging a bat?
- 19. In which two of the exercise and sport sciences would professionals be interested in and possibly conduct research studies that examine gambling scandals in intercollegiate athletics?
- 20. In which two of the exercise and sport sciences would professionals be interested in, and possibly conduct research studies about, how various training regiments would enhance the performances of professional athletes in order to increase tickets sales and revenues?

exercise and sport sciences contribute to the greater whole. Rather than being mutually exclusive, they interact with one another.

Although the **humanities** are not a part of the exercise and sport sciences, they have made a significant contribution to sports. The humanities, which encompass the areas of art, literature, and music, are noteworthy from both historical and practical perspectives. Archaeological discoveries from early civilizations verify the significance attached to physical activity for survival, group affiliation, religious worship, and enjoyment. From Myron's *Discobolus* during the Greek zenith to R. Tait McKenzie's *The Joy of Effort* (which received the King's Medal in the Fine Arts Competition at the 1912 Stockholm Olympic Games) to a wall fresco of the first women's Olympic marathon champion Joan Benoit, art has vividly shown the beauty of human movement.

Homer's *Iliad* and *Odyssey* verify the importance of athletics in Greek times. Biographies of sport heroes and heroines abound. Sport historians and sociologists from an analytical perspective and journalists from a popular vantage point have been prolific in describing and praising sports teams, champions, and major events.

Music provides the rhythm for movement experiences for all ages. The Greeks exercised to the music of the lyre, and music became a vital component of German school gymnastics in the 1800s. Children in elementary physical education frequently experiment with and explore movement to the accompaniment of their favorite songs. In the 1980s, the addition of music to exercise routines helped popularize aerobics. Athletic team practice sessions, weight-training workouts, and daily jogs often include music. Art, literature, and music can enhance the focus on the development of a fit body, the socializing nature of sport, and



R. Tait McKenzie's *The Joy of Effort* won the King's Medal at the 1912 Stockholm Olympic Games.

the free experimentation of movement, thereby facilitating the application of the body of knowledge comprising the exercise and sport sciences.

SUMMARY

An academic discipline includes a body of knowledge, a conceptual framework, and scholarly procedures and methods of inquiry. Based on the heritage of physical education as a teaching profession, the exercise and sport sciences have drawn from and contributed to the knowledge base in multiple academic disciplines. Integral to the emergence and acceptance of the exercise and sport sciences as recognized academic disciplines are the extensive scholarly and scientific research studies that have informed the academic community as well as the general public about the importance of physical activity. The exercise and sport sciences have improved the human movement experiences of individuals of all ages and skill levels. Research findings have helped prevent health-related disabilities as well as assisted in the rehabilitation of individuals who have suffered from medical maladies. Despite critics who claim that these fields have no unique bodies of knowledge, scholars in the exercise and sport sciences have made significant contributions to a broader understanding of the historical, sociological, psychological, and physiological roles of exercise and sport in the lives of everyone.

CAREER PERSPECTIVE



RENÉ REVIS SHINGLES

Associate Professor/Program Director Central Michigan University Mount Pleasant, Michigan

EDUCATION

B.A., health and physical Education, University of North Carolina at Chapel Hill
M.S., physical education: athletic training/sports medicine, Illinois State University
Ph.D., psychosocial aspects of sport and physical activity.

Ph.D., psychosocial aspects of sport and physical activity, Michigan State University

JOB RESPONSIBILITIES AND HOURS

As a university associate professor and certified athletic trainer, Dr. Shingles teaches and directs an athletic training curriculum accredited by the Commission on Accreditation of Athletic Training Education. Courses taught include Cultural Considerations in Athletic Training, Therapeutic Exercise and Modalities, Health Care Administration, and Clinical I. As the program director, she also coordinates all aspects of the athletic training education program including the budget, curriculum development, program assessments, and maintenance of accreditation standards; Dr. Shingles evaluates the student staff, keeps records, and writes reports. Her typical work hours are 8:00 a.m. to 6:00 p.m. Some evening and weekend hours are also required for class preparation, student evaluations, and center supervision.

SPECIALIZED COURSE WORK, DEGREES, AND WORK EXPERIENCES NEEDED FOR THIS CAREER

Certification by the Board of Certification, Inc., and experience as a volunteer, intern, or employed athletic trainer are essential prerequisites to teaching in this area. Licensure or registration as an athletic trainer is required in some states. Dr. Shingles states that all athletic training courses, sport sciences classes such as exercise physiology, and courses in instructional methodology have been beneficial in her current position. A master's degree is the minimal academic credential for a college position, although a doctoral degree in athletic training, sports medicine, or a related area is the standard for a tenure-track position.

SATISFYING ASPECTS

Dr. Shingles enjoys sharing her experiences and developing relationships with students who want to become athletic trainers. She finds it rewarding to work with and mentor future professionals.

JOB POTENTIAL

Dr. Shingles holds a tenured position that carries the opportunity to advance from assistant to associate to full professor. Depending on experience and academic degrees held, assistant professors at her university get starting salaries of about \$42,500. Research,

scholarly publications, and teaching proficiency are required for promotion in rank and achievement of tenure. Salary increases and additional responsibilities are usually associated with advancement.

SUGGESTIONS FOR STUDENTS

Obtaining a terminal (doctoral) degree is essential for teachers to advance in higher education. Dr. Shingles advises students to get involved in professional organizations (such as NATA and AAHPERD) and to appreciate and cultivate relationships with mentors.

KEY POINTS FOR CHAPTER 2

Academic discipline	Discovery of knowledge through scholarly process of inquiry.
Research methods and scientific method	The discovery of knowledge must follow a rigorous process including research questions, experiments, data collection and analysis, reporting of results, and discussion of findings.
Exercise physiology	Scientific examination of how the body responds to physical movement, often with experimental treatments.
Athletic training	Prevention, analysis, treatment, and rehabilitation of sports injuries.
Motor development	Learning of motor patterns by individuals of all ages.
Motor learning	Changes in motor skill performance based on refinement in muscular, skeletal, and neurological function.
Sport biomechanics	Application of natural laws and forces to movement.
Sport history	Describing, analyzing, and learning from the past.
Sport management	Application of business principles and operations to sports.
Sport philosophy	Finding and applying beliefs and values in sports.
Sport and exercise psychology	Integration of mental processes with motor performances.
Sport sociology	Interactions among diverse social groups with society.
Sub-disciplines	While each of these 10 has unique disciplinary content, they overlap and share applications.
Humanities	Art, music, and literature enjoy numerous synergies and relationships with the exercise and sport sciences.

REVIEW QUESTIONS

- 1. What are the characteristics of an academic discipline?
- 2. What is exercise physiology, and how has it become the leading disciplinary foundation of the exercise and sport sciences?

- 3. What are the differences between motor development and motor learning?
- **4.** Describe the various content areas that constitute sport management.
- 5. Describe the scope of responsibilities for an athletic trainer.
- 6. What role could a sport psychologist serve with a professional athlete?

STUDENT ACTIVITIES

- 1. Select 1 of the 10 exercise and sport sciences and describe its contributions to sport.
- 2. Volunteer to help a faculty member or a graduate student conduct a research project specific to 1 of the 10 exercise and sport sciences.
- 3. Read two research articles that contribute to the body of knowledge in the exercise and sport sciences. Summarize the major points of each article, the scholarly procedures and methods of inquiry used, and the end result of each study.
- 4. Invite a specialist in each of the exercise and sport sciences to your majors club to present an overview of each field of study and how it interrelates with the others.
- 5. Divide the exercise and sport sciences into the following groups:
 - Motor learning, motor development, and sport and exercise psychology
 - Exercise physiology, biomechanics, and athletic training
 - Sport history, sport philosophy, sport sociology, and sport management

Conduct a class debate about the relative significance of the contributions of each of these groups.

6. Interview one of your professors who works in one of the exercise and sport sciences. Describe the type of research conducted by this person.

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3

PROFESSION OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

KEY CONCEPTS

- Careers in physical education, exercise science, and sport can be described using the characteristics of a profession.
- Specializations in athletic training, coaching, fitness, sport management, exercise science, physical therapy, and teaching physical education prepare students for diverse careers following the completion of specialized course work.
- The American Alliance fulfills its objectives through the programs of its associations and through conventions, publications, and other activities that benefit its members and the people they serve.
- Many professional organizations promote the study of and involvement in human movement, sports, leisure activities, fitness programs, and other related pursuits.

Physical education has long been recognized as a part of the teaching profession, evidenced by its affiliation with the National Education Association beginning in 1937. Even earlier, in 1885, a group of teachers and other interested individuals formed the Association for the Advancement of Physical Education to encourage the exchange of program and instructional ideas. Today the American Alliance for Health, Physical Education, Recreation and Dance, along with multiple allied organizations, promotes a broad discipline that encompasses physical education, exercise science, health, sports, dance, and leisure. This chapter describes many of these associations, along with their purposes, publications, and services. Several other professional organizations, especially in the exercise and sport sciences, are described so you can become interested in joining one of these as you begin your professional journey. To understand physical education, exercise science, and sport, it is important to know the educational background needed to enter many physical education, exercise science, and sport careers.

PHYSICAL EDUCATION AS A PROFESSION

Physical education has historically been classified as a profession. A **profession** is a specialized occupation that requires mastery of knowledge and the meeting of standards demonstrating competence. The characteristics of a profession include

- A complex, systematic body of theoretical knowledge
- Individuals who have attained extensive knowledge and experience through a formal educational process
- Standards and competencies for entry into the profession, often through a certification process
- Mechanisms and opportunities for growth and development within the field to ensure adherence to established standards, competencies, and practices
- A socially valuable service that has received societal recognition and status
- Governance by a code of ethics to protect those served

Physical educators and exercise and sport scientists must have at least a bachelor's degree and frequently have advanced study and training in an extensive body of knowledge that takes considerable time and effort to learn. Individuals in these fields share research findings and new ideas while serving people throughout society.



Physical education teachers encourage children to have fun while challenging themselves with various movement experiences.

While the preceding paragraph describes physical education as a profession, Chapter 2 presented the exercise and sport sciences as academic disciplines. Are these contradictory or complementary perspectives? Physical education, exercise science, and sport studies include the 10 specialized disciplines described in the previous chapter, any of which can be a career emphasis. As individuals study one of these disciplines in depth, they often take on a specialized identity like an exercise physiologist or a sport manager, even though their areas of work are based on physical activity or sport. Historically, physical education has been one of the teaching professions. It has retained the characteristics of a profession even though it has expanded into teaching in numerous nonschool settings and into nonteaching, activity-related careers. Thus, physical education, exercise science, and sport studies have broadened to encompass aspects of both an academic discipline and a profession.

PEDAGOGY

Pedagogy is the art and science of teaching and the study of theories and application of teaching methods. The pedagogist (or teacher) must provide an effective learning environment that focuses on opportunities to master knowledge or skills. Each student or participant should spend most practice time "on task" rather than being subjected to management or organizational distractions such as waiting for a turn to use equipment. Each individual needs to be sequentially challenged by the movement experience or sport skill to achieve success while being motivated to pursue additional learning (see the Research View Pedagogy).



Learning can be enhanced through the use of visual models.

RESEARCH VIEW

Pedagogy

Teachers, in their continuing efforts to enhance pedagogical practices, seek answers to questions like these:

- What instructional strategies should be used to meet the various learning styles and multiple intelligences of a diverse class of students?
- How much class time should be devoted to providing instruction, allowing for practice, giving feedback, dealing with discipline problems, managing equipment distribution, and checking attendance?
- At each developmental level, what is the appropriate amount of activity in physical education needed for school-age students?
- What adjustments, if any, should be made to provide the optimal learning environment?
- How do the genders of teachers and students affect the number and quality of interactions?
- How can students become engaged in developing personalized fitness programs?
- What role should students have in the selection and implementation of their physical education curriculum?
- What type of grouping, homogeneous or heterogeneous (or both), should be used to increase student learning?
- How can a middle school physical educator design and implement a program that focuses on skill development and fun?
- What is the most effective method of giving feedback to students learning new motor skills?
- Describe how to develop and implement an accurate and effective assessment process.
- Why and how should a personal trainer adapt strength training programs for adolescents, unfit adults, or senior citizens in a cardiac rehabilitation program?

A key objective for effective pedagogical practice is to use class or practice time optimally. Each teacher must plan extensively to ensure that equipment is readily accessible, handouts explaining the day's lesson are prepared for distribution, and instructional learning cues appropriate for students with heterogeneous abilities are ready for use. The good teacher is also prepared to handle management tasks (such as calling roll and passing out equipment) and discipline problems with minimal loss of instructional and practice time. Each day's lesson should be sequentially structured to provide maximal opportunities to practice each new skill.

Another essential criterion of exemplary teaching focuses on helping students or participants achieve success and challenge themselves to higher levels of skill development. Specific, corrective feedback and positive reinforcing comments about proper execution of a skill or movement must be provided by the teacher. Only when each participant, within his or her individual limitations, enjoys learning will that person want to continue. A feeling of success is the key to this enjoyment.

The primary reason people choose a career in teaching is the pleasure and reinforcement they receive when their students learn, enjoy the learning process, and continue to participate and develop their skills. Teaching is personally, more than financially, rewarding. This feeling of success occurs when teachers plan and implement innovative curricula, commit to the improvement of student-to-student and teacher-to-student interactions, assess students' performance to ensure that learning is occurring, and continually evaluate their work and make enhancements.

Pedagogical researchers seek to improve the instructional process through observation, analysis, and evaluation. By examining the amount of academic learning, direct instruction, and management time, one can determine how teachers' and students' behaviors influence learning. Research studies also look at teachers' expectations for students, the classroom learning climate, and the type and amount of feedback—all critical to student learning.

ADAPTED PHYSICAL EDUCATION

Adapted physical education prepares teachers to provide specialized programs for individuals with diverse abilities and limitations. Based on federal protection of each individual's rights and changing societal attitudes, schoolchildren with special needs are increasingly being placed in regular classes, including physical education. **Inclusion** is the placement of students with physical, mental,



Through adapted physical education, individuals with special needs can develop physically as they achieve their individual goals.

RESEARCH VIEW

Adapted Physical Education

Adapted physical educators seek to provide specialized programs for individuals with special needs based on the answers to research questions such as these:

- What are the most effective adaptations that can be made for the wheelchair-bound student during a softball unit of study?
- How can instructional strategies be used to accommodate students with attention deficit disorder?
- What curricular planning and implementation methods should the classroom teacher and the adapted physical educator utilize to meet the needs of children with emotional and behavioral disorders?
- Why are equipment adaptations essential for children with developmental delays? Which of these are most effective for learning fundamental movement skills?
- What types of evaluations and assessments should be used with children with learning disabilities who are placed in inclusive physical education classes?
- How can learning outcomes other than those associated with physical development be designed so children with special needs can succeed?
- What are the most effective instructional strategies for the physical education curriculum portion of an Individualized Education Program for a child with cerebral palsy?
- What curricular adaptations should be made to help an intellectually gifted child who is obese become physically fit?
- What are the pros and cons of pairing a student with special needs with a student without physical limitations during physical education classes?

behavioral, or emotional limitations or special needs into regular classes with their peers. The inclusion of students who have hearing limitations, are wheelchair-bound, have attention deficit disorder, suffer from cerebral palsy, or are autistic presents significant challenges to the physical educator, who must help these and all other students achieve cognitive, affective, motor skills, and physical fitness goals (see the Research View Adapted Physical Education).

Individualized programs or modified activities may be needed to help all students have successful learning experiences. To make this approach effective, differently sized and weighted pieces of equipment, choices in task dimensions and goals, and variety in evaluation measures should be used. Peer tutors, collaborative teaching, and cooperative learning activities have proven effective in inclusive classes.



WEB CONNECTIONS

1. www.ashaweb.org/

Learn more about the American School Health Association and its programs and services for promoting the health of the nation's youth.

2. www.aahperd.org/

The American Alliance for Health, Physical Education, Recreation and Dance offers an array of information and services via this comprehensive Web site that includes information about each of its organizations.

3. www.pecentral.org/index.html

This PE Central site contains a plethora of information to assist teachers in helping children become physically active and healthy for a lifetime. The treasure lode of resources for teachers available from this site is invaluable for curricular and instructional enhancement.

4. www.pelinks4u.org/

This site provides a wealth of information for promoting active and healthy lifestyles, with an emphasis on physical education programs in schools.

5. www.ncpad.org/

A plethora of information about adapted physical education and physical activity awaits the visitor to the Web site of the National Center on Physical Activity and Disability.

6. www.pesoftware.com/Technews/news.html Bonnie Mohnsen publishes this on-line newsletter for K–12 physical educators to help them use technology in physical education.

7. www.nbpts.org/

The National Board for Professional Teaching Standards is committed to better teaching, learning, and schools. National Board Certified Teachers have met rigorous standards through intensive study, expert evaluation, self-assessment, and peer review.

8. www.apta.org//AWTemplate.cfm?Section=Home Learn more about the American Physical Therapy Association, which fosters advancements in physical therapy practice, research, and education.

Adapted physical educators can work with other physical educators to reap the benefits of inclusive classrooms. Students gain respect for classmates with differing abilities. They demonstrate greater social acceptance, display changed attitudes, and recognize their fellow students as having equal status. The collaboration among students, as well as among the teachers who design curricula, positively influences learning. Inclusion implies that special resources, personnel, and curricular adaptations make it possible to educate all children with special needs, mild to severe, in regular classrooms.

Physical educators are increasingly sharing their expertise with and borrowing from the various therapeutic fields. The value of exercise in preventing osteoporosis and other degenerative diseases carries broad implications for recreational activities for senior citizens. Physical therapists and athletic trainers are seeking the best programs for injury rehabilitation. Exercise physiologists are working with physicians in the prescription of exercises for individuals who have suffered heart attacks. Recreational therapists and adapted physical educators together may provide appropriate activities for employees and schoolchildren with special needs. In each of these cases, the medium of exercise is involved and, through consultation, the best activities are prescribed.

UNDERGRADUATE SPECIALIZATIONS

Assuming you are considering a career in physical education, exercise science, or sport, this section of the chapter introduces you to the various options or specializations offered by many colleges and universities. This discussion will prepare you for Chapter 5, which describes many careers related to physical education and sport, and Chapter 6, which explains many specific programs and certifications.

Professional preparation programs in physical education traditionally have been oriented toward teacher education, although today most colleges offer a variety of specializations, such as exercise science, sport management, and athletic training. As the demand for teachers decreased, beginning in the late 1970s, colleges and universities revised their curricula to include the increasingly popular sport- and fitness-related specializations. The expansion in the fields of fitness, leisure, recreation, athletics, and sport has resulted in diverse career opportunities for students specializing in these areas.

Athletic Training Option

Many students opt to specialize in athletic training because they have experienced injuries and were helped in their struggles to recover and return to their sports. Athletic trainers must have a comprehensive understanding of the structure and function of the human body since this specialty deals with the prevention, treatment, and rehabilitation of sports injuries. When injuries occur, athletic trainers must have the knowledge and analytical ability to conduct onsite assessments of the severity of injuries. If injuries are minor, athletic trainers are the primary caregivers of first aid and the administration of ice, whirlpool, ultrasound,



Careers in athletic training are available in schools, colleges, professional leagues, and clinical settings.

or other treatments. Under a physician's supervision, athletic trainers rehabilitate athletes suffering from more serious conditions, such as loss of mobility due to a broken bone or surgery. Athletic trainers are responsible, along with physicians if injuries are severe, for clearing athletes for participation; they must withstand pressure from players and coaches to return athletes to play prematurely and risk causing more permanent damage to the recovering areas. In addition, athletic trainers often counsel athletes to help them deal with injuries and rehabilitation, setbacks, and residual limitations.

Athletic trainers work with coaches to help develop conditioning programs to optimally prepare athletes for competition. Athletic trainers may work with strength and conditioning coaches to ensure that athletes have achieved appropriate muscular strength and endurance and flexibility in injured areas before returning to competitions and practices. Athletics trainers may work with dietitians who plan meals for athletes and with sport psychologists who guide athletes in dealing with the mental challenges that ensue when recovering from injuries. Athletic trainers must be cognizant of the harmful effects of performance-enhancing drugs and help ensure that athletes do not take pills or injections that will harm them.

Regulations governing athletic trainers in schools vary depending on the state. This situation, however, places the athletic trainers, athletes, and schools at risk when proper care by a qualified individual is not given. Almost all colleges, professional teams, and sports medicine clinics stipulate that applicants must hold certifications from the National Athletic Trainers' Association Board of Certification for employment (see Box 3.1 for more information).

BOX 3.1 CERTIFICATION IN ATHLETIC TRAINING

An athletic trainer, who is educated and experienced in the management of health care problems associated with physical activity, works with physicians and other health care personnel as an integral member of the health care team in secondary schools, colleges, and universities, professional sports programs, sports medicine clinics, and other health care settings.

The Board of Certification (BOC) for the athletic trainer upholds the standards for the profession by providing a certification program for entry-level athletic trainers and recertification standards for certified athletic trainers. A candidate must satisfy the basic requirements, successfully complete an entry-level athletic training program accredited by the Commission on Accreditation of Athletic Training Education (CAATE), and pass the Board of Certification exam.

Basic Requirements

- Receive endorsement of the examination application by the recognized program director
 of the CAATE-accredited program.
- Hold a current certification in Emergency Cardiac Care.

Curriculum Requirements

Students must demonstrate educational competencies and clinical proficiencies in these content areas:

- Risk management and injury prevention
- Pathology of injuries and illnesses
- · Orthopedic clinical examination and diagnosis
- Acute care of injury and illness
- Pharmacology
- Therapeutic modalities
- Conditioning and rehabilitative exercise
- Medical conditions and disabilities
- Nutritional aspects of injury and illness
- Psychosocial intervention and referral
- Health care administration
- Professional development and responsibility

Associated with these competencies and proficiencies, students must complete a minimum of two academic years of clinical experience in athletic training rooms, athletic practices, and competitive events at various levels under the direct supervision of a certified athletic trainer. These clinical experiences must include exposure to upper extremity, lower extremity, equipment-intensive, general medical experiences of both genders, and opportunities for observation of and involvement in the first aid and emergency care of a variety of acute athletic injuries and illnesses.

Certification Exam

Students must successfully complete the certification examination developed to assess knowledge on the six domains of athletic training:

- Prevention
- Clinical Evaluation and Diagnosis

(continued)

BOX 3.1 CERTIFICATION IN ATHLETIC TRAINING (continued)

- Immediate care
- Treatment, rehabilitation, and reconditioning
- Organization and administration
- Professional responsibility

See www.bocatc.org and www.caate.net for additional information.

In schools, athletic trainers can expect to teach at least a partial load of classes (if they hold a teaching certification) because the athletic trainer position is seldom full time. However, it is difficult to meet certification requirements for athletic training and for teaching in less than five (and maybe more) years due to the strict course work and clinical hours each requires. Salaries are determined by the local school district's salary schedule and are based on years of experience and educational degrees. Additional stipends for extracurricular work are possible.

Depending on the size of the institution and the number of personnel, collegiate athletic trainers may be full- or part-time. They may teach in an accredited athletic training program or in some other field. They may serve one team (such as football) or be responsible for all the intercollegiate athletic teams. It should be emphasized that athletic trainers in schools and colleges work in the evening hours and on weekends when competitions are held.

Another popular career choice for athletic trainers is a clinical setting. These jobs may be affiliated with a hospital (with a rehabilitative focus) or in a private clinic that serves the public. Individuals helped by athletic trainers may have suffered sports-related injuries or need assistance in returning to activity after inactivity or some non-sports-related injuries.

Coaching Option

Coaches shape and mold the sport experiences of their athletes. Coaches can help develop the skills and knowledge of individuals who, in almost all cases, have chosen to participate and who are eager to learn and compete. Largely, coaches will determine what kind of learning will occur for their athletes and specifically whether they will develop skills, fitness, and a love of the game; internalize the potential values that can be learned and reinforced through sport; or drop out because of negative experiences.

The influential position that a coach holds, however, carries with it a huge responsibility to ensure that athletes enjoy and benefit from their sporting experiences. Coaches must be knowledgeable about the skills, rules, and strategies of their sports, but they also should provide a physically, mentally, emotionally, socially, and morally appropriate and healthy environment for their athletes. They should emphasize effort, skill development, and fun and provide positive



Many physical education teachers also coach.

reinforcement for these. They should model and insist on sportsmanship and civility to opponents, officials, and teammates.

Coaching specializations are popular choices for undergraduates who want to continue their involvement with sports. Interscholastic and youth programs need individuals who want to coach young athletes. The demand for coaches of school teams exceeds the supply because of increased numbers of girls' teams, the hiring of fewer new teachers, and the resignation of tenured physical educators from coaching but not from teaching. The millions of children competing on youth sport teams deserve coaches who know how to teach fundamental skills while making sports fun.

Almost all youth league coaches, however, are volunteers. Regardless of the type of employment of these volunteers, they need a basic knowledge in first aid, coaching concepts, human growth and development, and exercise and sport sciences. Although a few independent programs offer educational opportunities and certifications for these coaches, most volunteers demonstrate minimal competence.

Few individuals only coach in the schools; the dual role of teacher-coach characterizes most. Typically the teacher-coach is paid according to a state or district salary scale, along with an additional stipend for coaching. These amounts and salaries vary widely. Whereas states require subject-matter certifications for teachers, only a few specify that coaches must show competencies or complete certain courses. Coaching curricula in colleges typically include courses in first aid, care and prevention of athletic injuries, anatomy, physiology, exercise physiology, coaching theory, coaching techniques in specific sports, human growth and development, sport management, and sport psychology.

Fitness Option

A specialization in fitness prepares students to enter myriad careers in this growing field. One appealing feature is the opportunity to help others attain and maintain healthy lifestyles. Another is the pleasure of associating with people who value fitness. Although fitness specialists avoid most of the discipline problems and management minutiae in the schools, they typically work during other professionals' leisure hours.

Regardless of the setting, the fitness specialist must have a strong scientific background, such as in biomechanics and exercise physiology, especially if activity programs are being designed and prescribed. Knowledge of business and management is essential for career advancement and helps in getting an entrylevel position. Fitness specialists typically find jobs in corporate, industrial, and community fitness settings; health, fitness, and sports clubs; or recreation departments. However, there are also job opportunities on cruise ships, at resorts, or as personal trainers.

While a balanced, nutritious diet in combination with regular physical activity leads to a healthier life, poor eating habits and inactivity contribute to related health problems, such as obesity, type 2 diabetes, high blood pressure, and heart disease. Nutritional workshops, such as those offered by professionals in health clubs and recreation departments, include recommendations about food selection (with an emphasis on fruits and vegetables), food preparation (broiled rather than fried foods; seasoning with spices rather than fats), smaller serving sizes, and healthy snacks (such as low-fat yogurt or baby carrots), as well as tips about losing weight.

Teachers of aerobic activities will include dancing, walking, jogging, swimming, and cycling in their programs to help participants increase their cardiorespiratory endurance. In classes, individually, or with the assistance of a personal trainer, adults of all ages are encouraged to lift weights, use resistance bands, and do push-ups or abdominal crunches to increase muscular strength and endurance, reduce injury risk, and maintain strong bones. Organizations like the Aerobics and Fitness Association of America, American Council on Exercise, and IDEA Fitness and Health Association prepare teachers for work in fitness clubs.

Personal trainers working in private clubs and public agencies offer a wealth of advice about increasing one's physical activity. They are personally committed to and model being physically fit, and they often wish to share their enthusiasm with others to help them enhance the quality of their own lives. Personal trainers must be knowledgeable about how to properly educate others to develop their bodies. Many adults who decide to lose weight, increase cardiorespiratory endurance, develop muscular strength and endurance, improve flexibility, or rehabilitate after an injury or disease may choose to work with a personal trainer. The greatest challenge facing the personal trainer is not designing a safe and effective program—although this is important—rather, it is motivating individuals to adhere to physical activity programs so that regular physical activity becomes a part of their lifestyles. Only then will the personal trainer have been successful. The National Strength and Conditioning Association is one of the organizations that certifies personal trainers.

Sport Management Option

The burgeoning sports industry attracts graduates who seek to apply business and management knowledge to sport settings. The best academic preparation encompasses the triad of management foundations, sports applications, and an internship or work experience within the field. It is imperative that students understand that careers in this area are "bottom line," or profit oriented. Therefore, courses in accounting, economics, finance, and marketing are important. Built on these should be applications courses such as sport management, sport law, facility management, sport ethics, and personnel management. The culminating experience that links this knowledge and application is the internship.

A love of sport, along with a desire to pursue some type of career in the world of sports, has propelled many students to think about this major. Given the increasing number of commercial sporting events, many opportunities are available. For example, hundreds of people are required to plan, organize, and implement a professional football game in which a few dozen athletes compete. The sport manager, in additional to producing entertaining sporting events, organizes physical activity programs, such as road races and sports competitions for individuals of all ages and ability levels. Sport managers have the advantage of working in a field that serves individuals eager to have fun, be entertained, interact socially with friends and family, and release the stress of other aspects of their lives. In most cases, though, they work while others are enjoying their leisure hours. This negative is compensated for by the pleasure of being around sport and staying engaged in something they really enjoy.

Sport managers use their talents in a plethora of careers. Within recreational services, young professionals serve as instructors and program coordinators for individuals of all ages in adventure activities, arts and crafts, camps, fitness, sports, and other leisure pursuits. As a recreation specialist, you can coach, officiate, teach, or supervise community-based programs as well as operate facilities such as lakeside recreation centers, parks, pools, sport complexes, and recreation centers. Educationally focused programs in colleges require sport managers who are responsible for compliance with rules, facility management, fund-raising, game-day operations, publicity, sports information, and ticket sales. Professional sports from auto racing to (beach) volleyball are in the entertainment business, so sport managers are focused on providing enjoyable experiences for spectators. Advertising, marketing, and ticket sales are obvious requirements for filling the seats, while customer services include managing all aspects of concessions, health and safety, merchandise sales, and parking. Within the sports themselves, managers and other personnel are responsible for planning, accounting, financing, human resources, scouting, community relations, player development, travel, and much more.

Exercise Science Option

Academic preparation of the exercise science student focuses on the sciences. Usually courses are completed in biology, anatomy, physiology, chemistry, exercise physiology, biomechanics, and possibly biochemistry. Also beneficial is the

development of strong statistical and computer technology skills, along with a background in nutrition. This strong scientific foundation also helps prepare a student to pursue advanced degrees for a college professorship.

On the practical side, exercise prescription skills are necessary to qualify for many positions, such as those in corporate fitness programs, clinical settings, or cardiac rehabilitation centers. Gaining invaluable experiences through an internship or part-time employment helps in obtaining a position in this specialization. Salaries are determined by the degree held, work setting, and level of experience.

Exercise scientists in clinical settings are committed to helping people of all ages learn more about the importance of physical activity to their health and well-being. While most individuals can and should begin and maintain a regular exercise program, often under the direction of an exercise scientist, some people may require a doctor's permission and possibly even an exercise prescription if a cardiac, pulmonary, or metabolic condition exists. Exercise scientists in laboratory settings are dedicated to the analysis of human movement, to determine the effectiveness of various exercise programs, and to the integration of scientific research into educational and practical applications of exercise.

Students interested in this option are encouraged to join a professional organization. For example, the American College of Sports Medicine (ACSM) has an online student affairs section at www.acsm.org/Content/NavigationMenu/Education/StudentAffairs/Student_affairs.htm. ACSM offers a reduced student membership with multiple benefits, including its publications.

Physical Therapy Option

Physical therapy is the treatment of physical injury or dysfunction using therapeutic exercises and modalities with the goal of restoring normal function. Physical therapists examine individuals with physical impairments or limitations so they can help prevent, diagnose, and treat movement dysfunctions. Through designing and implementing therapeutic interventions, physical therapists help enhance the health and functional abilities of clients in order to improve their quality of life.

Physical therapists must complete a strong scientific curriculum including courses in anatomy, physiology, neuroscience, organic chemistry, biochemistry, microbiology, genetics, and molecular biology. Shadowing or volunteer experiences and internships working with people with different disabling conditions are required for learning and applying therapeutic knowledge and skills. A strong scientific foundation and experiences in a physical therapy setting are a prerequisite to gaining admission into a graduate program in physical therapy, completing extensive clinical experiences, and passing a licensing exam.

Physical therapists may choose to work in a variety of settings. Many hospitals provide physical therapy services to patients who are recovering from injuries and medical conditions. Physical therapy clinics work with clients based on prescriptions of physicians to help rehabilitate clients from an injury, accident, chronic condition, or acute health problem. Physical therapists may choose to work in specialties like orthopedics (dealing with the musculoskeletal system),



Physical therapists focus on helping individuals rehabilitate from injuries.

geriatrics (working with older adults), cardiovascular and pulmonary (dealing with heart and lung functioning), and pediatrics (working with infants, children, and adolescents).

Teaching Option

Teacher certification following graduation from an accredited degree-granting institution is the goal of graduates choosing a teaching option. Teacher preparation courses may be taken throughout the undergraduate years or concentrated in just two years following the completion of general education courses taken at a community college or at a four-year institution. Certifications for physical education may include those for prekindergarten (P) through grade 6, grades 5 through 8, grades 7 through 12, P through grade 12, health education, and dance.

The National Council for Accreditation of Teacher Education (NCATE) allows learned societies, such as the National Association for Sport and Physical Education (NASPE), to recommend guidelines for the professional studies component of its standards. These guidelines, containing all the attitudes, knowledge, and skills required of a physical education teacher, have been subdivided into three



Teachers help individuals of all ages and in various settings learn new skills.

elements: academic, professional, and pedagogical. Aquatics, dance, exercise, games, sports, and other leisure pursuits are components of the unique academic content of physical education. Motor development, sport management, motor learning, sport philosophy, sport biomechanics, exercise physiology, sport history, sport and exercise psychology, sport sociology, and athletic training, as discussed in Chapter 2, provide the intellectual and theoretical bases for studies in physical education. The professional aspect of the undergraduate program develops an awareness of and commitment to the various educational, research, and service activities of physical education. These include studies of curriculum models, organizational structures, diagnostic and assessment procedures, and problem-solving techniques. Knowledge about teaching and learning physical skills constitutes the pedagogical element. Abilities to plan, implement, and evaluate learning are observed in a supervised student teaching experience. (See Box 3.2 for guiding principles regarding what new teachers should know and be able to do.)

Since education is delegated to the states, there is no national curriculum for any school subject, including physical education. There is some guidance, however, about what constitutes a competent and highly qualified teacher. The National Board for Professional Teaching Standards (NBPTS) has established five core propositions that characterize those teachers who possess the knowledge, skills, and abilities of the best teachers. These teachers are committed to students and their learning, know their subjects and how to teach them to students, manage and monitor student learning, think systematically about their teaching and

BOX 3.2 STANDARDS FOR NEW TEACHERS

Many teacher preparation programs are based on the 10 principles developed by the Interstate New Teacher Assessment and Support Consortium of the Council of Chief State School Officers:

Principle 1: The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and can create opportunities that make these aspects of subject matter meaningful for all students.

Principle 2: The teacher understands how children learn and develop, and can provide learning opportunities that support their intellectual, social, and personal development.

Principle 3: The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.

Principle 4: The teacher understands and uses a variety of instructional strategies to encourage students' development of critical-thinking, problem-solving, and performance skills.

Principle 5: The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.

Principle 6: The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.

Principle 7: The teacher plans instruction based on knowledge of subject matter, students, the community, and curriculum goals.

Principle 8: The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.

Principle 9: The teacher is a reflective practitioner who continually evaluates the effects of his or her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.

Principle 10: The teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well-being.

Courtesy of Interstate New Teacher Assessment and Support Consortium, a program of the Council of Chief State School Officers.

learning from their experiences, and are members of learning communities (see www.nbpts.org/ for more information). Physical education is one of the subject areas in which the NBPTS recognizes teachers with board certification.

NASPE has developed national standards for beginning physical education teachers. Physical education teacher education programs prepare teachers in pedagogical and content knowledge, offer an array of practical field experiences, and help ensure professional behaviors. The pedagogical and content knowledge base for future physical education teachers includes the ability to teach developmentally appropriate physical activities to children in kindergarten through grade twelve. The curricular components that they learn are aligned with the psychomotor, cognitive, and affective domains in the National Standards for

Physical Education developed by NASPE (see www.aahperd.org/Naspe/template .cfm?template=ns_index.html for more information). Physical education teachers learn how to assess student learning, demonstrate professional and ethical behaviors, and engage in ongoing reflection and professional development.

The faculty at each institution that offers a physical education program leading to teacher certification or licensure determines the content for the curriculum. After completion of general education requirements, students typically complete courses such as team and individual sports and activities, physical conditioning, history and foundations of physical education, adapted physical education, exercise physiology, biomechanics, motor learning, teaching elementary physical education along with in-school teaching experiences, teaching middle and secondary physical education along with in-school teaching experiences, and measurement and assessment. The culminating experience in each program is student teaching or internship in a school.

These specializations, while not the only ones available, illustrate the variety of alternative career choices in physical education and sport. Chapter 5, "Selecting a Career," will assist in your career choice and career development process.

AMERICAN ALLIANCE FOR HEALTH, PHYSICAL EDUCATION, RECREATION AND DANCE

The American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD, or the Alliance) has grown from 49 to more than 25,000 members and has served these members for over a century. In 1937, as a department of the National Education Association, the former American Physical Education Association became the American Association for Health and Physical Education. (It became an alliance in 1974.) Recreation was added to its title in 1938; dance was added in 1979.

The Alliance is an educational organization designed to facilitate and promote the purposes and activities of its members, associations, and affiliated groups. The Alliance's mission is to promote and support creative and healthy lifestyles through high-quality programs in health, physical education, recreation, dance, and sport, and to provide members with professional development opportunities that increase knowledge, improve skills, and encourage sound professional practices.

The Alliance is headquartered at 1900 Association Drive, Reston, VA 20191-1598. For more information about the Alliance, call 1-800-213-7193 or visit www. aahperd.org. Services the Alliance provides include holding an annual national convention; publishing brochures, research abstracts, conference proceedings, and other information pertinent to its fields of interest; positively influencing public opinion and legislation; and providing consultant services.

Periodicals published by the Alliance include the *Journal of Physical Education, Recreation and Dance*, which includes articles of a broad and practical nature, and the *Research Quarterly for Exercise and Sport*, which reports research findings. *Update*, published in newspaper format, keeps the membership apprised



The National Association for Sport and Physical Education advocates for quality, daily physical education for all students.

of current events and legislation. Issues of *Update* include notices of job vacancies and information about graduate assistantships. The Alliance is divided into five national associations. A brief description of each follows.

The American Association for Health Education (AAHE) promotes health education in schools, public and community health agencies, business and industry, and colleges. AAHE develops and disseminates standards, resources, and services regarding health education, promotes national research priorities in health education, and facilitates the application of health education principles and practices to benefit all people. Health educators in schools, in addition to teaching health classes, promote and implement coordinated school health education programs. In colleges, many health educators provide counseling in topics such as sexual health, nutrition and eating issues, and substance abuse prevention. Health educators in health care settings educate patients about medical procedures, while those working in public health settings or within businesses provide programs and counseling about areas such as weight control, hypertension, nutrition, physical fitness, stress management, and smoking cessation. AAHE provides four periodicals for its members and other interested health

professionals. The *American Journal of Health Education* provides research-based and thought-provoking articles about health education and health promotion for professionals in various settings. The *International Electronic Journal of Health Education* uses technology to reach health practitioners globally. *HEXtra* covers the latest issues in health education in all professional settings. *The HIV Prevention and CSHE Project Brief* focuses on strengthening the professional preparation of elementary, middle school, and special education teachers in health education, including HIV prevention education.

The American Association for Physical Activity and Recreation (AAPAR) promotes active lifestyles through participation in recreational and fitness activities. Professionals in this association work through educational and community-based programs to help people enhance the quality of their lives by engaging in lifelong physical activity. AAPAR provides resources and educational programs to professionals in the areas of aquatics, adapted physical education, adventure education and outdoor recreation, measurement and evaluation of human performance, aging and adult development, fitness and wellness, facilities and equipment, life long recreational sports for all ages, and safety and risk management.

The *National Association for Girls and Women in Sport* (NAGWS) seeks to improve and expand sport opportunities for girls and women at all levels of competition. It advocates for the initiation and enhancement of opportunities for sports participation and leadership for females. NAGWS helps coordinate the annual celebration of National Girls and Women in Sports Day. Through collaborative work with other associations, NAGWS is an advocate for equity in sport. NAGWS published the online *Women in Sport and Physical Activity Journal*, which provides a forum for women-centered issues related to sport and physical activity.

The National Association for Sport and Physical Education (NASPE) supports quality physical activity programs for children and adults. NASPE advocates for quality, daily physical education for each school student through conferences, print ads, public service announcements, and observance of the National Physical Education and Sport Week (May 1–7). NASPE provides conferences and workshops, convention programs, and position statements. Its appropriate instructional practice guidelines for elementary, middle, and high school physical education help teachers create and maintain optimal learning environments, instructional strategies, curricula, and assessments. NASPE publishes *Strategies*, which provides practical articles for physical educators and coaches.

The *National Dance Association* (NDA) advocates for standards, assessments, and sound professional practices in dance education. It promotes dance pedagogy and the creative process, movement training, and performance practices. The NDA through its publications, conferences, and collaborations helps disseminate resources in dance curriculum, program development, and professional development.

Each of the national associations comprising the Alliance provides opportunities for student involvement. A membership form can be downloaded at www. aahperd.org/aahperd/pdf_files/membership_app.pdf Students are invited to attend the Alliance's annual convention, participate on committees and councils through the national associations, and read the Alliance's journals and other publications. Since the future of physical education, exercise science, and sport depends on

students who join the profession and take an active role, it is essential that these opportunities remain beneficial and interesting. Involvement often begins at the college level where clubs for majors in physical education, exercise science, athletic training, sport management, and other fields exist. Through collegiate experiences, students develop leadership abilities, learn more about their fields of study from professors and guest lecturers and have fun with friends. Often these major clubs participate in service learning activities by providing after-school fitness programs for at-risk kids, conducting events for Special Olympics, or assisting with fund-raising events for the American Heart Association or American Cancer Society. These service activities not only give back to the community but also strengthen and expand students' knowledge and skills.

Nonconvention workshops, clinics, and seminars provide Alliance members with the latest research findings, innovative activities, and teaching approaches, as well as opportunities for personal enrichment and growth. Affiliated state associations give professionals the opportunity to learn different coaching techniques, acquire new skills, and interact and exchange information with other members at their annual conventions. Students, especially you, should take advantage of state conventions. Not only will you learn from these experiences, but you may also make contacts with individuals who later could hire you or help you get a job.

SPECIALIZED PROFESSIONAL ORGANIZATIONS

In addition to AAHPERD, there are numerous other professional organizations that students may consider joining. Becoming a professional is a process of learning about and gaining competence in a career of interest to you. Professional organizations provide the impetus for you to get started by publishing professional journals for you to read and offering professional conferences and workshops that you can attend and where you can begin to network with other professionals. What a great way to launch into a profession.

American College of Sports Medicine

The American College of Sports Medicine (ACSM), the world's largest multidisciplinary sports medicine and exercise science organization, was founded in 1954 to promote and integrate scientific research, education, and practical applications of sports medicine and exercise science. Its primary focus is advancing health through science, medicine, and education. Among its objectives are advancing scientific research dealing with the effects of physical activities on health and well-being, such as in the areas of injury prevention, exercise and heart rate response, exercise and aging, and exercise and cardiovascular disease risk factors; encouraging cooperation and professional exchange among physicians, scientists, and educators; and initiating, promoting, and applying research in sports medicine and exercise science.

Another vital component of its mission is to facilitate public awareness and education about the positive aspects of physical activity for people of all ages. For example, through its position statements, which are based on evidence-based

research, ACSM generates interest, awareness, and knowledge among the general public to help motivate people to engage in physical activities.

ACSM offers full-time undergraduates studying in a field related to exercise science or sports medicine the opportunity to join at a cost half that charged to professional members. Benefits of membership include subscriptions to its scientific journal, *Medicine & Science in Sports & Exercise* and the review of current research topics in exercise science found in *Exercise & Sport Sciences Reviews*; discounted registration for any ACSM certification exam; and discounted registration on ACSM meetings. Another, less costly, option offered by ACSM is membership in its Alliance of Health and Fitness Professionals, which includes among its benefits ACSM's *Health & Fitness Journal* and discounted registration for ACSM's Health & Fitness Summit and Exposition. This annual summit seeks to bridge the gap between the science of sports medicine and the practice of fitness professionals.

National Athletic Trainers' Association

The need to establish professional standards and disseminate information led to the establishment in 1950 of the National Athletic Trainers' Association (NATA). The NATA works with the American Academy of Family Physicians, American Academy of Pediatrics, American Orthopaedic Society for Sports Medicine, and Commission on Accreditation of Athletic Training Education to establish, maintain, and promote appropriate standards of quality for educational programs in this field. Athletic trainers cooperate with medical personnel, athletic personnel, individuals involved in physical activity, and parents and guardians in the development and coordination of responsive athletic health care delivery systems. Among the services provided by athletic trainers are injury prevention, risk management, assessment and evaluation, therapeutic modalities, nutritional aspects of injury and illness, psychosocial intervention and referral, and acute care of injury and illness. Athletic trainers provide these services in clinics, offices, and industrial settings working with other health care professionals.

NATA members receive the *Journal of Athletic Training*, the *NATA News*, online job listings and a résumé bank, discounted registration fees at the NATA annual meeting and district meetings, and many other benefits. Students can take advantage of these benefits at a reduced cost.

American Society of Exercise Physiologists

The American Society of Exercise Physiologists (ASEP), founded in 1997, has established academic standards that are used to verify the quality of academic programs students complete in preparing for this field. Members, who are scholars and practitioners in the fields of fitness, health promotion, rehabilitation, and sports training, enhance discussion and collaboration among exercise physiologists throughout the profession. Through its Exercise Physiologist Certified program, ASEP ensures the public that the academic preparation and skills of exercise physiology candidates have been verified. Its *Journal of Exercise Physiology* is an online research-based publication that includes clinical studies, reviews, and

special features. ASEP also publishes *Professionalization of Exercise Physiology* online, which features information for the professional development of professionals in exercise physiology. Networking with professionals helps to promote the role of exercise physiology in the health care system and fosters improvements in research and practice. ASEP hosts an annual conference for the sharing of the latest exercise physiology data, techniques, and theories.

The exercise and sport sciences are listed in Box 3.3 along with the leading professional organizations (and their Web sites) and journals. Most of these organizations offer student membership at reduced costs so that you can get involved early and join leading professionals in expanding your knowledge in a career of interest to you.

National Strength and Conditioning Association

The National Strength and Conditioning Association (NSCA), founded in 1978, is an international educational association that disseminates research-based knowledge about strength and conditioning and its practical application to improve



Maintaining muscular strength and endurance is important throughout life.

BOX 3.3 PROFESSIONAL ORGANIZATION IN THE EXERCISE AND SPORT SCIENCES

Exercise and			
Sport Sciences	Organizations	Web sites	Journals
Athletic training	National Athletic Trainers' Association	www.nata.org/	Journal of Athletic Training
Exercise physiology	American College of Sports Medicine	www.acsm.org	Medicine & Science in Sports & Exercise; Exercise & Sport Sciences Reviews; ACSM's Health and Fitness Journal; Current Sports Medicine Reports
	American Society of Exercise Physiologists	www.asep.org/ index.php	Journal of Exercise Physiology; Professionalization of Exercise Physiology
Motor control	International Society of Motor Control	http://www.i-s-m-c.org/	Motor Control
Sport biomechanics	American Society of Biomechanics	http://www.asbweb.org/	Journal of Biomechanics
Sport history	North American Society for Sport History	http://nassh.org/ index.html	Journal of Sport History
Sport management	North American Society for Sport Management	http://www.nassm.com/	Journal of Sport Management; Sport Management Education Journal
Sport philosophy	International Association for the Philosophy of Sport	http://www.iaps.net/	Journal of the Philosophy of Sport
Sport and exercise psychology	North American Society for the Psychology of Sport and Physical Activity	http://www.naspspa.org	Journal of Sport and Exercise Psychology
	Association for Applied Sport Psychology	http://www.aaasponline .org/index.php	Journal of Applied Sport Psychology
Sport sociology	North American Society for the Sociology of Sport	http://www.nasss.org/	Sociology of Sport Journal

athletic performance, help prevent injuries, and develop fitness. Its diverse membership includes teachers, personal trainers, collegiate strength and conditioning coaches, physical therapists, sports medicine physicians, and sport science researchers. NSCA members seek practical applications for new research findings in the strength and conditioning field and help foster the development of strength training and conditioning as a discipline and profession. It publishes the *Journal of Strength and Conditioning Research, Strength and Conditioning*, and *NCSA Performance Journal* (see www.nsca-lift.org for more information).

American School Health Association

Since 1927, the American School Health Association has been committed to safe-guarding the health of school-age children. It is a multidisciplinary organization of administrators, counselors, health educators, physical educators, psychologists, school health coordinators, school nurses, school physicians, and social workers. It promotes coordinated school health programs that include health instruction, health services, and healthful living practices in schools. It publishes the *Journal of School Health* (see www.ashastd.org for more information).

National Recreation and Park Association

The National Recreation and Park Association (NRPA) promotes public awareness of the importance of the park systems that provide opportunities for people to lead healthy, active lives. Its members are dedicated to improving the human condition through improved park, recreation, and leisure opportunities as well as by addressing environmental concerns. NRPA facilitates the work of communities that provide facilities, services, and programs to help meet the emotional, social, and physical needs of individuals of all ages. The *Journal of Leisure Research, Journal of Park and Recreation Administration, Parks and Recreation, Schole*, and *Therapeutic Recreation Journal* are NRPA journals (see www.nrpa.org for more information).

National Intramural-Recreational Sports Association

The National Intramural-Recreational Sports Association (NIRSA) was begun in 1950 to provide an opportunity for college intramural directors to meet annually to exchange ideas and information. It has grown into the leading resource for professional and student development and education in collegiate recreational sports, including intramural sports, sport clubs, recreation facilities, fitness programming, outdoor recreation, wellness programs, informal recreation, and aquatic programs. Its *Recreational Sports Journal* provides empirical, theoretical, and applied research for professionals in this field (see www.nirsa.org//AM/Template.cfm? section=welcome for more information).

The value and importance of joining and participating in a professional organization are multifaceted. First, membership entitles each person to receive journals, newsletters, directories, and other materials to help keep the practitioner

up to date on the latest techniques, research, methodology, and applications. Second, many of these organizations sponsor conferences and workshops, which provide additional opportunities to stay current through timely updates and to interact with and learn from colleagues in similar careers. Third, organizational affiliation may lead to service on committees and leadership opportunities where members can contribute to the promotion of standards and share expertise with others. Fourth, job announcements in newsletters and placement centers at conferences may lead to career advancement. Thus, professional involvement enlivens your career.

The basic objectives of all professional groups are to exchange information, to learn, and to serve. To enhance your knowledge about and commitment to your chosen career, you should seek opportunities through these organizations to grow professionally. By exchanging program ideas and instructional and motivational techniques, members can improve their abilities to serve others and learn how to communicate their goals and activities to colleagues and to the general public. Sharing of experiences and research generates many ideas for further study. Therefore, as a young professional, you are encouraged to join your college, state, and national associations and one or more organizations in your interest area. You are encouraged to join at least one that matches your interest and begin to read its publications.

SUMMARY

This chapter focuses on being a professional rather than on joining a profession. Physical education, exercise science, and sport studies are characterized by extensive training in a disciplinary body of knowledge and service; therefore, communication among colleagues is essential.

Undergraduate specializations include athletic training, coaching, fitness, sport management, exercise science, physical therapy, and teaching. Various career options await graduates with specialized knowledge and skills in one of these fields.

The services provided by the Alliance will enhance development of each component of the profession. The Alliance's five national associations are composed of professionals in leisure and recreation, health, fitness, sport, physical education, dance, and related fields. Numerous other professional associations provide avenues for collaboration and individual career development. Journals and conferences are two of the most noteworthy services provided by these organizations. Become involved while you are a student. Participate in conferences, attend workshops, and read publications of professional organizations to prepare for your chosen career.

As a young professional, you can make a significant contribution to the quality of life of those you serve as a teacher, researcher, or program leader. You have the opportunity to become a role model by planning and implementing effective programs that meet the activity needs of diverse groups. Rather than reacting, you can become proactive by promoting the values of physical education, exercise science, and sport and implementing exemplary programs.

CAREER PERSPECTIVE



SHIRLEY ANN HOLT/HALE

Elementary Physical Education Specialist Linden Elementary School, Oak Ridge Schools Oak Ridge, Tennessee

Vanderbilt University, Nashville, Tennessee

EDUCATION

A.B., elementary education, Berea College, Berea, Kentucky M.Ed., physical education, Eastern Kentucky University, Richmond, Kentucky Ph.D., early childhood education, Peabody College of

JOB RESPONSIBILITIES AND HOURS

Shirley teaches eleven daily classes of elementary physical education in kindergarten through grade 4. Her normal work hours are 7:30 A.M. to 4:00 P.M. These hours include conducting before-school jogging and jump rope clubs and supervising students during after-school bus duty. The work required by the school system beyond the normal school day is limited to an occasional request to attend city council or school board meetings. However, to be prepared for classes, as a veteran teacher Shirley spends another two hours at night writing lesson plans and doing professional reading. The salary range for teachers in her school system is from \$32,000 for beginning teachers to over \$65,000, depending on years of experience and advanced degrees.

SPECIALIZED COURSE WORK, DEGREES, AND EXPERIENCES NEEDED FOR THIS CAREER

An undergraduate degree in elementary education, with minors in physical education and music, coupled with the student labor program at Berea, provided Shirley with a rich combination of "competency in the many movement forms of dance, gymnastics, and games/sports" and a focus on the teaching of children. That focus on the teaching of children in physical education has been central to Shirley's teaching, writing, and consulting endeavors throughout her career. It has also served her extremely well in communicating with classroom teachers and integrating various curricula within elementary school classes. Also valuable were her experiences in field placements and student teaching in schools, as well as the opportunity to serve as a teaching assistant in the physical education department. Thus, Shirley graduated with teaching experiences in primary, middle school, and secondary physical education, as well as in college-level classes. As a public school teacher, she must hold state certification in physical education, which her academic degrees prepared her to obtain.

SATISFYING ASPECTS

To Shirley, teaching children is a satisfaction beyond measure. Having taught children in elementary physical education for more than 30 years, she has experienced daily "highs" from teaching children as well as treasured the joys of seeing a number of her students succeeding in their chosen careers in physical activity and health; their adoption of

healthy, active lifestyles; and, most importantly, watching them grow into confident, contributing citizens of the community and nation.

JOB POTENTIAL

Salary increases come from advancement steps on the index, advanced degrees, and state incentives for merit pay. Certification by the National Board for Professional Teaching Standards provides financial incentive in many states. Opportunities for responsibility are always available; they are, however, added to the normal workload with no reduction in teaching duties. Promotion, if desired, can come through leaving the teaching of students and moving into administration.

SUGGESTIONS FOR STUDENTS

When named National Teacher of the Year several years ago, Shirley stated, "I consider the teaching of children the greatest career one can choose and the ability to do so the greatest gift one can be given." Shirley emphasizes that there are a few requirements for success in this career: an absolute love of physical education/activity, a joy in being with children, an abundance of energy, the ability to laugh at oneself and to laugh often, and knowing "Monday is my favorite day of the week!"

Application of knowledge, competencies, and expe-

KEY POINTS FOR CHAPTER 3

Profession

	riences, lifelong learning, service to others, and adherence to a code of ethics are essential for professionals.
Pedagogy	The focus of teaching should be on student learning.
Adapted physical education	This field is designed to meet the physical activity needs of students with special learning conditions.
Athletic training option	After gaining a certification, an athletic trainer helps athletes recover from identified sports injuries in schools, colleges, and clinical and professional settings.
Coaching option	From volunteering to the top competitive levels, coaches help athletes learn sports skills, strategies, fitness, and values.
Fitness option	Fitness specialists, such as personal trainers, use their knowledge to help clients enjoy the benefits of regular physical activity.
Sport management option	A wealth of opportunities awaits the person who understands how to apply business concepts to sports for entertainment and participation.
Exercise science option	The application of scientific principles to physical activity helps expand knowledge about and benefits for participants.

Teaching option Teachers are guided by standards for themselves and their

students about what each should know and be able to do.

Specialized professional organizations

Joining a professional organization in an area of interest provides benefits, such as journals, conventions, professional development opportunities, policy or position statements, advocacy, certifications, and networking opportunities.

REVIEW QUESTIONS

- 1. What are the characteristics of a profession?
- 2. How does the American Alliance for Health, Physical Education, Recreation and Dance serve its members?
- **3.** What types of services are provided by the National Association for Sport and Physical Education?
- 4. What opportunities are available for students through majors clubs?
- 5. What are the purposes of the American College of Sports Medicine?
- **6.** What is the purpose of the National Strength and Conditioning Association?
- 7. What is required for certification as an athletic trainer?

STUDENT ACTIVITIES

- 1. Join a professional organization and begin reading its journal. (Be sure and check for a discounted student membership rate.)
- **2.** Investigate the Web site of one physical education, exercise science, or sport organization that interests you to learn more about its services and the benefits of membership.
- **3.** Read one article from a professional journal published by a professional organization related to a career in which you are interested. Describe the key points in this article.
- 4. Write a one-page statement defending the importance of being a professional.
- 5. Attend at least one professional workshop or clinic during this school year.
- **6.** In small groups, prepare a five-minute defense for the importance and advantages of joining a professional organization.
- 7. Interview one person in each of the undergraduate specializations to gain more information about their careers. Write a one-page report about each, or share this information in a two-minute class presentation.
- **8.** Select one of the professional organizations and give a two-minute presentation about its unique programs and services.
- **9.** Read one position paper of a professional organization or article in a professional journal and write a one-page report about it.
- **10.** Discuss and debate this situation: The Board of Trustees of Midwest College has directed the president to cut programs on campus due to the current financial crisis. The president has decided that physical education and

athletics are expendable because they contribute little to achieving the mission of the college. The president has formed two task forces, one composed of student physical education, exercise science, and sport majors and the faculty in these areas and another of athletic department personnel. Each is charged with justifying why these programs should *not* be eliminated. (The city has offered to buy the existing physical education and athletic facilities, thereby eliminating the financial burden.) Form two groups representing these task forces and prepare responses. The task forces may proceed in any way they choose to collect pertinent data and information to justify the importance of these programs. Each task force should also prepare and present alternative strategies for the president to consider. Each task force will be led by a person responsible for delivering a five-minute defense during class.

SUGGESTED READINGS

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- Corbin, C. B., & McKenzie, T. L. (2008). Physical activity promotion: A responsibility for both K-12 physical education and kinesiology. *Journal of Physical Education, Recreation and Dance*, 79(6), 47. The article reports on the disciplinary content of K-12 physical education and kinesiology, which includes knowledge and expertise in curriculum, methodology, and evaluation.
- Hardin, B. (2005). Physical education teachers' reflections on preparation for inclusion. *Physical Educator*, 62(1), 44. The author reports on the perceptions of physical education teachers regarding their feelings of competence and confidence when teaching students with special needs in inclusive environments.
- Lee A. M., & Solomon, M. A. (2005). Pedagogy research through the years in RQES. *Research Quarterly for Exercise and Sport*, 76, S108, 2005. This article provides an overview of the growth, over the past 75 years, in descriptive to research-based studies on teaching, curriculum, and teacher education. The authors advocate for increased pedagogical research through interdisciplinary projects.

- Lounsbery, M., & Coker, C. (2008). Developing skill-analysis competency in physical education teachers. *Quest*, *60*, 255. The authors call for placing an emphasis on motor skill acquisition in the K-12 physical education curricula and the prerequisite instructional practice of skill analysis needed by physical education teachers.
- Mayhew, J. L., Hill, S. P., Thompson, M. D., Johnson, E. C., & Wheeler, L. (2007). Using absolute and relative muscle endurance to estimate maximal strength in young athletes. *International Journal of Sports Physiology and Performance*, *2*, 305. The authors report that the 7- to 10-repetition max method can accurately estimate strength levels for adjusting loads in a training program for high school athletes, and it is more accurate for predicting 1-repetition max bench press than the 61.4-kg repetition method.
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- Verhagen, E. (2009). The physical therapist's role in physical activity promotion. British Journal of Sports Medicine, 43(2), 99. It is suggested that physical therapists, because of their education and experiences, are ideally positioned to promote the health, physical activity, and well-being of their clients and help motivate sedentary individuals to make appropriate behavioral changes.
- Witt, P.A. (2008). Youth development special issue preliminary observations. *Journal of Park and Recreation Administration*, 26(2), 1. This article introduces the reports in this special issue that emphasize the importance of youth participating in after-school programs and adolescents participating in extracurricular activities.

4

PHILOSOPHY OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

KEY CONCEPTS

- Philosophy is the pursuit of wisdom, knowledge, and truth.
- Idealism, realism, naturalism, pragmatism, and existentialism have influenced the growth of physical education, exercise science, and sport programs.
- Ethics is a branch of philosophy that deals with moral values.
- The practical application of philosophical theories will help you develop a personal philosophy of physical education, exercise science, and sport.
- Philosophy, though often misunderstood and neglected, can provide focus, a communication bond, a clarity of vision and direction, and an opportunity to analyze the present to expand one's horizons for the future.

It is important for each person to think about what is important and valued. When this occurs, their lives will more likely display positive traits, and their actions may indicate that they are law-abiding citizens, loving family members, or athletes who play fair. In order to understand philosophy more easily, it is helpful to think about or reflect on what you believe and why you believe it. Consider the meaning and significance of words such as commitment, honesty, loyalty, respect, and sportsmanship, because these will inevitably influence actions. People's understanding of how to deal with other people, handle challenging situations, and resolve ethical dilemmas will determine how they treat others, react appropriately under difficult circumstances, and reason morally in order to do the right thing. An individual's philosophy, even if never written or stated, is lived out and reflected on a daily basis.

The pursuit of truth, wisdom, and knowledge is as pervasive today as it was during the development of diverse philosophies in the past. This chapter examines the importance of philosophy, focusing on five of the traditional philosophies, with emphasis on how they have influenced physical education, exercise science, and sport. Other philosophies, especially ethics, are discussed because

of their impact on today's programs. Based on the knowledge gained from this study, you are encouraged to develop a personal philosophy of physical education, exercise science, and sport.

WHY STUDY PHILOSOPHY?

Philosophy can be defined as the love, study, or pursuit of wisdom, knowledge, and truth. It includes an exploration of what we know, how we know it, and why it is important that we know it as well as the study of the processes governing thought, conduct, and reality. Philosophy is both the developmental process and the resultant factors, theories, and values. Philosophy is an attempt to understand the meaning of life by analyzing and synthesizing why people believe or act as they do; simply having a purpose and objectives, as discussed in Chapter 1, is not sufficient. You must know what your values are and be able to articulate their importance to others.

What is the worth of physical education to a school child? What is the value of learning a lifetime sport? What constitutes a healthy lifestyle? What is the role of play? These are just a few of the questions that your philosophy can help answer.

Developing a personal philosophy can improve your teaching effectiveness, influence your behavior, provide direction in program development, contribute to society's awareness of the value of physical activity, and encourage a feeling of commonality among co-workers. How, you might ask, could a personal



Through yoga, some individuals seek to enhance their overall physical and mental well-being.

philosophy help accomplish all this? When you determine what goals you want your students or those with whom you work to attain, it will influence what you include in your program and how you proceed. For example, if you value the development of physical fitness, you will emphasize content and activities that can contribute to improving the fitness levels of those with whom you work. Conversely, if you prioritize the development of movement and sport skills, you will focus on instructing and having learners practice these skills. Another example of how a personal philosophy influences what is accomplished would be to consider whether you will emphasize fair play as a coach. If you believe in playing by the rules and living ethically, you can serve as a positive role model for your students, athletes, and co-workers. (See the Research View Developing a Personal Code of Conduct . . . to help you in developing your personal philosophy.)

The discussion of the traditional philosophies that follows will challenge your thinking as you decide what you value and how to formulate your personal philosophy. By articulating what you believe in and what is important, you are laying the foundation for your personal philosophy.

RESEARCH VIEW

Developing a Personal Code of Conduct as a Physical Education, Exercise Science, and Sport Professional

What is the responsibility of the physical education, exercise science, or sport professional to each of the following?

- · Responsibilities relative to moral values
- Professional knowledge and expertise
- Program content relative to standards
- Delivery of instruction and dissemination of information
- Treatment of individuals from various socioeconomic backgrounds, ages, genders, ethnicities, or ability levels
- Utilization of equipment and other resources
- Personal health and well-being

The NASPE Code of Ethics for Professionals in Higher Education available at http://www.aahperd.org/naspe/standards/positionStatements.cfm describes the responsibilities for integrity of practice owed toward students, colleagues, the discipline and profession, and society. This code articulates the competence and

(continued)

professional standards through a series of behaviors expected of faculty through their teaching, research, and service.

A Coach's Code of Conduct developed by NASPE can be found at http://www.aahperd.org/naspe/standards/upload/A-Coach-s-Code-of-Conduct-2009.pdf. This document stresses that coaches must know and demonstrate expertise in coaching competencies, such as safety and injury prevention, physical conditioning, growth and development, teaching and communication, and learning, and sports skills and tactics. This code emphasizes proper conduct of coaches who serve as role models for fair play, integrity, sportsmanship, and professional as well as focus on their athletes' development of skills and fitness in safe environments.

The National Strength and Conditioning Association (www.nsca-lift.org/Publications/posstatements.shtml#CodeofEthics) emphasizes in its code of ethics that fitness professionals should be nondiscriminatory, engage only in sportsmanlike conduct, guard against negligent techniques and practices that would result in injury, and be truthful when stating their education, training, and professional experience.

The Code of Ethics for the American Physical Therapist Association (go to www.apta.org and type Code of Ethics in the Search box) emphasizes maintaining and promoting ethical practice in the best interest of the client. Included among its 11 principles are respecting the rights and dignity of all individuals through the provision of compassionate care, acting in a trustworthy manner, exercising sound professional judgment, maintaining and promoting high standards of practice, seeking only such remuneration as is reasonable, and protecting the public and the profession from unethical, incompetent, and illegal acts.

FIVE TRADITIONAL PHILOSOPHIES

Idealism, realism, naturalism, pragmatism, and existentialism provide the foundation for educational philosophy, including that of physical education, exercise science, and sport. A brief overview of the basic tenets of each philosophy and their application is provided.

Before getting started with a description of the five traditional philosophies, it might be helpful to provide a few examples of how individuals in physical education, exercise science, and sport use these philosophies in their work.

Idealism

- Since reasoning and mental processes are important in understanding truth, a physical therapist uses idealism in working with clients to set realistic goals, persist in their movement experiences, and realize that only by dealing with temporary discomfort can they recover as fully as possible.
- The idealist and the sport psychologist understand that reality is more mental than physical, so helping elite athletes manage the mental side of putting a golf ball or kicking a field goal is vitally important.

Realism

- The exercise physiologist uses the scientific method in investigating the
 effects of performance-enhancing drugs in order to understand the
 positive and negative effects on the body.
- Prior to beginning an exercise program, a personal trainer will assess
 the capabilities of the client and, as would a realist, continues to use
 measurements to determine progress made in achieving personal fitness
 goals.

Naturalism

- Lakes, mountains, and other outdoor settings provide a wealth of opportunities where recreation specialists who believe in naturalism use natural settings as learning laboratories during their leisure hours.
- Physical education teachers agree with the philosophy of naturalism and a readiness to learn as they instruct students in movement activities that are developmentally appropriate.

Pragmatism

- Athletic directors are quite pragmatic in understanding that they
 must generate increased revenues from ticket sales, media packages,
 corporate sponsorships, and private donations in order to adequately
 support their sports teams.
- Directors of recreational facilities realize that participants are practical
 and pragmatic about the use of their leisure time. They seek to enjoy
 pleasurable, convenient activities with friends, such as playing on a
 softball team or using the walking trails.

Existentialism

- While health educators stress the importance of making good nutritious selections of foods and physical educators emphasize engaging in daily physical activities, each individual has the free will to make choices in life with the full realization of the consequences of their choices on their health and well-being.
- While an athletic trainer can inform an athlete about the required rehabilitation program to be completed, athletes must accept the personal responsibility and demonstrate the self-discipline to complete the exercises and adhere faithfully to the rehabilitation program in order to return to competition.

Idealism

Idealism centers on the mind as critical to understanding, since only through reasoning and mental processes can truth emerge. Never-changing ideals, not things, constitute the ultimate reality. Idealists since the Greek philosopher Plato have stressed that only the reflective and intuitive individual can arrive at truth.



The mental side of sports, such as learning from mistakes made in a game, is valued by the idealist.

Ideals, virtues, and truths are universal and external and remain the same regardless of how individual interpretations vary. As people develop and exercise their free will, they make choices through their intellectual powers. These decisions, whether right or wrong, do not alter the values important to the idealist. The development of the total person is the objective of idealism as applied to physical education, exercise science, and sport. The individual is important and should be nurtured through an emphasis on the mind and its thought processes.

Relative to physical education, exercise science, and sport, the idealist expects students, athletes, and others engaged in physical activity to learn how and why any skill or movement is important and how it is executed. The idealist stresses that while there is one correct way to perform an overhead shot in tennis or to putt a golf ball, it is important that the participant understand why this is the proper technique. The teacher or exercise leader will model how to execute a specific movement and, through questions and answers, ensure that the participant conceptualizes how to execute the skill.

Realism

As a revolt against some of the tenets of idealism, the Greek philosopher Aristotle and today's advocates of **realism** state that scientific laws, rather than perceived truths, are in control. The scientific method provides the realist with the process for acquiring and applying truth (i.e., the knowledge that originates in the physical world but emerges through experimentation). Scientific investigation examines the material things of the world when seeking truth.

The role of education, according to the realist, is to train the student to discover and interpret the real things in life (i.e., things that can be shown by the scientific method) to ensure the individual's adjustment in the real world. Since the



Skiers adhere to the philosophy of realism when they recognize that the laws of nature influence how they deal with the demands of varying slopes and conditions.

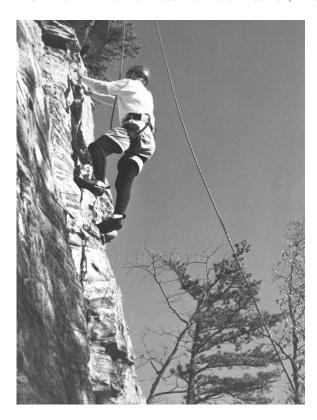
emphasis is on the whole individual, physical activity—including the traditional objectives of psychomotor development, intellectual ability, and social and emotional development—makes a vital contribution.

Relative to physical education, exercise science, and sport, the realist does not assume that physical fitness is developed just because this is a curricular or programmatic focus. Rather, the realist administers fitness tests to verify that an increase in fitness, such as cardiorespiratory endurance or flexibility, has occurred. The realist presents factual information, such as how to execute a forearm pass in volleyball, uses a variety of drills so that all students can progress sequentially in learning how to do this skill, and administers an objective test to assess skill development.

Naturalism

The naturalist believes in things that exist within the physical realm of nature, which is itself the source of value. Since **naturalism** emphasizes the individual over society, education should focus on meeting each student's needs.

Stressing "everything according to nature," the eighteenth-century philosopher Jean-Jacques Rousseau echoed the oldest known philosophy of the Western world (dating back to some pre-Socratic Greek philosophers). Rousseau advocated that education must use the physical world as the classroom and that teachers by example should guide students through inductive reasoning to draw their own conclusions. The laws of nature dictate to the teacher and student



A natural setting provides an excellent learning environment for developing social, intellectual, and physical skills.

the logical pattern of growth, development, and learning. Rousseau encouraged education of the mind and body simultaneously. Physical well-being should then enhance a readiness to learn mental, moral, and social skills.

Relative to physical education, exercise science, and sport, the naturalist prefers to use nature as the teacher, such as learning about preserving the environment while backpacking and learning about marine biology while scuba diving. The naturalist encourages students to explore how to execute a locomotor movement like jumping or to discover through trial and error the most effective technique for catching a ball. Through problem solving, individuals progress at their own rates to learn how to do a forward roll or hit a ball tossed to them. The naturalist in physical education uses the principles of movement education and individualized instruction.

Pragmatism

Pragmatism states that experiences, not ideals, provide the key to seeking truth. Ultimate reality must be experienced and is not absolute. Circumstances and situations constantly vary from person to person; thus, pragmatism is characterized as dynamic and ever changing.

The overall objective of a pragmatic education is the development of social efficiency in students, according to the most famous American pragmatist, John



The pragmatist learns through experiences, such as participating in a personal fitness program.

Dewey. That is, students need to have opportunities to experience solving the problems of life and to learn how to become better functioning members of society.

Relative to physical education, exercise science, and sport, the pragmatist loves to play sports and experience physical activities, especially with others. Pragmatists enjoy developing their social skills through sports and other activities because these interpersonal skills can help them in other situations in life. Selfpacing and self-evaluation activities, such as developing and implementing a personal weight-training program, lead to achieving the pragmatic goal of improved health and fitness.

Existentialism

According to **existentialism**, personal experiences determine reality. Emerging in the 1900s as a reaction against societal conformity, this philosophy subjugated everything to the individual as long as acceptance of responsibility for oneself was recognized. Leaders of existential thought include Jean-Paul Sartre and Karl Jaspers. For the existentialist, reality is composed of human experiences and is determined by the choices made. One's experiences and free choices result in truth and are uniquely personal. No values are imposed by society; instead, each person is free to think and to act as personal desires dictate.

Relative to physical education, exercise science, and sport, the existentialist emphasizes individuality, so the curriculum or program will focus on individual activities. The existentialist allows students to make choices, such as in-line skating, aerobic dance, and self-challenging or adventure activities, so they can enjoy their experiences and will persist in their participation. The existentialist



The existentialist teaches acceptance of individual responsibility, such as self-motivation in designing and implementing a personal fitness program.

gives the individual tremendous self-responsibility for learning, such as through self-paced instruction and contract grading (see Box 4.1 for other comparisons). Box 4.2 provides an opportunity to assess your understanding of each of these philosophies.

BOX 4.1 COMPARISONS OF THE FIVE TRADITIONAL PHILOSOPHIES RELATIVE TO PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

Curriculum or Program Content

- The idealist will select the activities without input from participants.
- The realist will allow participants to select activities from various options.
- The naturalist will offer those activities that participants indicate a readiness to learn.
- The pragmatist will pace each curricular offering based on individual differences.
- The existentialist will focus on each person's progress, regardless of the activity.

Teaching Fitness and Sports Skills

- The idealist and the realist focus on what is taught and how.
- The naturalist advocates learning in and through nature.
- The pragmatist and the existentialist emphasize experiencing a wide variety of activities.

(continued)

BOX 4.1 COMPARISONS OF THE FIVE TRADITIONAL PHILOSOPHIES RELATIVE TO PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT (continued)

Teaching Methodology

- The idealist controls learning through lectures and some interactions with participants.
- The realist maintains control using structured exercises or drills.
- The naturalist encourages problem solving with the teacher as a guide.
- The pragmatist uses a variety of instructional approaches because participants have multiple learning styles.
- The existentialist guides by asking questions and offering challenges.

Evaluation

- The idealist's qualitative assessments that prioritize the mental over the physical.
- The realist emphasizes testing, using scientific means for obtaining quantitative results.
- The naturalist focuses on the attainment of individual goals.
- The pragmatist advocates subjective self-evaluation that, in combination with specific goals, enables participants to feel a sense of accomplishment.
- The existentialist views evaluation as nonessential because only self-realization is important.

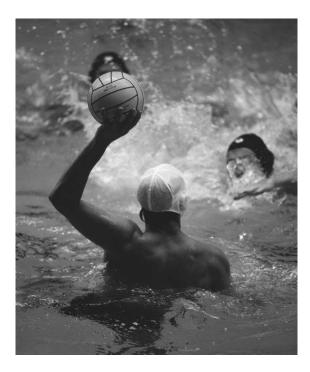
	BOX 4.2 PHILOSOPHY QUIZ
Fill in the	blanks with one of the following: existentialist, idealist, naturalist, pragmatist, or realist.
1.	The advocates that students must indicate their readiness to attempt to learn a cartwheel.
2.	The models or provides demonstrations of exactly how to serve a volleyball.
3.	The encourages students to use their reasoning powers to decide how to align defensive players to stop an opposing team that fast breaks.
4.	Since a curriculum based on this philosophy focuses on the individual, the focuses on teaching acceptance of self-responsibility.
5.	The emphasizes learning team sports in which social skills are developed.
6.	A physical education and sport researcher is sometimes called a/an because she or he utilizes the scientific method of inquiry.
7.	To the free choices determine reality and truth, such as in setting up an exercise program she or he prefers.
8.	The advocates that reality is more mental than physical, such as perfecting shooting technique for free throws through mental practice.
9.	Since to the experience, especially as a member of a group, is critical for learning, students are encouraged to experiment with their own techniques in executing bodily movements.
10.	The uses natural settings as learning laboratories during leisure hours.

ETHICS

Ethics is the study of moral values or the doing of good toward others or oneself. It is also the study of the principles of human duty and the study of all moral qualities that distinguish an individual relative to others. Morals pertains to an individual's motives, intentions, and actions as being right or wrong, virtuous or vicious, or good or bad, while values are anything having relative worth. Principles are the universal rules of conduct that identify what kinds of actions, intentions, and motives are valued. Moral values are the relative worth that is placed on virtuous behaviors. Examples of moral values include justice, honesty, responsibility, and beneficence.

Moral reasoning is the systematic process of evaluating personal values and developing a consistent and an impartial set of moral principles by which to live. The moral reasoning process consists of three steps used to determine the right thing to do in a particular situation. The first step is moral knowing, which is the cognitive phase of learning about moral issues and how to resolve them. The second step is moral valuing, as people decide the basis of what they believe about themselves, society, and others. The third step is moral acting, which is the critical final step of behaving based on what is known and valued.

Ethical theories have been posited to try to understand how individuals resolve ethical questions. **Teleological** theories focus on the end results or consequences of processes or actions. The most prominent of teleological theories is **Utilitarianism**, as advanced by John Stuart Mill. Utilitarianism advocates that decisions should be made based on the greatest good to the greatest number. For example, if a teacher is pressured to give an athlete a passing grade, even



Ethical dilemmas are often associated with whether behaviors are within the spirit of the rules.

BOX 4.3 MORAL IMPERATIVES IN SPORT

- Fair play means playing within the letter and spirit of the rules.
- Seeking to win within the letter and spirit of the rules is acceptable, while winning "at all costs" is unacceptable.
- An opponent should be treated with respect and exactly as everyone would wish to be treated
- Games are to be played as mutual quests for excellence where intimidation is inappropriate.
- Retribution for a violent or unfair action by an opponent or an official is never acceptable.

when it was unearned, so the athlete can maintain his eligibility to compete, it might be argued that this benefits the team, school, and community more than it disadvantages other students who were not given passing grades without earning them. Since the benefit of the group or society as a whole is the goal for the utilitarian, actions are judged to ensure that the good outcomes outweigh the bad. The utilitarian, however, lacks concern for how the results are produced and may have difficulty determining what society values most.

Immanuel Kant helped formulate the theory of moral obligation or duty known as **deontology.** According to this ethical theory, people have the duty to conform to absolute rules of moral behavior, which are characterized by universality and respect for the individual. Since **Kantian or non-consequential** theories state that actions must conform to absolute rules of moral behavior, there is an inherent rightness, or a **categorical imperative**, apart from all consequences. For example, if the soccer player who last touched the ball that went out-of-bounds conforms to the absolute rules of moral behavior, this player will admit knocking the ball out. Kant's categorical imperative states that moral duties are prescriptive and independent of consequences. Box 4.3 provides examples of how this moral imperative applies to sports.

In applying the moral reasoning process and possibly using one of these ethical theories, answer the questions associated with each situation.

- A high school defensive tackle sharpens the edges of the fasteners that hold his chin straps to his helmet. After he plays a few downs, several of the opposing players have been cut and are bleeding. Is this action ethical? Is suspending this player from the team and school ethical?
- An elementary school student in a physical education class records that she walked one mile each day to help her team win the special field trip to the zoo, even though she did not do all of this exercise. Is this action ethical? Is suspending this student from school ethical?
- An athletic trainer gives a track athlete amphetamines to help boost his energy level. Is this action ethical? Is this athletic trainer violating the National Athletic Trainers' Association Code of Ethics (see Box 4.5 on page 119)?

- A high school athlete cheats on a test to maintain his or her eligibility to play on a school team. Is this action ethical? Does it make any difference if other students (nonathletes) in the class cheated on the same test?
- An exercise scientist inaccurately reports data from a research study in an article published in a journal. Is this action ethical? What action, if any, should be taken?

These scenarios deal with making moral decisions—that is, what is good or bad, right or wrong—and principles of conduct. From the time of the ancient Greeks until today, educators have been held responsible for the nurturance and enhancement of ethical behavior. Character development, for example, has traditionally been a vital concern of professionals. Drawing from the fields of religion, philosophy, and psychology, moral values serve as the foundation of a way of life: People are expected to conduct themselves in accordance with certain principles of conduct.

How to teach ethical standards most effectively has been a dilemma for a long time. Since fair play is not an inherent characteristic of physical activities, why and how does it occur? When play, games, sports, and other physical pursuits are engaged in for their inherent pleasure, ethical problems seldom emerge. When the outcome becomes so highly significant that some or all participants employ whatever means possible to achieve success, questionable behavior is readily evident, to the detriment of values. A person's moral values do not preclude seeking to perform to the best of his or her ability. But doing so at the risk of impinging on what is good, one's obligation to others, or principles of proper conduct violates these values.



Sport participants often face ethical choices such as whether to acknowledge touching the net during a volleyball match.

The consequences of bad ethical decisions may seem minimal or limited in impact only to the person making the choice. Too often, though, significant negative repercussions occur when individuals fail to act in morally responsible ways. A few examples in physical education, exercise, and sport settings illustrate how unethical behaviors can have harmful consequences:

- A sport manager at an intercollegiate sporting event ignores the rowdy and obscene behaviors of an intoxicated fan until a fight breaks out in the stands, leaving several individuals hospitalized, including a child who loses an eye from a thrown object and a man who appears to have had a heart attack.
- An exercise scientist prescribes an exercise program not permitted by the client's physician, resulting in the death of the client.
- A volleyball coach emphasizes to his players that winning while looking feminine is most important. To meet weight requirements, one of his volleyball athletes severely curtails her food intake and develops an eating disorder.
- A physical educator allows her students to tease and harass other students who are less skillful. A lawsuit is filed by the parent of one of the chidren who has special needs and has been mistreated repeatedly.
- An individual alleges that he has a Health Fitness Instructor Certification
 from the American College of Sports Medicine in order to get hired by
 a local fitness club, even though this claim is untrue. Several patrons of
 the club drop their membership due to injuries sustained in programs
 led by this unqualified person.

As these incidents show, unethical actions can have serious and long-lasting consequences for others.

Can ethical decision making be taught and modeled by physical educators, exercise scientists, and sport leaders? Professionals have the duty to teach and to uphold moral and ethical principles that are basic to society. Among these principles are sensitivity to individual needs and differences, responsibility for personal conduct, concern for others, and devotion to honesty, integrity, and fair play. Teachers and leaders in all settings should exemplify ethical behavior and treat everyone fairly so that others are positively influenced. Professionals must constantly be aware that their actions will teach character more loudly than their statements.

The 25 questions in Box 4.4 challenge you to make ethical choices. These can be discussed in class or with others. Each question could lead to several alternative responses, or you may believe there is only one response. Your answer is a direct reflection of the ethical values that are uniquely yours. You should also realize that your attitudes toward and reactions to these and similar situations will influence those with whom you work in a physical education, exercise science, or sport career. Box 4.5 illustrates how the National Athletic Trainers' Association emphasizes the importance of ethical conduct through its code of professional practices.

BOX 4.4 ETHICAL CHOICES IN SPORTS

- **1.** Should children be cut when trying out for a youth sports team?
- 2. Should every child play in every contest in youth sports programs?
- 3. Should every child get an opportunity to play all positions in youth sports programs?
- **4.** Should sports competitions be open to individuals of both sexes playing together?
- 5. Should extrinsic awards (such as trophies, plaques, or money) be given to sports champions?
- 6. Should a coach have the right to require that an athlete (at any age) compete in only one sport (i.e., specialize)?
- 7. Should an athlete be required to pass all school subjects in order to play on an interscholastic team?
- 8. Should males and females receive identical treatment in school and college sports?
- 9. Should an athlete ever be allowed or required to play when injured?
- **10.** Should a coach ever have the right to verbally or physically abuse an athlete?
- 11. Should athletes be allowed to be friend their opponents before or after a competition?
- **12.** Should a coach be allowed to verbally abuse officials?
- **13.** Should an athlete be allowed to use drugs (such as amphetamines or anabolic steroids) to enhance performance?
- **14.** Should a coach teach athletes how to circumvent sports rules to their advantage?
- **15.** Should high school or college alumni or donors be allowed to influence the hiring and firing of coaches?
- **16.** Should alumni be allowed to give money or tangible gifts to prospective college athletes during their recruitment?
- 17. Should college coaches who violate recruiting regulations be banned from coaching?
- **18.** Should colleges be allowed to generate millions of dollars of revenues from their football and basketball programs, while the athletes who help generate these revenues are limited to receiving only grants-in-aid?
- **19.** Should fans be protected from the misbehavior of other fans?
- 20. Should all college students be required to pay fees to finance athletic teams for the highly skilled?
- **21.** Should a television network be allowed to dictate the date and time of a college or professional competition?
- **22.** Should fans have to pay to view major sporting events on television?
- **23.** Should strikes (refusal to compete) for more benefits or rights by professional athletes be allowed?
- **24.** Should sports gambling be legalized?
- **25.** Should athletes be punished for breaking team rules or federal or state laws during the season?

BOX 4.5 NATA CODE OF ETHICS

PREAMBLE

The National Athletic Trainers' Association Code of Ethics states the principles of ethical behavior that should be followed in the practice of athletic training. It is intended to establish and maintain high standards and professionalism for the athletic training profession.

The principles do not cover every situation encountered by the practicing athletic trainer, but are representative of the spirit with which athletic trainers should make decisions. The principles are written generally; the circumstances of a situation will determine the interpretation and application of a given principle and of the Code as a whole. When a conflict exists between the Code and the law, the law prevails.

PRINCIPLE 1:

Members shall respect the rights, welfare and dignity of all.

- **1.1** Members shall not discriminate against any legally protected class.
- **1.2** Members shall be committed to providing competent care.
- 1.3 Members shall preserve the confidentiality of privileged information and shall not release such information to a third party not involved in the patient's care without a release unless required by law.

PRINCIPLE 2:

Members shall comply with the laws and regulations governing the practice of athletic training.

- **2.1** Members shall comply with applicable local, state, and federal laws and institutional guidelines.
- **2.2** Members shall be familiar with and abide by all National Athletic Trainers' Association standards, rules and regulations.
- 2.3 Members shall report illegal or unethical practices related to athletic training to the appropriate person or authority.
- 2.4 Members shall avoid substance abuse and, when necessary, seek rehabilitation for chemical dependency.

PRINCIPLE 3:

Members shall maintain and promote high standards in their provision of services.

- **3.1** Members shall not misrepresent, either directly or indirectly, their skills, training, professional credentials, identity or services.
- 3.2 Members shall provide only those services for which they are qualified through education or experience and which are allowed by their practice acts and other pertinent regulation.
- **3.3** Members shall provide services, make referrals, and seek compensation only for those services that are necessary.
- **3.4** Members shall recognize the need for continuing education and participate in educational activities that enhance their skills and knowledge.

(continued)

BOX 4.5 NATA CODE OF ETHICS (continued)

- **3.5** Members shall educate those whom they supervise in the practice of athletic training about the Code of Ethics and stress the importance of adherence.
- **3.6** Members who are researchers or educators should maintain and promote ethical conduct in research and educational activities.

PRINCIPLE 4:

Members shall not engage in conduct that could be construed as a conflict of interest or that reflects negatively on the profession.

- **4.1** Members should conduct themselves personally and professionally in a manner that does not compromise their professional responsibilities or the practice of athletic training.
- 4.2 National Athletic Trainers' Association current or past volunteer leaders shall not use the NATA logo in the endorsement of products or services or exploit their affiliation with the NATA in a manner that reflects badly upon the profession.
- **4.3** Members shall not place financial gain above the patient's welfare and shall not participate in any arrangement that exploits the patient.
- 4.4 Members shall not, through direct or indirect means, use information obtained in the course of the practice of athletic training to try to influence the score or outcome of an athletic event, or attempt to induce financial gain through gambling.

DEVELOPING A PERSONAL PHILOSOPHY OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

Everyone who plans a career in physical education, exercise science, and sport needs to develop a personal philosophy as a guide to future actions. For example, if fair play is essential to your philosophy, you will stress this in your own behavior, your instruction of others, and the programs you lead. The development of a personal philosophy causes you to think logically and analytically and to explain the worth and value of what you do and how you serve others. This developmental process will enhance your professional growth. Too frequently, professionals fail to develop definite personal philosophies, resulting in a loss of career direction and purpose. Therefore, it is important that you formulate principles, guidelines, and directions for your career. If you do not know where you are going, it is unlikely you will end up where you want to be (wherever that is!). Box 4.6 provides some tips for what should be included in a personal philosophy.

Many educators and philosophers have adopted an eclectic approach rather than accepting all aspects of one particular philosophy. **Eclecticism** is a combination of theories and doctrines from several philosophies into a consistent and compatible set of beliefs. For example, you may believe that the teacher should model correct skill performance as the idealist would, yet encourage

BOX 4.6 TIPS FOR WRITING A PERSONAL PHILOSOPHY

- Discuss your personal values (i.e., those qualities or characteristics that describe who you are, what you believe in, and what you do)
- Explain a specific example of how your values have resulted in principle-based decisions that are reflective of your personal philosophy of life
- Describe your professional goals and aspirations
- Identify a current activity that illustrates how you are working toward the accomplishment
 of your goals in a way congruent with your values
- Give an illustration of how your values will interface with the type of professional actions
 you believe are important in your chosen career



WEB CONNECTIONS

- www.educ.uidaho.edu/center_for_ethics/
 This site of the Center for ETHICS at the University of Idaho describes
 some of the leading research being conducted in the area of sport
 ethics.
- www.sportsmanship.org/
 The Citizenship through Sports Alliance is a coalition of professional and amateur athletic organizations that promote fair play at all levels of sport and the development of character.
- 3. www.internationalsport.com/csp/
 The Center for Sports Parenting provides guidance and information to parents, coaches, and others to help them work with young athletes as they deal with the psychological and physical challenges in sports.
- 4. www.positivecoach.org/ By helping organization leaders, coaches, and parents ensure a positive playing environment, the Positive Coaching Alliance advocates for the development of life skills by young athletes that will serve them well beyond the playing field.
- 5. www.championsofcharacter.org/ The National Association of Intercollegiate Athletics' Champions of Character program is designed to instill an understanding of the values of respect, responsibility, integrity, servant leadership, and sportsmanship in sport. This site provides practical tools for student-athletes, coaches, and parents to use in modeling exemplary character traits.

(continued)

6. www.charactercounts.org/

CHARACTER COUNTS! has been used by schools, communities, and non-profit organizations to teach the six pillars of character—trustworthiness, respect, responsibility, fairness, caring, and citizenship. This site provides a wealth of information about materials and services used to support this program.

7. www.cces.ca

The Canadian Centre for Ethics in Sport promotes fair and ethical sport to athletes, coaches, sport organizations, governments, and the general public.

problem solving as the pragmatist and naturalist advocate. You may design your program to focus on individualized learning (naturalism) that allows for individuality (existentialism), yet also emphasizes developing social skills valued by pragmatists. You may choose to evaluate your students using subjective (idealist) and quantitative (realist) measures. Based on your experiences and established values, an eclectic philosophy may emerge as the foundation for your personal philosophy. Again, the key is to realize the importance of examining what you believe, why you believe it, and what your values mean (see Box 4.7, "Sample of a Teaching Philosophy"). Another example of a personal philosophy illustrates how a personal trainer lives out professional values (see Box 4.8).

Before developing your personal philosophy (and to show how your attitudes, beliefs, and values influence your moral reasoning process), read the following situations and give your responses. A composite of your opinions should help you better understand your values and how they provide the foundation for your personal philosophy.

BOX 4.7 SAMPLE OF A TEACHING PHILOSOPHY

Student learning is my primary focus. My goal in this student-centered approach is to facilitate a creative and engaging journey with students to attain a deeper understanding and application of course content. Four questions guide my preparation for and leadership in this quest. First, what do my students know? Second, what do my students want to know? Third, what can I do to help my students attain their goals? Fourth, how can I facilitate the learning process?

What do my students know? Given the inevitable heterogeneity of students, it is challenging, but important, to determine what knowledge, skills, and attitudes students bring to my classes.

(continued)

BOX 4.7 SAMPLE OF A TEACHING PHILOSOPHY (continued)

By engaging every student in class discussions, I seek to establish a comfortable climate for the intellectual exchange of a diversity of ideas and perspectives. I am dedicated to helping students connect course content to their existing knowledge and personal experiences as they construct and apply new knowledge. Throughout each of my classes, I ask introductory, content specific, application-based, and review questions to challenge students to think critically and to use what they are learning in addressing real world issues.

What do my students want to know? It is important to understand what motivates my students. If students perceive that information presented and discussed is relevant in their lives, they are more eager to learn. If they are more actively engaged, they will learn more and enjoy the experience of learning. Maybe most significantly, students want a caring and competent teacher who respects and trusts them and helps them along their educational journey. Demonstrating that I care and am competent in helping students achieve their individual goals is a welcome challenge and integral to my commitment to teaching and learning.

What can I do to help my students attain their goals? I teach to help students gain knowledge and learn applications as I encourage them to ask questions to stimulate their interest and engagement. Each class is organized to ensure clear, sequential presentations, using a variety of instructional strategies and approaches. I encourage dialogue in whole-class and small-group formats to facilitate critical thinking by involving every student. I challenge students to think critically, reflect on what they are learning and how it is relevant to them, and collaborate with each other in the learning process.

How can I facilitate the learning process? In every class I demonstrate my personal enthusiasm for the content, thereby helping students realize the importance of, excitement for, and continual nature of learning. By engaging students through questions, one-on-one and group interactions, instructional technology resources, and practical application scenarios, my goal is to guide students in appreciating the diversity of knowledge and experiences that the multiple perspectives of their classmates can bring. Since repetition helps facilitate learning, I use a variety of assessments, such as quizzes, review questions, reports, and group projects, to ensure that students are monitoring their learning and demonstrating that they are progressing in the achievement of learning outcomes. Feedback from students enables me to reflect upon and continually improve my instructional approaches as well as to help ensure the relevancy, meaningfulness, and application of their learning.

My teaching is enriched by my personal commitment to lifelong learning. I am dedicated to and excited by the opportunity to expand my knowledge and expertise through the numerous books, research articles, and other professional works that I read and utilize to ensure that course content is current, engaging, and relevant.

Teaching, to me, is an ethical profession, so I seek always to model integrity and civility in class sessions, one-on-one interactions, and informal conversations as I model moral values, such as respect for and fairness toward everyone. I have an awesome responsibility and opportunity to impact lives and play a small role in shaping the future. I try to organize and manage the best possible learning environments and foster student-centered class cultures. I believe students respond positively to high standards and learn optimally through intellectually challenging experiences, so these characterize my classes. As a lifelong learner, I want students to see the importance of reflection and have a willingness to consider perspectives that challenge prior thinking. I care deeply about helping my students learn as I am handsomely rewarded by seeing them achieve their goals.

BOX 4.8 SAMPLE PHILSOPHY OF A PERSONAL TRAINER

I believe that every person should have the knowledge and skills to lead a healthy life. As a personal trainer, this belief is founded upon the values instilled in me by my parents, coaches, teachers, and other significant individuals in my life. These values are integrity, based on being honest in all my interactions with others; respect for the importance and uniqueness of each individual; equity in treating each person fairly, kindly, and with compassion; and responsibility in fulfilling all duties assigned and commitments made.

My values shape who I am and how I act, which can be verified by the network of friends I developed throughout my years in college. I earned a reputation of being a good sport while playing on intramural teams as well as a good team member while contributing quality work on group projects. Although others have encouraged me to lie or cheat in games and classes, I have demonstrated my integrity by being true to my values.

My short-term goal is to become certified and work in a fitness club as a personal trainer. After working for a few years and completing a master's degree in business administration, I plan to pursue my long-term goal of establishing and operating a personal training company that provides personal training to professional football players. As a personal trainer, I am dedicated to helping each of my clients learn how to exercise regularly, eat nutritious foods, and practice healthy behaviors. The specific strategies that I will use to achieve these goals include the following:

- Individualized instruction in exercise programs—Teach and guide through fundamental and advanced techniques and activities for the development of cardiorespiratory endurance, muscular strength and endurance, and flexibility
- Nutritional counseling—Guide clients in the selection, preparation, and consumption
 of nutritious foods that will lead to the maintenance of good health
- Motivation and positive reinforcement—Help clients develop an intrinsic motivation to
 enjoy healthy behaviors by providing positive comments about their effort, commitment,
 responsible actions, and persistence, as well as their progress in achieving nutritional and
 fitness goals
- Safety—Ensure that clients complete each exercise, activity, and lifestyle change in a safe environment with appropriate supervision
- Specificity of training—Direct prescribed exercises and programs in congruence with personal goals, physical limitations, and physicians' directions
- Injury or disease rehabilitation—Assist clients in regaining levels of mobility and fitness commensurate with individual circumstances and within guidelines provided by physicians
- Education—Provide information and resources to help clients incorporate healthy behaviors into all aspects of their lives

To illustrate my commitment to these strategies, I am currently working as a student personal trainer for other students at the Recreation Center on campus. I have received exemplary evaluations from my supervisor because I have demonstrated my values in the way I work with clients. I am planning to complete the internship for my sport management major in a nationally-franchised fitness club and continue to live by these values.

I am confident that my values of integrity, respect, fairness, and responsibility will serve me well as a personal trainer. These are important in maintaining positive personal trainer—client relationships; they will be essential in gaining and retaining the confidence of professional athletes, whose careers and success depend on the physical training and overall well-being that I can help ensure.

For each of the following situations, what action would you take, if any, to address the ethical dilemma?

The Situation	Questions	Possible Responses	Morally Right Actions
1. During a basketball game, two players attempt to control a loose ball, but it goes out of bounds. An official awards the ball to your team.	A. Why (or why not) would you tell the official you were the last player to touch the ball?	A-1 Everyone knows it is the official's, not a player's, responsibility to make the call. A-2 If your team gains an advantage, great.	A-1 A player honestly acknowledges knock- ing the ball out of bounds. A-2 Gaining an advan- tage because of an official's error is unfair.
	B. Why (or why not) would you change your answer if this was a game without officials?	B-1 Yes, a player should admit knocking the ball out-of-bounds so the game can keep going.	B-1 A player should be honest and acknowl- edge knocking the ball out of bounds.
2. Sporting goods companies offer you gifts, such as free golf clubs or clothing items, if you make sure that the high school purchases team equipment or uniforms from these companies.	A. Why (or why not) should you accept these personal gifts?	A-1 These are perks that coaches deserve, especially since most coaches are paid so little compared to the time they dedicate to their teams. A-2 Every coach gets gifts like these, so it must be okay.	A-1 Because of the real or perceived conflict of interest (i.e., you make purchase decisions because of the gifts you receive), you are honor-bound not to accept these gifts.
3. As an employee in a corporate fitness center, you learn that other employees are claiming mythical expenses in order to pay for golf greens fees and tickets to sporting events.	A. Why (or why not) should you report the actions of other employees?	A-1 Since everyone is doing it, it is acceptable for you to do this as well. A-2 Since salaries are so low, these extra benefits are justified in keeping employees happy. A-3 Nobody is really being hurt, since the company is doing well financially.	A-1 The actions of these employees should be reported because they are being dishonest. A-1 Falsifying one's expense account is lying and shows a lack of integrity.
4. As an exercise physiology graduate student, you believe that your advisor is making up data that show the results he was seeking, rather than reporting what he actually found during the experiment.	A. Why (or why not) should you talk with your advisor about your concerns?	A-1 Because this study will help your advisor get promoted and earn a higher salary, you should keep quiet. A-1 As a student, you should not question the actions of your advisor. A-1 It is okay because nobody is really being harmed.	A-1 Difficult though it may be, you are morally obligated to talk with your advisor to clarify what is actually occurring and to prevent its continuation if there has been intentional deception.
5. You, as a sportswriter for a local newspaper, have obtained factual evidence that an outstanding 14-year-old basketball player just transferred to a public magnet (specialized) school and was induced by financial benefits to transfer.	A. Why (or why not) do you write this story?	A-1 High school players receive financial benefits all the time, so this is no big deal. A-1 Since nobody else seems to know this and this player can potentially help a local school win a state championship, more good is accomplished by keeping this story quiet.	A-1 If payments to high school athletes are not permitted by state regulations, the morally right action is to draw attention to this violation of the rules so that the school does not receive an unfair advantage.

6. A defensive back is beaten by the opposing wide receiver, resulting in a big play for the offense. On a subsequent play, the defensive back "takes out" his opponent with vicious blind side hit to the knees, even though he is not involved with action near the ball.

7. In his first at-bat after his grand-slam home run, Mike is prepared for a brush-back pitch. He is not ready for the inside fast ball aimed straight at his head. He attempts to bail out of the batter's box but is hit by a pitch on the arm. A brawl breaks out between the two teams after the pitcher and batter trade punches.

8. Your high school girls' basketball team will play in the state championship game the next day. Everyone in the school and small town is excited. Unfortunately, you just realized that Jody, your 24-points-per-game star, is 20-years old and has been all season, thus making her ineligible for high school sports.

A. Why (or why not) is this hit ethical?

A. Why is the brushback pitch seemingly an acceptable form of gamesmanship in baseball? A-1 It is an acceptable tackle because a defensive back's job is to intimidate the opposing wide receiver to make him tentative and less likely to catch a pass.
A-1 As long as a play is not penalized by the official, it is permissible to hit an opponent in any way to gain an advantage.

A-1 The culture of baseball accepts a brush-back pitch to prevent batters from crowding the plate and gaining an advantage over pitchers. A-1 Since the objective is to win, but not "at any cost," hits with the intention of causing injury are irresponsible, disrespectful, and unfair.

A-1 The purpose of baseball is to play within the rules, which do not include throwing at a batter.

B. Why are teammates expected to join in the fray?

A. Will you report this rule violation or decide to keep quiet and play the game?

B-1 The culture of baseball expects teammates to "stand up" for each other.

A-1 The greatest amount of good for Jody, the team, school, and town is to keep quiet, since nobody will ever find out.
A-2 It is right to play Jody, because this increases the possibility that she will earn a scholarship to play basketball in college.

B-1 Fighting in baseball is a violation of the rules.

A-1 The morally right thing to do is to immediately report the rule violation to the high school athletic association, the school principal, and the athletic director. A-2 The coach should explain to the team that even though the mistake was not made intentionally, the team gained an unfair advantage all season, so all games must be forfeited. This disqualifies the team from playing in the championship game.

SUMMARY

As you progress in your education and enter your career, your philosophy will change or evolve. You may borrow concepts from idealism, realism, naturalism, pragmatism, or existentialism, or you may adopt an eclectic approach. You will face ethical decisions often. Regardless of the values chosen, having a philosophy is essential. It is your personal commitment to what you want to do and become. You can use your philosophy to help you think critically, to examine yourself, to resolve personal and professional issues, and to better understand your career.

CAREER PERSPECTIVE



SHARON KAY STOLL, PH.D.

Director, Center for ETHICS* University of Idaho Moscow, Idaho

EDUCATION

B.S. Ed., Physical Education, College of the Ozarks M.Ed., Physical Education, Kent State University Ph.D., History and Philosophy of Sport, Kent State University

JOB RESPONSIBILITIES AND HOURS

Sharon directs the Center for ETHICS* at the University of Idaho, which offers study, intervention, outreach, consultation, and leadership in developing and advancing the theory, knowledge, and understanding of character education, including moral and ethical reasoning, development, and application. She teaches undergraduate and graduate classes in sport philosophy and sport ethics, and advises master's and doctoral students in sport ethics study. At the center, professionals model ethical conduct; perform global research on competitive ethics, moral reasoning, and character development; develop and provide teaching methodologies and curricula supporting the practical application of moral reasoning in competitive communities; sponsor conferences through which participants utilize practical application of moral reasoning to confront problematic ethical reasoning and action; provide professional training programs to help decision makers navigate current ethical issues or trends; nurture a commitment to ethics, moral reasoning, and character development within competitive communities; and serve academic, professional, and public agencies in developing competitive moral excellence.

SPECIALIZED COURSE WORK, DEGREES, AND WORK EXPERIENCE NEEDED FOR THIS CAREER

An advanced degree in pedagogy and sport ethics is necessary for this career, as well as the good fortune to work in such an environment.

SATISFYING ASPECTS

Sharon believes that she has the greatest job in the world. She works with young, intelligent people every day. She travels around the world helping others meet their needs, and teaching ethics and moral reasoning. Her teaching, research, and service focus on moral reasoning. She is currently working or has worked with the United States Military Academy, United States Naval Academy, United States Air Force Academy, Atlanta Braves, all levels of football teams from university level to high school, the American Bar Association, NCAA, and Washington State University College of Veterinary Medicine, as well as numerous colleges, high schools, and communities that aim to teach some aspect of ethics through their competitive programs. Her work includes assistance provided to 55 national and international high schools through the Winning with Character foundation.

JOB POTENTIAL

Jobs in this field are available but not abundant. There is an emerging career in professional sport and Division I sport called the character coach. Most organizations have ethics as a required element, but most need help in teaching their own ethical perspectives. There is also the need for good sports ethics teachers and professors. During your graduate work, make sure you are employable and take classes in many different fields, such as sport psychology and exercise physiology.

SUGGESTIONS FOR STUDENTS

First and most important, know yourself. What does it mean to be ethical? Take classes in ethics with physical education professors and undertake further study of ethics and moral development at your university. This field demands your ability to be an active and consummate reader. Reading is a varied from theoretical works to current, common media writings. After graduation, attend an institution that offers an advanced degree in sport ethics or sport philosophy. Make contacts with individuals who work in the field of sport ethics and develop a research profile that will support employment with agencies and businesses.

KEY POINTS FOR CHAPTER 4

Philosophy The study of wisdom and knowledge.

Code of conduct Professionals are guided by a code of ethical behavior in

their careers.

Idealism Using the mind and reasoning to understand what is true.

Realism Seeking the truth through scientific investigation.

Naturalism Nature, or everything according to nature, is the source

of truth.

Pragmatism Since truth is dynamic and changing, truth must be

experienced as each person becomes a better-functioning

member of society.

Existentialism Personal experiences along with personal responsibility

determine truth.

Ethics The study of moral values and doing good toward others

and oneself.

Moral reasoning

process

Evaluating personal values and determining a personal

set of moral principles by which to live; includes moral

knowing, valuing, and acting.

Utilitarianism theory Greatest good for the greatest number is what is right.

Non-consequential

theory

Absolute rules should govern human behavior.

Moral imperatives

in sport

Fair play, playing by the spirit of the rules, and treating others with respect, while avoiding intimidation and

violent actions.

Eclecticism Borrowing from various philosophies in developing a

personal philosophy.

REVIEW QUESTIONS

- 1. What does philosophy mean?
- 2. How do idealists and realists seek truth?
- 3. Which philosophy focuses on self-realization for each student?
- 4. How would a naturalist, pragmatist, and existentialist emphasize attaining individual goals?
- 5. How can a physical educator, exercise scientist, or sport leader teach ethics?
- **6.** Why is having a personal philosophy of physical education, exercise science, and sport important?
- 7. What is an eclectic philosophy?

STUDENT ACTIVITIES

- 1. Select one of the five traditional philosophies discussed in this chapter and write a two-page paper explaining how it applies to your experiences as a student.
- 2. Divide the class into five groups, with each group adopting one of the five traditional philosophies. Each group is to prepare and present a five-minute defense, based on their assigned philosophy, of the inclusion of required daily physical education classes in schools.
- 3. Respond to each of the 8 situations listed on pages 125–126 and be prepared to discuss them in class. Be ready to justify your opinions.
- **4.** Write your personal philosophy of physical education, exercise science, or sport.
- **5.** Ask a person in a physical education, exercise science, or sport career to explain to you his or her personal philosophy.

SUGGESTED READINGS

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- information about sportsmanship in youth sports, the authors discuss two sport initiatives from Australia and the United States to suggest how to provide a better sporting environment.
- Guide for Professional Conduct. (2006). *Physical Therapy*, 86(1), 153. The Guide for Professional Conduct helps professionals interpret the Code of Ethics of the American Physical Therapy Association. It also assists the professional development of physical therapy students, by stating, for example, that physical therapists shall recognize, respect, and respond to individual and cultural differences with compassion and sensitivity and protect the confidentiality of all clients.
- Kihl, L. (2007). Moral codes, moral tensions and hiding behind the rules: A snapshot of athletic administrators' practical morality. *Sport Management Review*, *10*, 279. Through interviews with 10 compliance officers in institutions in a large athletic conference, the author suggests that some of these sport administrators "hide behind the rules" to shield themselves from the moral responsibility of making morally reasoned decisions. The author suggests that sport management students should be educated to enhance their abilities to deal with the moral challenges they will inevitably face.
- Lumpkin, A. (2008). Teachers as role models teaching character and moral virtues. *Journal of Physical Education, Recreation and Dance*, 79(2), 45. The author emphasizes the importance of teachers modeling integrity, honesty, fairness, trust, respect, and responsibility and helping students learn how to reason morally and live lives of character based on moral virtues.
- Lumpkin, A. (2008). Teaching values through youth and adolescent sports. *Strategies*, 21(4), 19. The author addresses several ethical issues in youth and adolescent sports and how to resolve them so that sports can have more positive effects on young athletes.
- Nash, C. S., Sproule, J., & Horton, P. (2008). Sport coaches' perceived role frames and philosophies. *International Journal of Sports Science and Coaching, 3*, 538. Based on interviews with coaches at various stages of their careers, the authors report that as coaches gain both knowledge and experience their ability to articulate, contextualize, and act congruently with a coherent philosophy is enhanced. As a result, they are better able to meet the needs of their athletes.
- Nlandu, T. (2008). Play until the whistle blows: Sportsmanship as the outcome of thirdness. *Journal of the Philosophy of Sport*, 35(1), 73. The author claims that the enforcement of sportsmanship has been conferred too heavily upon officials. He argues that sportsmanship should be more the responsibility of sport educators and sport participants.
- Wells, M. S., Ellis, G. D., Paisley, K. P., & Arthur-Banning, S. G. (2005). Development and evaluation of a program to promote sportsmanship in youth sports. *Journal of Park and Recreation Administration*, *23*(1), 1. The Play Hard, Play Fair, Play Fun youth basketball program focuses on promoting sportsmanship, which is critical to participants having fun and continuing to participate in sport.

CHAPTER

5

SELECTING A CAREER

KEY CONCEPTS

- Self-assessment inventories help identify individual characteristics and desired lifestyles that influence career choices.
- Numerous settings foster the teaching-learning process but differ in clientele, work hours, and related responsibilities.
- Programs for the development of fitness offer careers for those interested in helping others incorporate healthful habits and practices into their lives.
- Schools, colleges, nonschool agencies, and professional leagues expect coaches, administrators, trainers, officials, and other personnel to direct and provide quality athletic programs.
- Many schools and public and private organizations need individuals with sport management knowledge to direct their programs.
- Sport marketing has grown to be a multimillion-dollar business as it capitalizes on the nation's enthusiasm for fitness, sports, and leisure activities.

Career choices today involve more complex decisions than ever before because of the obsolescence of some jobs, the burgeoning technology, the demographic shifts in population, and economic necessity. People seldom continue in their initial career choices; they change jobs several times during their working years.

The preceding chapters described the broad spectrum of physical education, exercise science, and sport, laying the foundation for the career options presented in this chapter. You should now be prepared to assess objectively your future career. This assessment is not a one-time event but an ongoing process. Your initial career choice is not necessarily a lifetime commitment, because it often may be reevaluated. As you read this chapter and assess your interests, abilities, and goals, remember that you are choosing a career pathway, not necessarily a single job.

Before embarking on this process, identify your attitudes and expectations. Your attitude toward a career greatly influences whether you will be successful and happy. A major factor is your self-concept: How do you evaluate your abilities? Are you willing to listen to the advice of teachers, coaches, parents, and others? Can you objectively assess your personal strengths and weaknesses? Are you people oriented? Are you motivated to do your best?

Before considering available careers, analyze the relative importance of some personal and job-related factors. Two self-assessment inventories are provided in Boxes 5.1 and 5.2. Your responses to these inventories will help you determine which physical education, exercise science, or sport career best meets your needs and aspirations.

FACTORS INFLUENCING CAREER CHOICES

Family influences regarding a career choice can be positive, negative, or both. Parents may overtly or subtly persuade you to pursue a specific career. Some parents have discouraged their children from majoring in physical education because they view it as frivolous, nonacademic, or not prestigious enough. On the other hand, parents may encourage their children to pursue a career in sports because the parents enjoyed rewarding experiences in sports. Regardless of the situation, remember that your family will not be going to work for you each day or fulfilling the responsibilities of your chosen career. Although parents, siblings, and significant others can express their opinions and share their experiences, they should not decide for you.

Whether consciously or not, many people select a career because they respect and admire someone who is in a particular position, a role model whom they wish to emulate. This may be a parent, sibling, coach, teacher, or friend who has demonstrated enjoyment of and dedication to a career that you wish to share. One cautionary note: You may not be able to find the same type of position or may not possess the same abilities. Remember, you need to develop your own niche rather than trying to mimic another person.

The skills, knowledge, abilities, and experiences that you bring to your career will influence whether you are successful. This is not to imply that all career preparation precedes employment; certainly considerable learning occurs while you are on the job. Your confidence in accepting an initial position is based on two factors, only one of which is prior formal preparation. Always remember the importance of the second factor: gaining experiences, including voluntary or internship experiences, that may enhance your chances of career change or advancement.

An important criterion for continuation in a job is the level of personal fulfillment and satisfaction. If you dread going to work, hate the day-to-day routine, and think the negative aspects far outweigh the positive gains, it is probably time for a change. It is not disastrous to sacrifice job security and material benefits to start a career that enhances self-worth and pleasure. One way to make a career change less traumatic is to prepare yourself for a broad physical education, exercise science, and sport career pathway that can offer you numerous alternatives.

Some people prefer a solitary setting; others need to interact frequently with people. If you are people oriented, you need to identify the ages of those with whom you find the greatest enjoyment and seek a career that includes these opportunities. It is also important to identify which aspects of working with people you enjoy most. Do you prefer to work with large groups, small groups, or one on one? Do you prefer frequent or periodic interactions? Can you make decisions with others or concerning others?

Using the	scale below, indicate how	w much you value each		
	career choice:	v much you value each	of the following little	idilori to your
5	4	3	2	1
Mos high value	ly influencing	Average consideration	Weak influencing factor	Not valued at all
A B C D F G I J K L M N O P Q R S T U V. List any otl	Family, friends, and sign A specific role model ir Being knowledgeable at Being interested in this of Mental challenge expect Opportunity to be creat Opportunity to be creat Opportunity to work with Desire to serve others the Ease of entrance into this Anticipated sense of act Opportunity to be responded and the Anticipated power associated power associated variety in the Anticipated feeling of common Monetary and other beromatic time compatibility (wor Job security in this carea prestige associated with Mutual trust and respect Shared values with whother factors that would infinite the Monetary and other servers associated with Mutual trust and respect Shared values with whother factors that would infinite the servers are servers as the servers and the servers are servers as the servers and the servers are servers as t	n this career whom you could aspects of this carear ted from this carear tive in this carear the people and interact variough this carear complishment in this carear complishment in this carear complishment in this carear dependently in this carear ompetence from this carear ompetence from this carear the work in this carear care work in this carear the work in this carear the working in this car	want to emulate eer with them socially in a areer e and their performan eer areer me) in this career om you would work in a nis career	nce in this career
X. y. z. From the li	ist above, including any y to you in your career cho		·	
4				

BOX 5.2 LIFESTYLE PREFERENCE ASSESSMENT

Read each of these questions and give the answer that best describes your opinion of their importance.

Beginning with a few specifics:

- **1.** Where would you prefer to live (state, region, or nation)?
- **2.** Do you prefer to work for yourself or someone else?
- **3.** Do you prefer a large or a small work setting?
- **4.** What age groups would you prefer to interact with daily?
- **5.** Do you prefer an outdoor or indoor work setting?
- 6. Do you prefer primarily active or sedentary work?
- 7. How much travel (if any) would you want as a regular part of your work?
- 8. What days of the week would you prefer to work?
- **9.** What hours of the day would you prefer to work?
- **10.** What salary would you want in your first position? In five years? In ten years?
- 11. How much annual vacation time would you want initially? after ten years?
- **12.** What fringe benefits (such as insurance, retirement, special perks) would you want as an essential part of your compensation?
- **13.** How important to you are opportunities for career advancement?
- **14.** What other job characteristics do you think would be important to your job satisfaction? What would your preferences be?
- **15.** Would you prefer to plan out your career path or keep your options open? Why?
- **16.** Would you prefer a work environment that is unlikely to have conflict among employees, or is conflict something you think you can handle? Why?
- **17.** Would you prefer a career in which you were continually challenged to take on new and different responsibilities or one in which you are able to continue to do mostly the same duties on a regular basis? Why?
- **18.** Would you prefer to have your work space in the middle of the action, close by your friends, in a quiet, enclosed office, or in another arrangement? Why?
- 19. Would you prefer a job in which you are expected to make numerous decisions each day? Why?
- **20.** Would you prefer a job in which you are responsible for the performance of others? Why?
- **21.** Would you prefer a job in which you were expected to gain new knowledge, abilities, and skills in order to be successful? Why?
- **22.** Would you prefer a job in which you are eager to go to work each day or any job that paid you a high salary so you could spend your free time doing what you really enjoyed? Why?
- **23.** Would you prefer a job in which on a daily basis you had time to maintain your physical fitness? Why?
- **24.** Would you prefer to work in a job that is mentally stimulating? Why?
- 25. Would you prefer to work for an employer who is located close to where you want to live?
- **26.** Would you prefer to work in a job that provides you flexibility in your schedule so you can take care of family matters, if needed?
- 27. Would you prefer to work for an employer who rewards performance, longevity, or both? Why?
- 28. Would you prefer to work for an employer who shares your moral values? Why?



Athletes at an early age can be influenced by a coach toward a future career.

Sometimes interaction with others is so highly valued that your personal needs become secondary to those of others. **Altruism**, which regards the good of others as the desired result of moral action, is the selfless giving to other people out of a genuine concern without expecting anything in return. Teachers in various settings focus on helping their students develop healthy lifestyles.

Career opportunities in physical education, exercise science, and sport are expanding. Your expertise is needed because many people desire to use their leisure time engaged in a variety of sports and physical activities. However, your ideal job in the exact location you wish and with the dreamed-for salary may not be available. After realizing that jobs are available for educated individuals who actively seek them, you must be willing to accept the probability of starting at the bottom. As a young professional, you should expect to work hard, volunteer for extra duties, learn new ideas, gain experiences, and accept less desirable responsibilities as a test of commitment to your field. If you do so successfully, you will advance.

You must weigh the importance you place on monetary and other material benefits as you choose a career. Your response on the Lifestyle Preference Assessment indicates the value that a certain salary has for you and how it relates to other aspects of your life, such as family, status, location, and travel. The importance that salary has for you is also shown in the hours and days that you prefer to work, as well as your desired vacation time. Money, however, is only one type of remuneration. Other benefits, including health insurance, retirement benefits, an expense account, travel, club memberships, and prestige, may offset a lower salary. Only you can decide the importance of money and other benefits, but you must do so honestly, since frequently these are pivotal factors in career selection.

A five-day, 8-to-5 workweek is unlikely in many physical education, exercise science, and sport careers. Your career choice could result in working any number of hours a week, nights, holidays, and weekends, and anywhere from 9 to 12 months a year. Only you can weigh your personal preferences versus each job's characteristics. Begrudging time spent working often results in negative feelings toward that task. How important are the amount and scheduling of leisure time for you? How do work hours relate to monetary benefits in importance?

Job security varies dramatically in physical education, exercise science, and sport careers. Competent fulfillment of job responsibilities in some careers results in retention of positions based on merit; most careers in educational institutions require earning tenure for job security. Some careers carry no guarantee of future employment other than the demand for your services. Associated with the concept of job security is the potential for advancement. Relocation is often necessary for advancement because the position you qualify for or seek may not be available in the same city or with the same employer. Challenge and stimulation are important to many people for continuation in a career, as are recognition for a job well done and increased monetary benefits.

As you consider career options, review and weigh all these factors. Take advantage of your institution's career services office, which can assist you in evaluating various career options. To help decide what career path to take, you might consider interviewing someone who works in your area of interest. Possible questions include the following:

- 1. What academic degrees, certifications, or licenses are required for your job?
- **2.** What college courses or professional experiences have been most useful in fulfilling your job responsibilities?
- 3. What are your primary job responsibilities?
- **4.** What specialized experiences were necessary as a prerequisite to being qualified for your position?
- 5. What are your normal work hours?
- **6.** What is the salary range for individuals in positions similar to yours?
- **7.** What are the opportunities for advancement (salary, responsibility, and promotion) in your career?
- **8.** What are the most satisfying aspects of your career?
- **9.** What are the least enjoyable aspects of your career?
- **10.** What suggestions and advice would you give to students considering a career like yours?

Only after evaluating the most influential considerations and your own personal preferences can you objectively select a career pathway. Regardless of your choice, the key is your commitment and motivation.

Box 5.3 provides a broad overview of career opportunities. The rest of this chapter describes these broad categories and some of the options, presenting educational requirements, job availability, and positive and negative aspects.

BOX 5.3 EXAMPLES OF CAREER OPPORTUNITIES AND EDUCATIONAL REQUIREMENTS

Teaching

- Adapted physical education
- Elementary, middle, and secondary schools
- City recreation program, sport club, or sport camp
- College or university
- Specialized settings like a dance studio or the armed services

Fitness

- Cardiac rehabilitation
- Corporate fitness programs and sports leagues
- Health and fitness club classes such as in aerobics and Pilates
- Personal training
- Protective services (police and fire)
- Specialized settings like a cruise ship or resort

Sport Management

- Accounting and finance
- Athletic administration
- Event management

Educational Requirements

- Bachelor's degree in adapted physical education or equivalent and state certification or licensure
- Bachelor's degree in physical education and state certification or licensure
- Expertise in teaching physical activities and sports
- Master's degree in physical education or equivalent in smaller institutions; doctoral degree in one of the exercise or sport sciences or pedagogy in larger institutions
- Expertise in teaching physical activities or sports; fitness leader or equivalent certification preferred

Educational Requirements

- Master's degree in exercise physiology or equivalent field
- Expertise in teaching physical activities or sports; minimum of a bachelor's degree in exercise science if prescribing exercise programs
- Expertise in each class area
- Expertise in cardiorespiratory and endurance training; personal trainer certification preferred
- Bachelor's degree in exercise science; master's degree in exercise physiology preferred
- Expertise in developing and maintaining physical fitness of clients

Educational Requirements

- Bachelor's degree in accounting or finance; master's degree preferred
- Bachelor's degree in any field; master's degree preferred
- Master's degree, preferably in sport management

(continued)

BOX 5.3 EXAMPLES OF CAREER OPPORTUNITIES AND EDUCATIONAL REQUIREMENTS (continued)

- Facility management
- Marketing and promotions
- Media relations
- Public relations
- Sports clothing and equipment sales
- Ticket sales

Sport Communication

- Broadcasting
- Journalism
- Photography

Recreation

- Aquatics programs and facilities
- Campus recreation (college)
- Public recreation programs
- Senior citizens center
- Therapeutic recreation

- Master's degree, preferably in sport management
- Master's degree, preferably in marketing or business
- Master's degree, preferably in journalism or communication
- Master's degree, preferably in journalism or communications
- Bachelor's degree, preferably in business
- Master's degree, preferably in sport management

Educational Requirements

- Bachelor's degree, preferably in communication
- Bachelor's degree, preferably in journalism
- Expertise as a photographer

Educational Requirements

- Bachelor's degree in recreation or equivalent
- Master's degree in recreation or equivalent
- Bachelor's degree in recreation or equivalent
- Expertise in leading exercise programs for senior citizens
- Bachelor's degree in therapeutic recreation

TEACHING

Schools and Colleges

Employment for college graduates with majors in physical education has traditionally been in public and private schools. Teaching remains a viable choice for beginning and lifelong careers. Teachers' salaries are determined by each state's salary schedule and local school district supplements. Additional stipends for extra responsibilities, like coaching, are possible. Base salaries for beginning

teachers with baccalaureate degrees will be at least \$20,000, with larger, urban school systems paying over \$40,000 and some offering signing bonuses due to teacher shortages. To find jobs, graduates may have to move to smaller communities, urban settings, or different states. In the last situation, a reciprocal agreement may exist between the licensing state and the new state, or additional course work may be required before full licensure is granted.

The Praxis Series contains assessments used by states in awarding teacher certification or licensure. Praxis I, which measures basic skills in reading, writing, and mathematics, is used to evaluate students prior to entry into teacher education programs. Praxis II, which measures knowledge of the content that K–12 teachers will teach, as well as general and subject-specific teaching skills and knowledge, is used as a criterion for professional licensing decisions by states. Praxis III, which assesses the skills of beginning teachers in classroom settings, is a measure of a beginning teacher's evidence of teaching practice.

Junior high and senior high physical educators in their first years sometimes teach classes outside their major fields. Preparing to teach in a second subject area through taking courses and obtaining a second teaching license will enhance the likelihood of securing a position. Willingness to accept these teaching assignments may lead to full-time physical education positions in subsequent years. The physical educator, although perhaps not prepared to teach or interested in teaching health, frequently is assigned classes in this area as well. Some schools hire licensed health educators and others have health consultants, but because of budget constraints many health classes are taught by physical educators in middle or secondary schools. Physical education teachers work a minimum of seven hours at school, which usually includes one planning period and at least five classes. In addition, the teacher is expected to plan classes; grade papers; monitor the halls, lunchroom, and buses; and complete administrative reports. Some teachers face discipline problems, apathetic students, student drug abuse, inadequate facilities and equipment, lack of administrative and community support, and sometimes even violent behaviors of students. On the other hand, professional involvement and educational enrichment are encouraged by supportive administrators. Low salaries deter some good candidates from choosing teaching careers, while opportunities to positively influence students' lives, retirement and health benefits, summer vacations, and job security are attractive job characteristics.

Adapted physical education specialists are hired most frequently by large systems and state departments of education so that many schools may share the expertise of one individual. This specialist helps classroom teachers and physical educators meet the needs of students with special needs or limitations who have been included in regular classes, or they may individualize instruction for students. Educational background and experience emphasizing adapted physical education is important for this career. Hours and salaries correspond with those of other teachers.

In some states, elementary school physical educators are in demand; in others, jobs are scarce. Their responsibilities vary from teaching daily classes for children at one school to conducting ten 30-minute classes at a different school



Children need guidance in learning movement skills.

each day of the week. The intrinsic satisfaction of helping children learn and develop is the reward these teachers cite most often. The benefits of positively influencing children's attitudes toward movement skills and encouraging healthy lifestyles outweigh problems like inadequate facilities and equipment and limited administrative support.

PE Central (www.pecentral.org/) is an outstanding resource for health and physical education teachers, as well as for parents and students. This site provides a wealth of information about developmentally appropriate physical education programs for children and youth. A primary strength is the provision of hundreds of lesson ideas to help teachers motivate their students to engage and persist in sports skill and physical fitness activities. Additional resources include assessments, bulletin board ideas, instructional best practices, physical activity adaptations, video suggestions, research in action strategies, and links to other helpful Web sites.

Teaching physical education in community colleges or in four-year colleges and universities requires education beyond a bachelor's degree. In smaller institutions, faculty with master's degrees are expected to teach pre-major or major courses. Most institutions also require sports and activity instructors to hold at least master's degrees. Since university activity instructors and small college teachers spend most of their time teaching rather than conducting research, job security or tenure is based primarily on teaching and service rather than on scholarly productivity. (These same teachers are often expected to advise students and to serve on departmental and university committees.) Beginning salaries range widely according to location and status of the institution, with benefits including health insurance, retirement programs, and summer vacations. In their activity and theory classes, these teachers enjoy helping adult students learn healthy lifestyles and relish the generalist approach to teaching physical education three to six hours per day and four or five days a week.

In larger institutions, exercise and sport scientists in specialties such as biomechanics, exercise physiology, and sport and exercise psychology teach undergraduate and graduate courses in addition to conducting research. Research productivity, teaching effectiveness, and professional service are required for tenure, which is granted in five to seven years. For university professors, conducting research, writing articles for professional journals, and giving scholarly presentations are prerequisites for job security. Lack of time for research and class preparation is cited frequently as a problem by university teachers. Although their hours are somewhat flexible, committee meetings, student advising, and other departmental responsibilities besides teaching, research, and service often extend the workweek well beyond 40 hours.

Other Instructional Settings

Opportunities abound for those who want to teach fitness and sports skills outside a school environment. Dance studios provide instruction in aerobic, jazz, ballet, tap, and modern dance for children and adults. Individuals with dance majors or specialized dance course work teach various dance forms to customers for fees (ranging from \$10 per hour for group lessons to \$100 per hour for private lessons) at these studios. Classes may be scheduled throughout the day and evening as well as on weekends.

Sport clubs focus on individual sports, such as tennis, swimming, or martial arts and need instructors for private and group lessons. Other clubs, which usually have membership fees, may cater to several sports, such as country clubs that offer swimming, golf, and tennis. Vacation resorts are increasingly providing sports instruction for their guests. Health clubs usually offer fitness programs in aerobic conditioning and weight training; instructional programs in rock climbing or racquetball; and sometimes classes in stress management and weight control. Because of the extensive variety in clubs, salaries depend on location, clientele, instructional expertise, and assigned responsibilities. Salaries for instructors may start at \$10 an hour and increase as responsibilities grow.

Sport camps have become booming businesses related to commercial recreation. Both children and adults attend these highly successful ventures in the summer or on weekends and holidays. Sport camps provide excellent opportunities for gaining teaching experience and making valuable contacts that may lead to permanent positions. For school teachers looking for summer employment, opportunities abound in sport camps. Expertise in teaching one or more activities is important for employment, as is a desire to work with various age and skill levels. Responsibilities, such as those of an instructor or program director, determine salaries, which may vary widely. Day camp instructors may earn \$25 to \$100 per day, while residence camp instructors can expect salaries at about twice this level.

Concomitant with increasing life spans in the United States is the critical need for professionals trained to provide recreational and leisure activities for senior citizens. Today approximately 20 percent of the population of the United States is 65 years of age or older. Federal programs, as well as private agencies, increasingly provide physical activity programs in retirement homes, elder care



Golf instruction is popular in schools and colleges as well as in private and public clubs.

centers, and senior citizens' residential complexes. The job potential for individuals trained to prescribe and to direct activities for this clientele will expand rapidly in the years ahead.

Opportunities to teach and lead sport and fitness programs in the military abound because fitness training is highly valued by the various branches of the armed services. Instructional assignments in physical fitness programs are available to enlistees. Civilians instruct at the service academies, on military installations, and at special training facilities. Programs for the military vary widely, from basic conditioning drills for men and women to broad-based fitness and sport opportunities for career personnel to family-oriented recreational offerings. Highly competitive leagues in a variety of sports are commonplace on most military bases, since skilled, fit servicemen and servicewomen are valued. As an employee of the federal government, your pay would depend on classification; benefits are excellent.

FITNESS, EXERCISE, AND SPORT SCIENCES

Many large corporations provide fitness centers for their executives. Concerns about work efficiency and loss of time and money from absenteeism have resulted in the addition of facilities to provide daily aerobic, strength, and flexibility workouts for more and more employees. The directors of corporate fitness centers are usually individuals trained in one of the exercise sciences with a bachelor's degree. However, because of the attractiveness of these jobs and the in-depth knowledge needed, holders of master's degrees are often hired. Minimally, each individual should hold a certification as an exercise leader (such as given by the American College of Sports Medicine), if not a higher certification such as Clinical Exercise Specialist. Directors of corporate fitness centers are responsible for designing individually prescribed programs that include exercise sessions, nutritional changes, stress management strategies, and other recommended lifestyle alterations. Close monitoring is required because for many people, these programs dramatically change previous habits. Since lack of exercise adher**ence,** which means development and maintenance of a physical activity program that results in physical fitness, is the primary reason goals are not achieved, exercise scientists and leaders, along with their instructional staffs, strive to constantly motivate participants to adhere to their prescribed programs. In addition, personnel and program management skills are critical in these corporate settings. Working with people in a non-structured setting appeals to many professionals in spite of the hours, which are frequently scheduled during workers' leisure time.

Many corporations have chosen to outsource their fitness programs. In this arrangement, the business provides the site, but the daily administration and staff are provided by an outside supplier. This management firm hires fitness specialists to teach classes and to instruct one-on-one. Instructors can expect starting salaries of around \$20,000, with significant variance depending on the location, number of clients served, and experience. Often corporate and commercial fitness centers contract with sports medicine clinics so that employees and members can receive treatment and rehabilitation services as needed.

Related to corporate fitness is the need for professionals to design and implement training programs for workers in the protective services (public safety officers). Exercise scientists are being hired to test the fitness levels of these workers and prescribe exercise programs to meet employees' individual needs and prepare them to meet the demands of their jobs. Observing positive lifestyle changes is rewarding to those who choose this career.

The fitness emphasis pervading the United States has led to a proliferation of public facilities and programs promoting lifestyle changes for various groups. Directors and program coordinators organize and implement fitness programs, sport teams, and various social activities. Job security is good; however, few advancement opportunities exist unless management skills learned in this setting are transferred to a related career. The minimal wages earned in many part-time positions in public recreation are offset by the invaluable experiences gained.

Sports nutrition has become a popular career specialty because of the competitiveness of athletes at all levels. With increased pressure to perform at the

highest level possible, athletes realize their success depends on good nutrition. That is, eating the right foods ensures the required energy stores, enhances physical fitness, optimizes nerve-muscle reflexes, and helps maintain desired weight. Proper nutrition may be the most important aspect of game preparation.

Sports nutritionists work with athletes to make sure that their nutritional needs are met. They help athletes get the proper balance of proteins, carbohydrates, fats, vitamins, minerals, and water. Carbohydrates are eaten to build up glycogen stores several days before competition to help ensure that this key energy source is available to the muscles. Rather than failing to eat or eating improperly, eating the right foods on a daily basis helps prevent fatigue or lack of energy late in the game. The pregame meal is planned by a sports nutritionist to add to the existing energy stores and help avoid hunger or gastrointestinal upset during intense competition. By eating a variety of nutritious foods daily, athletes do not need supplements and will not succumb to problems associated with deficiencies in nutrients.

Proper hydration is essential, as every sports nutritionist knows; they are responsible for ensuring that athletes drink plenty of fluids, which may include fluids with electrolytes added. Water is essential for the blood circulation with its nutrients and energy, as well as for sweating as a mechanism to prevent overheating. That is, dehydration may lead to heat stroke and even death.

Sports nutritionist may have earned a bachelor's degree in dietetics, foods and nutrition, food service systems management, or a related area and been licensed by a state; or they may have earned a master's degree in exercise physiology with a specialty in nutrition. They may be hired by an intercollegiate athletics program or a professional athlete. The salary range for this position is \$35,000–\$65,000.

Cardiac rehabilitation programs have grown out of the need to help heart attack and heart disease patients regain their health and develop fit lifestyles. Programs at universities, community centers, hospitals, private clinics, and many other settings provide the exercises and activities prescribed by physicians and implemented by individuals with degrees in physical education, exercise science, and sport studies.

Clinical careers for individuals with expertise in exercise science and exercise physiology abound, particularly because people are living longer and often suffer from chronic and acute medical problems that can be ameliorated through physical activity. These individuals often work in hospitals, clinics, or senior centers as they help older individuals cope with their physical ailments, lack of mobility, and other issues associated with age and disability.

LEISURE SERVICES

Programming and Instruction

Recreation and leisure services are allied fields with physical education, exercise science, and sport. Recreation and leisure services professionals provide activities and programs for individuals of all ages and ability levels. The private sector

provides millions of jobs in commercial recreation. Many physical education and recreation graduates obtain their first jobs in the following areas:

- Lodging—management, operation, and programming for individuals associated with housing services, such as resorts, cruise ships, and camps
- Recreation—planning, management, and operation of recreational programs, facilities, and areas for agencies such as commercial/ private, governmental, volunteer, industrial, outdoor, and therapeutic institutions
- Entertainment services—management, operation, and programming for such organizations as theme parks, racetracks, and toy and game manufacturers
- Culture services—management, operation, and programming for institutions that deal with the fine arts, such as museums and historical sites
- Sports—management, operation, and programming for athletic areas and facilities, such as water parks and tennis complexes, health and fitness clubs, and professional athletic organizations

Although numerous opportunities exist in these areas, probably the sports subcluster appeals to most individuals, with instruction and program operations being the major types of jobs available. Tennis, golf, and swimming are among the popular types of specific sports clubs; multisport complexes also exist. Health and fitness clubs are examples of these general and specific types of leisure-service organizations.

All of these activity-related clubs or businesses require membership, thereby excluding a segment of the population. Most individuals who work for sports and fitness organizations are encouraged, if not required, to sell memberships as one of their responsibilities. Hours vary by club but are usually in the early mornings, afternoons, evenings, and on weekends, since these are most members' leisure hours. Job security varies with each person's expertise; however, potential for advancement into management and even ownership is good. Benefits include working with people and seeing their improvement, as well as having the opportunity to maintain a personal healthy lifestyle in these settings. Social skills, sales ability, and sports expertise are more important than a college degree, although being knowledgeable about the components of physical fitness and having expertise in skill analysis are quite helpful. Attaining a national certification in exercise testing or as a personal trainer can increase career options and lead to higher salaries.

The lodging subcluster includes resorts, condominium complexes, retirement centers, and camps that are increasingly hiring specialists in golf, tennis, swimming, and other sports to organize and instruct groups and individuals. For these recreation directors, hours vary to meet the needs of the guests, but the pleasant work environment may compensate for not having a typical schedule.



The thrill of activities like rock climbing attracts many enthusiasts to careers in recreation.

City and county recreation departments offer a broad spectrum of activities, from instructional classes to league play to trips and special events. Teachers are especially needed early mornings, afternoons, and evenings, but also throughout the day. Recreational classes are offered in a wide variety of activities such as water aerobics, rock climbing, massage, cross-country skiing, a variety of martial arts, arts and crafts, parent and child aerobics, various types of dance, and racquetball. During the summers and evening hours, competitive and recreational leagues abound in basketball, baseball, football, volleyball, softball, soccer, tennis, and other popular sports.

Sponsored trips to museums, art events, state and national parks, zoos, and other attractions especially appeal to retirees and families. Fun runs, road races, and triathlons attract serious competitors as well as weekend athletes. The availability of facilities for a private swim, weight-training session, spinning classes, or for a pickup basketball game also falls under the responsibility of recreation departments. Therefore, program supervisors and administrators have major responsibilities for providing and scheduling facilities to ensure that events operate smoothly and safely. In the future, recreation departments will increasingly be charged with the preservation of green space in cities to ensure that park areas are available for use during leisure hours. Recreation professionals who teach can anticipate starting salaries around \$30,000. These salaries will grow as management responsibilities increase.

Rehabilitative

An outgrowth of the desire for a healthy lifestyle is the proliferation of specialized clinics and counseling centers, including those for weight control, massage, nutrition, and stress management. Weight control centers sometimes promote a particular diet or system and usually provide information about nutrition and encourage safe exercise. **Massage** is the systematic and scientific manipulation, such as through kneading, rubbing, and tapping, of body tissues to therapeutically enhance the functioning of the nervous, muscular, and circulatory systems. Wellness programs emphasize the development of nutritional, exercise, and attitudinal lifestyle changes through counseling and participatory sessions. The proliferation of stress management classes, clinics, seminars, workshops, and counseling centers reflects the demand for information and preventive and corrective strategies. Since these are fee-based businesses, salaries vary dramatically.

ATHLETIC TRAINING AND PHYSICAL THERAPY

Athletic trainers serve individuals of all ages and skill levels, especially in the rehabilitation of sports injuries. From the youth sport participant to the professional athlete to the senior citizen who wants to continue to be active, athletic trainers help prevent, identify, treat, and rehabilitate injuries. In preparation for practices and games, athletic trainers tape, wrap, or brace ankles, knees, shoulders, or other body parts for protection. After workouts, athletic trainers prescribe the use of modalities, such as massages and whirlpools, to help relieve soreness and treat muscle strains. When injuries occur, athletic trainers assess the severity and provide emergency first aid, if needed, and treatment, such as ice and the application of splints. Working with physicians, they establish the proper rehabilitation program that will enable the athlete to safely return to play as soon as appropriate. Athletic trainers help develop training and exercise programs that will enable athletes of all ages and skill levels to get into good condition and ready to play. This can include showing individuals how to train aerobically, stretch properly, and develop muscular strength and endurance. Athletic trainers can assist athletes with eating nutritiously, the administration of physical examinations, and the selection and use of proper exercise and sports equipment. Athletic trainers work with athletes on sport teams at all levels and with individual athletes, often in health clubs and clinical settings.

Physical therapists, who sometimes work with athletic trainers in the rehabilitation of sports injuries, treat clients with a variety of medical conditions and injuries. Physical therapists evaluate clients' conditions and medical records, perform assessments, and maintain documentation of treatments provided. Physical therapists prescribe treatment plans, based on the guidance of physicians, so that clients can develop and maintain muscular strength, endurance, coordination, and range of motion, while accepting and adjusting to the limitations of their injuries or limitations. Physical therapists help clients learn how to execute daily living activities as well as use assistive devices, such as prosthetics. Physical therapists may use traction, massage, ultrasound, and other treatments to aid clients in the

recovery process. A challenge for physical therapists is getting clients to persist during the treatment and convalescent period when progress is slow or setbacks occur. Physical therapists, who typically work in clinical settings or hospitals, may work with clients of all ages and needs, or they may choose to specialize in an area such as orthopedics.

ATHLETICS

Schools and Colleges

A second career aspiration of many secondary school and some elementary school physical educators is coaching the numerous teams provided for boys and girls. Many schools have coaching vacancies, but no teaching positions in physical education because of the resignations of some physical educators from coaching but not from teaching and because of the increased number of girls' teams. If licensed in and willing to teach in a second subject area, the teacher-coach is automatically more marketable. Coaching positions in the more visible sports of basketball and football are not as easy to obtain as those in other sports, and more openings exist for coaches of girls' sports than for boys' teams.

Coaches are expected to provide educationally sound learning opportunities for their athletes. The National Standards for Athletic Coaches developed by the National Association for Sport and Physical Education identify the skills and knowledge that coaches should possess. Its eight domains are: injury prevention, care, and management; risk management; growth, development, and learning; training, conditioning, and nutrition; social-psychological aspects of coaching; skills, tactics, and strategies; teaching and administration; and professional preparation and development.

In many schools, coaches are expected to work with more than one team and sometimes may have to assist with as many as three teams. Some states allow nonteachers or substitute teachers to coach; others allow only employees of the school system to be hired. Monetary supplements (ranging from \$1,000 to \$25,000) are minimal compared with the long hours and innumerable demands placed on coaches. In some high schools, job security for football and basketball coaches does not exist unless winning teams are consistently produced. Victories are not as critical to job retention for coaches of other sports.

Other athletic opportunities within schools include athletic training, sport officiating, and administration. High school sport officials normally work at other jobs and umpire or referee only as a hobby or a second job. A former coach or current coach usually serves as the school's athletic director. This individual coordinates team schedules, budgets, and facilities, and supervises the overall athletic program.

Athletic programs vary dramatically depending on the size of a college. In community colleges and small four-year colleges, many coaches teach in physical education or in other departments, with coaching remaining a secondary responsibility. These individuals receive coaching supplements to their salaries and/or reduced teaching loads. Most sports at these institutions are non–revenue

producing, although for some teams recruiting is expected, since athletic grants-in-aid may be awarded. At larger universities, coaches of non-revenue-producing sports usually hold full-time positions in athletics, although some may also carry out assigned administrative responsibilities.

The teacher-coach, administrator-coach, part-time coach, or full-time coach frequently works day and night. Seldom is there an off-season or free time. While most college coaches have earned master's degrees, this is not a prerequisite, and the major field does not have to be physical education. Ways of gaining entrance into college coaching vary. For example, you may volunteer to serve as an assistant or as a graduate student assistant coach, you may earn an assistant coach's position after a successful high school coaching career, or you may get selected for a coaching job because of outstanding achievements as a collegiate or professional athlete. In most cases, future head coaches, even those at small institutions and for non-revenue-producing sports, must get experience serving as successful assistant coaches.

Once jobs are obtained, most coaches retain them as long as they abide by the rules, keep their athletes content, maintain their desire to coach, and develop successful programs; or they may choose to move to positions of greater prestige or institutions competing at a higher level. In larger institutions, most football and basketball coaches have job security only when they win and show that they can handle the pressures of the job without violating institutional, sport governance organization, or other rules. For these coaches, the long hours and pressures are compensated for by the material benefits and the prestige. Most coaches derive satisfaction from helping their athletes improve their skills and in seeing them mature as individuals.

Coaches' salaries depend on the sport; the competitive divisions in which their teams play; whether or not their sports are revenue producing; their years of experience; their past won-lost records; and additional benefits such as sport camp revenues, shoe contracts, and radio and television shows. Assistant coaches may receive no salaries, only tuition and fee waivers as graduate students, or may receive starting salaries around \$30,000. Part-time coaches, who teach or hold other jobs, can expect stipends of a few thousand dollars, depending on the factors listed above. Full-time, head coaches' salaries range from \$30,000 to hundreds of thousands of dollars. Entire salary packages for a few football and basketball coaches with winning records at large universities exceed \$1 million.

At small colleges, coaches are often the directors of athletics. As larger universities' athletic programs grew, however, they entered the entertainment business and required administrators to direct them. Athletic directors, associate and assistant directors, fund-raisers, and ticket managers often have earned master's degrees in sport management to prepare them for these careers. Money and personnel management skills are crucial, as is expertise in public relations, since skyrocketing budgets have made fund-raising vital. When skillfully achieved, all of these factors mesh into successful athletic programs that bring prestige and lucrative benefits to their directors. Security is based on the institution's overall program rather than on one team's performance, although the successes of the revenue-producing sports are certainly most important.



Sports promotions specialists work to fill stadiums for college football games.

Associated with intercollegiate athletics and vital to their programs are numerous career options. Assistant and associate athletic directors assume responsibility for facility management, compliance with rules such as those of the National Collegiate Athletic Association (NCAA), grants-in-aid, business affairs, fundraising, and coordination of non-revenue-producing sports. These positions may be filled by coaches, former athletes, or people trained in sport management. Job security is not guaranteed; continuation is based on successful completion of assigned duties. A major benefit is the association with a successful athletic program and its reflected glamour. Individuals in these management positions earn from \$30,000 to over \$100,000, depending on level of responsibility, experience, and the institution served.

For individuals who wish to combine writing skills with athletics, sports information is an exciting career choice. This vital component of the athletic program is responsible for compiling statistics and personal information about athletes, coaches, and teams to publicize upcoming events and provide postgame data. Press releases and team brochures further publicize the intercollegiate program. A degree in journalism or sport communication would be appropriate, but volunteer experience and a willingness to start at the lowest level and work upward may be necessary to gain entrance into this athletic career. Travel, personal contacts with players and coaches, and contributing to the success of a program are among the benefits.

Sports promotions specialists are responsible for filling the stadium and arena through advertising and various promotional strategies. At a small college, one person may handle both sports information and sports promotions, or each coach may have to fulfill these additional responsibilities for his or her team. Large institutions have promotions specialists who frequently share in activities

to raise funds for grants-in-aid and facilities. Public relations skills are usually more important than a particular educational degree. These individuals' primary efforts are directed toward bringing money into the athletic department through gifts and donations. Salaries for these individuals are directly linked to their ability to market their teams, resulting in increased ticket sales and donations.

Strength and conditioning coaches design and implement training programs for athletes. Frequently these positions are filled by exercise scientists with strong exercise physiology and biomechanics backgrounds and those who hold certifications from the National Strength and Conditioning Association. Helping athletes reach their athletic potential is a significant reward for these individuals.

Many professional teams and universities hire sport psychologists to work individually with athletes. Because the athletic skills of all elite athletes are superior, many believe that the key to athletes' achieving optimal performances is mental. Sport and exercise psychologists use biofeedback, relaxation, imagery, and various coping mechanisms to help athletes handle the pressures of competition, achieve their potential, and enjoy their experiences.

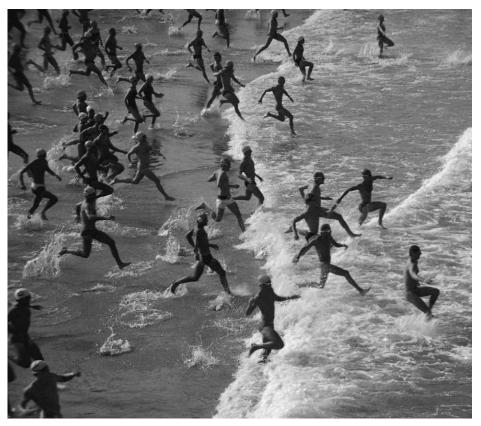
Nonschool

More than 20 million children participate on youth sports teams sponsored by recreation departments, private clubs, community service organizations, national sport associations, and churches as well as in after-school physical activity programs. In most cases, the coaches are volunteers; the officials and the league, program, and association directors are professionals with experiences and expertise in physical education, recreation, or sports. Many of these same groups also provide athletic competitions for adults, such as softball and basketball leagues, master's swimming events, and road races. Experience gained as a volunteer coach, program administrator or assistant, or official may lead to a full-time job in a recreation-related career.

Professional

Prior playing experience in college and as a professional is an asset for coaches of professional teams, although not necessarily a prerequisite. Coaches are hired on the basis of demonstrated success with high school, college, or professional teams and are fired for not producing winning teams. Lucrative salaries, many in excess of \$1 million, help compensate for the pressures to win and time demands.

Professional sports require hundreds of people working behind the scenes to ensure that events take place as scheduled. A commonality of many of these positions is the need for experience in business and marketing. Responsibilities of the ticket sales staff include season ticket packaging, selling tickets for individual events, and arranging for complimentary seating. Correspondence and direct contacts with fans are extensive, with the greatest challenge always remaining that of trying to satisfy as many fans as possible. Customer satisfaction is essential. No formal educational background is required, but a sport management degree is highly desirable.



Sport managers are responsible for the operational logistics for sports competitions, such as a triathalon.

Business managers are responsible for planning budgets and administering the expenditures to support sport teams. Although accountants and secretaries may actually handle the daily transactions, financial officers oversee multimillion-dollar budgets and the many personnel who work in this area. A business background is helpful, but on-the-job training in a small program or as an intern may be equally valuable in obtaining an entry-level job in this field.

Marketing directors serve various functions, depending on the situation. With teams needing to maintain or increase fan support, their primary responsibility focuses on increasing ticket sales and revenues. Radio or television commercials, newspaper advertisements, exciting upcoming events or opponents, or winning records may be used to generate greater spectator and sponsor interest. Season ticket sales are keys to success, since they stabilize income for advertising and ticket sales and indicate consistent fan support. Marketing directors may also help promote sales of team merchandise. These marketing specialists are hired for their proven ability to fulfill job responsibilities rather than for any educational degree.

Professional sport officiating provides many part-time and some full-time careers (mostly in baseball and basketball). No specific educational background is required, but years of experience are necessary. As early as possible, such as in recreational



WEB CONNECTIONS

- 1. www.onlinesports.com/pages/CareerCenter.html
 Visit the Online Sports Career Center to learn more about a variety
 of sports careers and search for the right job for you.
- www.acsm.org/AWTemplate.cfm?Section=Brochures2&Template=/CW ContentDisplay.cfm&ContentFileID=1312 The American College of Sports Medicine provides an online brochure about careers in sports medicine and exercise science.
- 3. www.womensportscareers.com/default.htm
 Find jobs in sales, marketing, broadcasting, public relations,
 coaching, officiating, health and fitness, athletic administration, event
 management, journalism, and sporting goods through the Women's
 Sports Services.
- www.jobtarget.com/home/index.cfm?site_id=723
 Find out more about sport-related careers in the sporting goods industry.
- 5. www.workinsports.com/
 The Work in Sports Web site provides a comprehensive listing of current jobs and internships in sports.
- www.quintcareers.com/sports_jobs.html
 This site provides resources to help students plan their careers and search for jobs in sports.
- www.teamworkonline.com/career.cfm
 TeamWork Online provides a comprehensive listing of job opportunities in sport.
- 8. www.ymca.net/careers/ Look for a job with YMCAs nationally at this site.

youth leagues, anyone interested in officiating should start learning the rules and techniques while gaining experience and expertise. There may be some reflective glamour and prestige, but officials often are the "villains" and are only begrudgingly accepted as vital to sports. After years of success in the high school and college ranks and completion of several training programs, the best-qualified officials may get opportunities to officiate in the professional leagues. Most officials, however, hold other jobs and officiate as a hobby or a second career. Unusual hours and travel are inherent characteristics, but salaries for professional officials are quite good.

SPORT MANAGEMENT

Business and Industry

Golf courses, bowling lanes, gymnastics schools, tennis camps, swimming centers, ice rinks, and health spas all require managers who have administrative skills in addition to knowledge about the development of physical skills. Directors in each of these settings must possess budgetary skills, personnel management abilities, planning knowledge, and supervisory capabilities. Since these organizations are interested primarily in producing profits and thus maintaining high enrollments or large attendance, they must hire qualified instructional staff. Individuals working in these settings may earn \$30,000 to \$100,000 a year.

Corporate fitness programs also demand management, motivational, and supervisory skills. Exercise and sport science and fitness specialists who possess knowledge in public relations and marketing can advance more easily into management positions within corporate fitness programs. Since employers want the dollars spent for fitness programs to result in enhanced worker productivity, the goals are to motivate workers to adhere to fitness programs and increase their active participation.

Theme parks and resorts have become multimillion-dollar ventures providing leisure-time entertainment for people of all ages. Recreation administration and sport management backgrounds are essential for handling the massive budgetary, facility management, and personnel aspects of these businesses.

More than 150 sport halls of fame and museums each year host millions of people who view sports memorabilia and photographs and recall stars of the past. These tourist attractions highlight the achievements of former heroes and heroines, and periodically elect new enshrinees; some host events to promote their respective sports. Sport historians and administrative curators are needed for these careers.

Facility managers are associated with arenas and stadiums at universities, in communities, and with professional teams. To be cost efficient, large facilities must be multipurpose because audiences must be attracted to several different sporting events as well as to concerts, other types of entertainment, and conventions. Facility managers must have planning and organizational abilities as well as personnel management skills. Facility managers work for either a university, a governmental agency, a private corporation, or a professional team. They schedule events around the major team(s) or work for a municipality that rents its venue to teams. Depending on the size of the facility and the number of scheduled events, the individuals managing them may earn salaries of \$40,000 to \$100,000.

Schools and Colleges

Administration is another career possibility for physical educators in schools. This position may be as a department chair who accepts management responsibilities, resulting in a reduced teaching load, or as a principal, headmaster, or superintendent. Advancement can result from successful service to the school, advanced

education, or interest and demonstrated competence in these positions. In these jobs, increased salaries parallel longer hours and greater responsibilities.

Colleges and universities have many administrative positions, ranging from program director to department chair to college dean. These careers are open to individuals with doctoral degrees, years of experience, expertise in working with people, and management skills. Administrative challenges, such as personnel problems, tight budgets, and day-to-day operational demands, are offset by opportunities to effect program change, lead faculty in the attainment of professional goals, and positively influence students' education.

Intramural and recreational sports and campus recreation programs are popular components of collegiate life. Directors, assistant directors, facility supervisors, and program coordinators constitute the staff. Job responsibilities vary from publicity to facility management and from personnel to programming. These intramural and recreational programs are administered through either the physical education department or the office of student affairs. In the first context, the staff may also teach; in the second, they seldom do. Most intramural, recreational sports, or campus recreation professionals have earned at least master's degrees in physical education, exercise science, sport studies, or recreation. Increasingly, the trend is to make these positions nonfaculty, with job security based solely on fulfillment of assigned responsibilities. Rather than the usual school-day hours, these programs operate in the afternoons and evenings and on weekends, the leisure hours of the students they serve. Student interactions in nonacademic activities and the opportunities to administer fun-filled programs attract people to these positions. Entry-level program coordinators may earn around \$30,000; assistant directors' salaries range from \$30,000 to \$50,000; directors are paid between \$50,000 and \$125,000, depending on program size and scope. (See the Research View Competencies of Sport Managers.)

SPORT MARKETING AND PROMOTIONS

Individuals in sport marketing and promotions are in the business or entertainment side of sports. Professional teams receive millions of dollars from television, corporate sponsorships, and ticket sales. Sport marketers and sport promoters are the keys to generating this cash flow. Their work extends from the conceptualization of sporting events through obtaining sponsorships and managing promotional campaigns to ensuring that a huge audience is entertained so that they will buy more tickets and merchandise in the future. Sport marketers and sport promoters are employed by professional teams and some collegiate athletic programs to conduct market research; produce print and electronic promotional materials; negotiate contracts for advertisements and sponsorships; plan and coordinate sporting events; help develop new team, sport, and athlete merchandise and products; and generate innovative approaches to ticket sales and fan entertainment.

Working with large corporations that have an interest in using sports to sell their products, sport marketers and sport promoters manage promotional campaigns and sponsorships of domestic and international sporting events as well as obtain

RESEARCH VIEW

Competencies of Sport Managers

As an emerging field of study, sport management is continuing to define itself and the role it should play in the pervasive area of sport in society. Because sport on the professional, intercollegiate, interscholastic, youth, and recreational levels is a multi-billion-dollar business, professionals in this field are responsible for upholding sport in the public trust. That is, sport managers are expected to fulfill their duties in accordance with the highest level of professional conduct. The ethical standards of this field, as found in codes of ethics, require accountability for meeting the performance expectations of the public being served. These expectations include integrity, honesty, and the equitable and respectful treatment of all individuals.

In addition to these personal traits, sport managers should be competent in fulfilling all of their job responsibilities. Knowledge and skills are needed in these areas:

- Budgeting
- Communicating effectively
- · Complying with organizational rules and laws
- · Decision-making skills
- Financing (corporate and private funds)
- · Hiring, supervising, and evaluating staff
- · Managing daily operations
- Marketing and promotions
- · Organizing and managing time
- Managing risk
- Setting long- and short-range goals

Developing these competencies will help sport managers prepare for and perform well throughout their careers.

millions of dollars from the corporations that will pay for title sponsorship of an arena or football bowl game. Sport marketers and sport promoters may work as agents in negotiating and preparing contracts for athletes as well as in obtaining endorsements for them and managing their finances. Sport marketing and sport promotion is an expanding field because of increased interest in sports, such as snowboarding and mogul skiing, with more athletes, venues, and sponsors. The results of other marketing and promotion efforts include advertising and promotional campaigns built on the endorsement of sports stars and fantasy camps



NASCAR has an outstanding record of promoting auto racing because sport managers have been successful in connecting sponsors with loyal fans.

for fans and corporate sponsors. Sport marketers and sport promoters are in the sales business, so they need excellent communications skills, including the ability to persuade, creativity, business sense, competitiveness, and strong skills in networking.

Sport marketers and sport promoters extend their work beyond the entertainment business of sport into the business side of goods and services. Sporting attire is popular for everyone, whether for exercising, going out on the town, or working. From cross-training shoes to designer warm-up suits to team logo jackets and caps, millions are wearing sports clothing. Billions of dollars of athletic and sports clothing and shoes are sold annually. Regardless of skill level, it seems only the most technologically advanced tennis rackets, custom-made golf clubs, and autographed baseball gloves are good enough for aspiring athletes. Therefore, jobs are and will continue to be plentiful in the sales and marketing of sporting goods. Expertise in sports is an advantage for people in sales, marketing, and management. Individuals choosing sales may enjoy flexible hours, travel, rapid advancement, and job security if they are good at what they do.

Most managers and many instructors in health and sports clubs are expected to sell memberships. Those who are especially adept at this task frequently advance into management positions with increased marketing responsibilities, such as initiating special promotions.

Enhanced equipment design and facility innovations require a great deal of research. Some of this research involves exercise physiologists, biomechanists, and athletic trainers who, because of their expertise and experience, help improve and make new equipment and facilities safer. Safety and improved performance motivate these efforts to produce the best ball or surface. Inventors or innovative designers will reap financial benefits if their products gain the same kind of wide acceptance that the makers of specialized golf clubs, for example, have seen.

SPORT COMMUNICATION

The interdependence of the media and sports has created numerous opportunities in the glamour careers of sport broadcasting, sport journalism, and sport photography. Broadcasting opportunities vary from prime-time, national telecasts to special events coverage to sports reporting for a local network. On-the-air experience, expertise in play-by-play announcing, an aptitude for interviewing, and a smooth delivery in reading sports news overshadow an educational degree. Willingness to start in small markets at a salary just above minimum wage is a key to advancement. Cable networks provide another avenue for aspiring sport broadcasters on a variety of dedicated sport channels.

Since sports sell newspapers and magazines and increase television ratings, thereby selling commercial time, professional and college teams are especially sensitive to the media. The sportswriting field attracts a large number of people. Many sportswriters have earned college degrees in journalism, but some secure newspaper or magazine jobs because of their past experiences in college sports information offices, their own sports careers, or their background in physical education, exercise science, or sport studies. A sportswriter must possess an inquiring mind, a desire to talk with people, the ability to listen, and the willingness to work unusual hours while under the pressures of deadlines and space limitations.

A sport photographer may start by taking pictures for a college newspaper or yearbook and progress to assignments with a major publication. A thorough understanding of the intricacies of various sports provides a photographer with the insight necessary to capture the essence and meaning of sports as well as the outcome of a particular event. Long hours, low compensation, and little glamour may eventually be rewarded with extensive travel for a national publication.

OTHER RELATED CAREERS

In addition to the aforementioned broad categories of jobs open to physical education, exercise science, and sport studies majors, several other specific careers are available. Many of these, however, require specialized education, training, or certification. For the medical doctor with an interest in sports, there are specializations in exercise physiology, orthopedic surgery, and sports podiatry, as well as the option to serve as a team physician. Sport nutrition and sport and exercise psychology are growing fields for both private practice and consultation with college and professional athletes. Lawyers may choose to emphasize the ever-expanding area of sport law or work as sport agents.

Dance careers include not only those of performing artists with national and regional companies but also those of artistic directors, managing directors, development officers, public relations agents, booking agents, dance journalists, and dance photographers. Limited jobs and long hours, though, deter some people from pursuing careers as dancers or in dance-related jobs. No educational degree is required for these positions or for those of studio teachers, yet all who pursue them have spent years developing their expertise.



Teachers in all settings should serve as role models for healthy lifestyles.

Rather than viewing the sky as falling, a young professional should view the sky as the limit. Box 5.4 provides an overview of some potential careers, lists the necessary preparation, and indicates salary ranges. Knowing these alternatives should help you focus on one or more broad areas of interest as you choose a career pathway. See Box 5.5 for suggestions about how to locate more information about careers.

BOX 5.4 EXAMPLES OF JOBS MATCHED WITH EDUCATION AND SALARY RANGES					
Job	Required Education and/or Experiences	Salary Range*			
Academic counselor	Master's degree in any field	\$30,000-\$50,000			
Assistant and associate athletic director	Bachelor's degree in any field; master's degree preferred	\$40,000-\$100,000			
Athletic director	Bachelor's degree in any field; master's degree preferred	\$50,000-\$1,000,000			
Athletic trainer	Bachelor's degree in athletic training with NATABOC certification; master's degree preferred	\$30,000-\$100,000			
College coach	Bachelor's degree in any field	\$30,000-\$5,000,000			
College professor	Master's degree in physical education or equivalent in smaller institutions; doctoral degree in one of the exercise or sport sciences or pedagogy in larger institutions	\$45,000–\$125,000			
Compliance officer (college)	Master's degree in any field	\$60,000-\$90,000			
Fitness instructor	Expertise in physical activities; fitness leader or equivalent certification preferred	\$20,000-\$90,000			
		(continued)			

BOX 5.4

with a professional or college team or athlete Strength and conditioning

coach

EXAMPLES OF JOBS MATCHED WITH EDUCATION

AND SALARY RANGES (continued)						
Job	Required Education and/or Experiences	Salary Range*				
Intramural coordinator	Master's degree in recreation or equivalent	\$30,000-\$50,000				
Official	Expertise and experience in officiating a specific sport	\$10,000-\$150,000				
Personal trainer	Expertise in cardiorespiratory endurance training; personal trainer certification preferred	\$20,000-\$100,000				
Physical education teacher	Bachelor's degree in physical education and state certification or licensure	\$20,000-\$75,000				
Physical therapist	Doctoral degree in physical therapy; state licensure	\$50,000-\$90,000				
Recreation supervisor	Bachelor's degree in recreation or equivalent	\$30,000-\$60,000				
School coach	Bachelor's degree and teacher certification; some states require coaching certification	\$1,000-\$25,000				
Sports information director in a college	Bachelor's degree, preferably in journalism	\$30,000-\$100,000				
Sport psychologist	Doctoral degree in sport psychology	\$50,000-\$100,000				

*Salaries are based on education, experience, expertise, specific job expectations, and location. Almost everyone begins at the lower end of the salary range. Pay increases and career advancement depend on hard work, competence in completing job responsibilities, continuing growth and development in knowledge and skills, networking, and enthusiasm for the job.

or equivalent; personal trainer

certification preferred

Master's degree in exercise physiology

BOX 5.5 INFORMATION ON CAREERS IN SPORTS

Go to www.aahperd.org/naspe/template.cfm?template=CUPEC_field_of_studies.html for information about athletic training, coaching, exercise science, health education, physical education, recreation, and sport management. Each career description includes links to additional information.

JobMonkey at www.jobmonkey.com/sports/ describes sports jobs and sports careers in sports journalism, sports broadcasting, health and fitness, coaching, intercollegiate athletics, professional sports, recreational sports, physical education teaching, stadium operations, sales, and sporting goods.

A subscription to Sport Careers (www.sportscareers.com/?AID=8195483&PID=111858) provides access to job listings in college athletics, sporting goods, health and fitness, broadcasting and media, recreation, sport venues, professional sports, sporting events, sports associations, professional services, and high schools.

(continued)

\$40,000-\$200,000

BOX 5.5 INFORMATION ON CAREERS IN SPORTS (continued)

At www.jobsinsports.com/, if you choose to subscribe, you can search job data bases from nearly 4,000 employers, look for an internship, locate sports and industry contact information, and post your resume.

Go to www.sportsemploymentnews.com/, and for the price of a subscription, you can find employment and internship opportunities in professional sports, broadcast and print media, public relations, sports information, recreation and leisure, sport management, health and fitness, sports promotions, and sporting goods.

By subscribing to Work in Sport (www.workinsports.com/home.asp?referrer=72), you have access to hundreds of current jobs and internships in sports; you can submit resumes and find contact information of organizations in the sports industry.

TeamWork Online's Sports Jobs (www.teamworkonline.com/) is a job board and applicant tracking system that assists in recruiting and identifying candidates for open positions in sports. You also can learn what characteristics and abilities sport executives are looking for, examine current positions, and ask to be notified of future vacancies that meet your interests.

By signing up for SportsCareerFinder (www.sportscareerfinder.com/), you have access to extensive information about employers in collegiate, professional, and recreational sports, and you can post your resume for employers to search when filling open positions.

Women Sports Jobs at www.womensportsjobs.com/default.htm is an online career center in sales, marketing, broadcasting, public relations, coaching, officiating, health and fitness, athletic administration, event management, journalism, sporting goods, and much more. By joining, you can search jobs, post your resume, and find a job.

Game Face (www.gamefacesportsjobs.com/), an international training and career placement company, specializes in sport marketing. For a fee, it helps prepare sport professionals through its sales training programs, search and recruitment activities, and training camp for job seekers.

SUMMARY

In today's rapidly changing, technological world, career changes as often as every 10 years or less have become the norm rather than the exception. Instead of looking at one specialty, you need to become a multispecialist who can make different applications of your knowledge. Young people entering the workforce need to bring creativity and imaginative reasoning to their jobs, as well as an adventuresome willingness to accept risks and failures while bouncing back to try again. Your first challenge is to assess your preferences and interests. Factors that influence your career choice(s) include family, role models, knowledge about career alternatives, opportunities to work with certain age groups, ease of entry, salary range, career advancement, time compatibility, job security, and location. Career opportunities abound in physical education, exercise science, and sport in teaching, inside and outside of educational institutions; in developmental and rehabilitative fitness; in school, college, and professional sports; and in sport management, marketing, and communication. After matching your aspirations and abilities with career characteristics, you can select one or more as the focus for your college preparation and initial and subsequent careers.

CAREER PERSPECTIVE



KELLY ECKOLS

Founder, Owner, and Physical Therapist Premier Rehab, Physical Therapy, and Aquatics North Richland Hills, Texas

EDUCATION

B.S., exercise and sports science, Texas Tech University M.S., physical therapy, Texas Woman's University

JOB RESPONSIBILITIES AND HOURS

As the owner of Premier Rehab, with four locations, Kelly works closely with area orthopedic surgeons to provide high-quality patient care specializing in advanced orthopedics. She is committed to providing the best possible care to her patients with the goal of helping them return to work, activity, and normal routines of life. Along with treating patients in the clinic, Kelly assists the Dallas Diamonds Women's Professional Team in getting injured players back to the field as soon as possible and provides the inpatient therapy care for a local hospital. In addition to her commitment to total patient care and service, Kelly's primary job responsibilities include supervising staff, completing insurance utilization reports, marketing to physicians, building a reputation in the area for complete physical therapy care, maintaining a positive flow of daily tasks and duties, ordering equipment and supplies for the clinic, and keeping up with Medicare guidelines. The salary for beginning physical therapists is around \$50,000. After 4–6 years experience, this could increase to \$60,000–\$70,000 depending on employment setting and responsibilities.

SPECIALIZED COURSE WORK, DEGREES, AND EXPERIENCES NEEDED FOR THIS CAREER

Each physical therapy school has specific admission and academic course work requirements. Since becoming a physical therapist requires at least a master's degree, with most institutions moving to a doctoral degree program, the Graduate Record Exam is usually required as well as a strong score, such as a combined 1000 on any two sections. Given the competitiveness for admission into a physical therapy program, the grade point average during a baccalaureate program usually must exceed 3.5 (on a 4.0 scale). In addition, admission requirements typically include previous volunteer work in physical therapy settings, letters of recommendation, certification in cardiopulmonary resuscitation, completion of prerequisite courses, and an interview. In her studies, Kelly found studying gross anatomy and the student rotations as most fulfilling. While her program of study was very difficult, she would not eliminate or change the requirements because everything she learned was relevant and helpful in the fulfillment of her job responsibilities. Kelly is currently enrolled in a doctoral degree program in physical therapy.

SATISFYING ASPECTS

Kelly especially enjoys helping people learn what their bodies can and cannot and should or should not do. She is committed to getting people back to the everyday aspects of their lives with a caring attitude and to being the person whom they trust to make them better. She takes great satisfaction in analyzing physical problems and helping clients address and resolve these, yet always is disappointed if she cannot help lessen someone's pain and get him or her back to a fully functioning life. Kelly and members of her staff provide pain relief and injury rehabilitation services for sports injuries; postsurgical rehabilitation; treatment for back, neck, knee, shoulder, and arm pain; and rehabilitation for work, automobile accident, and personal injuries. In addition, her clinic provides aquatic exercise using the Hydrowork under water treadmill pool to reduce the stress on the spine and joints and aid in accelerated recovery for muscle injuries.

JOB POTENTIAL

Advancement for physical therapists can be limitless as long as there are vacancies, such as in administrative positions to supervise clinics, oversee continuing education, and conduct marketing. Individuals moving into these administrative positions could earn as much as \$95,000, depending on the number of clinics supervised and scope of responsibilities. A physical therapist can also teach educational seminars, write for newsletters or other publications, and conduct research with university faculty. Physical therapists have the opportunity to work in a plethora of settings, such as hospitals; sports rehabilitation clinics; centers for neurological rehabilitation, traumatic brain injury, and spinal cord injuries; pain management clinics; pediatric and geriatric clinics; aquatic therapy programs; schools; and research centers.

SUGGESTIONS FOR STUDENTS

Kelly recommends that students decide as early as possible during their college years on a career in physical therapy so they can take the classes required for admission into a doctoral program in this field, volunteer in various physical therapy settings, and assess whether this is the right profession based on their interest and abilities. It is very important, she suggests, that students have a strong commitment to this career choice so that they will be willing to dedicate themselves to learning during volunteer hours and completing difficult course work.

KEY POINTS FOR CHAPTER 5

Factors influencing career choices

Each person should examine the most important factors that will influence how possible career options are evaluated and the relative priority placed on these factors.

Lifestyle preferences Each person should assess personal preferences for the unique characteristics of careers being considered.

Teaching

Careers in teaching exist in schools, clubs, camps,

recreation programs, and colleges.

Fitness

Careers in fitness may include leadership, instruction, and exercise prescription in clinical, club, and specialized settings.

Sport management

Careers in sport management exist in schools, colleges, public programs, and professional sports and may include accounting, event and facility management, marketing, public relations, sales, and other commercial and sport applications.

Sport Careers are available in sport broadcasting, journalism, communication and photography.

Recreation Careers in recreation include public and private physical activity and sport programs in a variety of settings.

Athletic training and physical therapy

These fields require certification or licensure in addition to educational degrees to prepare the specialists who help individuals rehabilitate from sport injuries and

debilitating conditions.

Interviews Students should talk formally or informally with

professionals in careers of interest to them, so they can learn more about the scope of responsibilities, working conditions and hours, educational requirements, salary

range, and other unknown areas.

REVIEW QUESTIONS

1. What are several factors that may influence one's career choice?

- 2. What factors may outweigh the importance of one's salary?
- 3. What are several careers that involve teaching?
- 4. What are several careers in professional sports?
- 5. What is the job potential for careers in recreational services for senior citizens?
- 6. In what types of careers would a sport management background be beneficial?

STUDENT ACTIVITIES

- 1. Complete the self-assessment inventories in Boxes 5.1 and 5.2 on pages 133-134.
- 2. Make a list of your professional and personal career goals.
- **3.** Compile a list of the abilities and characteristics needed for success in your prospective career.
- 4. Talk with one person in each of the following careers: (a) one you think you definitely would like to pursue; (b) one you think you might like to pursue; (c) one you know little or nothing about.
- Read one of the suggested readings, and relate this article's concepts to your career choice.
- **6.** Using the sample interview questions on page 136, conduct a formal interview of a person in a career that you are considering.
- 7. Using the Internet, find and briefly describe five career options discussed in this chapter or identify five emerging physical education, exercise science, and sport careers.

SUGGESTED READINGS

- Austin, T. M., & Graber, K. C. (2007). Variables influencing physical therapists' perceptions of continuing education. *Physical Therapy*, 87, 1023. Responses from 23 physical therapists indicate their perceptions toward continuing education, leading the authors to recommend identifying the core set of variables associated with engaging in continuing education and promoting the elements of employment environments that foster continuing education.
- Barron, P. (2007). Hospitality and tourism students' part-time employment: Patterns, benefits and recognition. *Journal of Hospitality, Leisure, Sport and Tourism Education, 6*(2), 40. A study of 486 students studying hospitality and tourism management shows that they bring to their part-time employment a range of skills and knowledge that employers find important and useful. Their educational preparation should be more closely linked with their practical skills, and their employment experiences should be recognized with credit in their degree programs.
- Bower, G. C. (2008). Career paths and advice for women who want to obtain a management position within the health and fitness industry. *Women in Sport and Physical Activity Journal*, 17(1), 29. Using the responses of 480 females to the Career Paths of Women in Sports Survey, the author offers career advice such as on obtaining certifications, gaining practical experiences, networking, and working with a mentor.
- Brumels, K., & Beach, A. (2008). Professional role complexity and job satisfaction of collegiate certified athletic trainers. *Journal of Athletic Training*, 43, 373. This article reports that athletic trainers working in colleges experience low levels of professional role complexities and are relatively satisfied with their job. However, less satisfaction is associated role ambiguity, overload, incongruity, incompetence, and conflict.
- Dixon, M. A., & Bruening, J. E. (2005). Perspectives on work-family conflict in sport: An integrated approach. *Sport Management Review, 8,* 227. The authors examine conflict associated with individual, structural, and social relations within the sport context to better understand the causes, consequences, and interpretations.
- Ives, J. C., & Knudson, D. (2007). Professional practice in exercise science. *Sports Medicine*, *37*(2), 103. The authors state that graduates of exercise science programs are not as well prepared as they should be to provide comprehensive advice on exercise and human performance, because of the focus on exercise physiology with too little preparation in biomechanics and motor behavior.
- Lawson, H. A. (2007). Renewing the core curriculum. *Quest*, *59*, 219. The author calls for a renewal of the core curriculum for the academic discipline called Kinesiology, Exercise and Sport Science, or Health and Human Performance. He suggests that faculty expertise, an in-depth analysis of research findings and theories of learning, and a unified framework should be developed through this renewal process.

- Mensch, J., & Mitchell, M. (2008). Choosing a career in athletic training: Exploring the perceptions of potential recruits. *Journal of Athletic Training*, 43(1), 70. Based on the findings from semi-structured interviews of students who were or were not interested in a career in athletic training, the authors stress the importance of using a comprehensive recruitment strategy with factors that influence potential recruits' decisions to enter the athletic training profession, specifically their association with sports and experiences during high school.
- Phillips, A. (2008). A comparison of National Board Certified Teachers with non-National Board Certified Teachers on student competency in high school physical education. *Physical Educator*, *65*, 114. Based on data from the South Carolina Physical Education Assessment Program, student competency on motor skill performance, cognitive fitness knowledge, outside-of-class participation, and health-related fitness levels was higher for students taught by National Board Certified Teachers.
- Schroeder, J. (2008). Lifelong learning. *IDEA Fitness Journal*, *5*(5), 70. A fitness professional describes how the program in which she teaches prepares students for careers in the fitness industry.

6

PREPARATION FOR A CAREER

KEY CONCEPTS

- Establishing short- and long-term goals helps in the process of career development.
- Extracurricular activities, internships, and volunteer work in physical education, exercise science, and sport offer important learning experiences and preparation for careers.
- Certifications in officiating, aquatics, first aid, exercise testing, athletic training, coaching, and other areas greatly improve professional credentials for employment.
- Graduate programs provide opportunities for advanced study in various disciplinary specialties for enhanced career preparation and options.

Professionalism is based on knowledge. Thus far, you have learned about the objectives, disciplinary content, philosophy, and professional structure of physical education, exercise science, and sport. You have begun to learn more about various careers through the career perspectives in each chapter. Now, with a career targeted, you are getting ready to learn more about your intended work. The information in this chapter should help you get the most out of your college years. As your knowledge increases, take advantage of various activities in the field and obtain certifications. You are not just joining a profession; you are becoming a professional. This professionalism will demonstrate itself by your commitment to learning and your desire to develop your capabilities to the fullest.

While this chapter introduces you to various career alternatives, at this point you will want to focus on learning more about each career and as much as you can about those of greatest interest to you. The end of this chapter provides information about writing application letters, developing a résumé, and preparing for interviews.

THE CHALLENGE

Everyone's existence depends on self-worth. We all have varying degrees of this basic need that relate directly to our personal levels of happiness. Self-worth is developed by participating and achieving success in different activities. This may include feeling confident in one's sports skills, as well as in leadership skills acquired as a volunteer youth coach, a camp counselor, or an intern in a health and fitness club. An enhanced feeling of competency comes from taking on responsible roles like team manager, lab assistant, Special Olympics or Senior Games volunteer, and sports reporter for a college newspaper. Most people want to feel satisfied with and successful in their lives. Each person, however, defines these concepts uniquely. Many factors contribute to this "satisfaction factor" in our lives. Listed below are some characteristics that people value personally. Select any of these that can help you establish a sense of direction for the personal, social, and professional goals you will be setting. It will help if you can identify one or more individuals who you think personify those traits you wish to emulate.

Analytical Loyal Respectful Assertive Organized Responsible **Benevolent** Outgoing Sensitive Cautious Patient Serious Competent Persevering Sincere Considerate Poised Sociable Polite Cooperative Spontaneous Tactful Creative Practical Determined Progressive Tenacious Prudent Energetic Thorough Enthusiastic Thoughtful Quiet Friendly **Tolerant** Rational Fun Reflective Trustworthy Reliable Understanding Helpful Resourceful Versatile Honest

Once you have observed some of these traits in others, you are encouraged to learn how you can develop these characteristics. People who have been praised as good role models are usually willing to share how they developed their unique abilities. These same individuals are often eager to share strategies that have worked to make them successful.

Setting goals helps a person seek and work to achieve a desirable end state. Written goals focus attention on the relevant factors that may facilitate progress or reduce distractions. A person who takes the time to thoughtfully set realistic and personally meaningful goals will most likely have a vested interest in his or her achievement, resulting in increased motivation and effort. Persistence is



Maintaining personal fitness is one vital aspect of preparing for a career in physical education, exercise science, and sport.

aided by breaking down goals that will take considerable time and effort to achieve (long-term goals) into a series of short-term goals that can help decrease boredom and maintain focus and intensity. These short-term goals can be stated as behavioral objectives, which should be written in measurable terms in order to have a standard by which to verify accomplishment. Evaluations or assessments should substantiate when objectives have been achieved. Thus, goals serve as a road map—providing a sense of direction that in turn helps prevent a person from getting side tracked and helps point in the desired direction for greater efficiency and a feeling of success.

When you set goals, use the acronym SMART to optimize the probability of achieving them. Goals should be

- Specific—establish a definite goal that is important and write it down
- Measurable—identify specific criteria that will verify progress in achieving the goal
- Attainable—establish a challenging, yet realistic, path to achieving the goal
- Rewarding—identify the reasons why this goal is important and visualize how it will feel when this goal is accomplished
- Timely—set a specific time limit so you will know that the price to be paid will be worth it when the goal is accomplished

BOX 6.1 PERSONAL AND PERFORMANCE GOAL SETTING

Personal

- 1. What is your personal long-term career goal or dream?
- 2. Is it possible to achieve this goal if you work hard and motivate yourself the next few years?
- 3. What intermediate goals must you fulfill in the next few months to make progress toward your dream?
- **4.** What are immediate (today/this week) goals that you can accomplish that will help you advance toward your long-term career goal?

Performance

- 5. What is one academic goal that you can achieve within 6 months?
- 6. How can you improve your academic performance during this academic year?
- 7. If you fail to meet this academic performance goal, how will you feel about yourself?
- 8. What is one athletic or fitness goal that you can achieve within 6 months?
- **9.** How can you improve your athletic or fitness performance during this academic year?
- **10.** If you fail to meet this athletic or fitness performance goal, how will you feel about yourself?
- 11. What is one leadership goal that you can achieve within 6 months?
- **12.** How can you improve your leadership performance during this academic year?

Goal setting also helps in assessing abilities and interests and establishing immediate and future expectations. Goal setting helps individuals establish their personal philosophies, as described in Chapter 4. Short-term goals are accomplishments that can occur within a day, week, month, or another not-too-distant time period. Such goals could include attending a weekend workshop, starting a personal exercise program, or joining a professional association. It is important that short-term goals are readily achievable, positively reinforcing, and related to or leading to the attainment of long-term goals. Long-term goals are larger in scope and are often composed of numerous short-term goals. Continual self-assessment and reaffirmations of goals are essential, since interests and aspirations change. Before establishing some professional goals, it may be easier to start with personal and performance goals. To facilitate this process, respond to the questions in Box 6.1.

Associated with developing positive character traits and goal setting is the skill of networking. As you decide what you want to do and determine the type of person you want to be, you can be helped by others who have experienced the same process through which you are progressing. Associating yourself with others who can serve as your mentors and who can introduce you to others in your chosen career can be valuable. These individuals can help you obtain internship experiences and possibly get an entry-level job. They are tremendous resources for information, guidance, and personal development.

EDUCATIONAL BACKGROUND

Academic success in college can greatly facilitate the achievement of your goals. Try to benefit as much as possible from these educational opportunities to learn and develop your skills and abilities. This does not mean that all you need to do is to study, although lifelong learning certainly is vital.

Everyone needs to develop basic academic competencies in reading, writing, speaking, listening, mathematics, critical thinking, studying, and computer literacy. Basic academic competencies and general education course work constitute most liberal arts programs through which institutions provide students with the broad knowledge base for their lives and careers. Advocates of a liberal arts education think that all students should be educated to function effectively in a culturally diverse world, regardless of their career choices. Such an education potentially helps the research scientist interact with the practitioner, assists the coach in understanding family backgrounds and pressures on their athletes, provides insights about other people and their languages in our multicultural society, and develops appreciation for the arts, history, and philosophy.

Some students may fulfill these core requirements by taking a conglomeration of courses without much thought or direction. Whether you take general education courses during the first two years at a community college or throughout a four-year collegiate program, you should seriously consider your selection and sequence of course work to maximize career preparation. Your major or specialized studies normally hold greater interest because they tend to relate more directly to your chosen career. Nevertheless, you still need to make a serious commitment to learning the most that you can from each class (see Box 6.2 for information about how an academic advisor can help you on your academic journey).

Experiential learning and internships are valuable for career preparation. Some majors' programs require students to observe in the schools each week, complete an internship, design practicum experiences for their career choices

BOX 6.2 HOW AN ACADEMIC ADVISOR CAN HELP YOU

You can gain many benefits from seeking out and meeting with an academic advisor. This individual serves as an invaluable resource of information about student services and academic policies, as well as provides a link between faculty and students. Advisors help empower students to take active and responsible roles in their learning as they achieve their academic and career goals. Academic advisors provide information about course offerings, scholarships, majors, faculty, career services, internships, research opportunities, graduate school options, and career opportunities. They help students meet requirements for general education courses, major programs, and graduation by ensuring that university and departmental regulations and policies are followed. Since your advisor knows your interests and abilities, the advisor can help you plan for the future and provide letters of recommendation for study abroad, an internship, graduate school, or a job. To optimally use the services and expertise of your advisor, you should meet regularly with that person. Your advisor will help you make informed decisions, develop a sound academic plan, and earn a degree.

through independent study courses, or take a laboratory course that offers practical experiences. Often courses for the prospective teacher require observation and mini-teaching experiences, many as early as the first year of college.

Several curricula allow students to earn college credit while receiving pay for work completed while learning, such as being a recreation leader for a community, camp counselor, sport club instructor, or personal trainer. An independent study option allows students to earn college credit for developing research projects or for work experiences specific to their areas of interest. Other curricula have experiential courses as a part of their requirements. Each of these options allows students opportunities to gain valuable experiences while they are selecting and preparing for their careers.

GETTING INVOLVED

During your years in college, considerable career-relevant learning occurs outside the classroom. Experiential learning is important. For example, by serving as a team manager, sport official, or event coordinator in intramurals or recreational sports, you can learn about personnel management, scheduling, and rules. Working with a club sport, like karate or rugby, you may get an opportunity to coach or manage the club's financial affairs. Of course, you can learn many things just by participating in various college extracurricular activities or as a varsity athlete. The time to start is now.

Volunteer Activities

While the knowledge gained in college courses introduces content and provides the foundation for a career choice, experiences and practical applications solidify learning. Participating in volunteer activities while a student offers valuable opportunities to gain experience. If athletic training or physical therapy interests you, volunteer to serve as a student trainer or shadow a physical therapist to learn more about these potential careers. If a career in fitness appeals to you, you may start by attending aerobics classes or joining a health club before volunteering to assist instructors in these classes or clubs. Later you may enhance your learning to become an instructor. Other volunteer possibilities in this field include conducting fitness classes for children in an after-school program, senior citizens at a retirement center, or students in your residence hall.

Exercise science majors often choose to volunteer to work in commercial or corporate fitness programs or clinical settings. You could help exercise physiologists, fitness leaders, and physicians assess the fitness levels of clients, prescribe exercise programs, and monitor progress. You could observe and learn how to measure various fitness parameters and help participants adhere to their prescribed programs.

Exercise science students who aspire to earn graduate degrees should volunteer to serve as subjects in research studies. As an undergraduate laboratory assistant working with one of your professors, you can gain tremendous experience using exercise physiology, biomechanical, and other scientific instrumentation. You will quickly learn whether the research process—hypothesis, design, data collection, statistical analysis, and interpretation—appeals to you.



Volunteering to help teach children sport skills can be rewarding as well as a valuable learning experience.

The sport management major can seek out volunteer opportunities both on and off campus. Your college's intramural or recreational sports program needs students to serve as team managers for residence units, club sports officers, and facility and activity supervisors. Opportunities may also be available to organize special events, such as fun runs, orientation sessions, or all-night activities. Volunteers provide valuable assistance working with Special Olympics, family recreational centers, Senior Games, private sports leagues, and State Games. After successfully completing minor tasks, you may qualify for the responsibility of coordinating sports competitions during these events. Volunteer coaches are needed in youth sport leagues and recreation programs. Experiences gained in these settings may lead to opportunities to serve as an assistant coach in a middle or secondary school.

Officiating

Officiating opportunities abound in intramurals, within recreational leagues, and in middle schools; some colleges offer classes in officiating. These learning experiences may result in advancement into the high school, college, and professional ranks. The National Federation of State High School Associations, through its state associations, requires interested individuals to attend clinics and take written examinations to become certified as sports officials. Following



Officiating is a popular part-time job for students interested in sports.

successful completion of these requirements, individuals earn ratings that qualify them to officiate high school athletic contests. The most proficient officials receive the top rankings, earn the honor of working in championships, and may get an opportunity to advance to the next competitive level. Several single-sport organizations, such as USA Volleyball, offer training and education programs for officials

Internships

An **internship** is a supervised period of apprenticeship, related to a student's degree program and career plans, when a student works under supervision to learn practical applications of classroom material. Most fields associated with physical education, exercise science, and sport require one or more internships, in which students enhance their skills and abilities and link the theory from their course work with actual practice in their future career. The aspiring sport manager has to participate in on-the-job experiences, such as in sport marketing and facility and event management, to help prepare for future jobs. Exercise scientists who aspire to prescribe exercise programs in a variety of settings need to experience through internships how to administer fitness assessments and assist individuals with personal programs to gain the knowledge and skills needed to succeed. In most programs, these internships are a part of degree requirements, with associated academic expectations. Some internships permit students to receive pay; others must be completed without pay. The Research View Importance of Internships provides additional information about internships. Go to the National Internship Directory to find internships in sport management, health/ fitness/wellness, marketing, and much more (www.internsearch.com).



Importance of Internships

In today's competitive job market, especially in physical education, exercise science, and sports careers, it is vital that students realize the value of internships and seek them out. According to numerous research studies, students who participate in internships during their undergraduate and graduate programs gain the following advantages:

- Get more extensive learning experiences
- Benefit from extensive hands-on experiences
- Obtain better preparation for employment
- Gain a competitive edge when seeking employment
- · Develop networks with potential employers
- Learn from other employees and build good relationships with them
- Impress their internship employers, making it more likely that they will be hired as full-time employees
- Position themselves for more job offers
- Qualify for higher starting salaries
- · Advance through more frequent promotions

Additional information can be obtained online using your favorite search engine, contacting departmental offices or career services offices, or reviewing books such as *Getting Your Ideal Internship*, *The Internship Bible*, and *The Vault Guide to Top Internships*.

Timeline for Pursuing an Internship or Job

First Year in College

- Learn about available resources on campus, such as exploring possible majors and careers with your academic counselor and advisor.
- Talk with professors about possible majors and careers.
- Make an appointment at the career development center to assess your interests as well as your areas of strength through available inventories.
- Participate in at least one extracurricular club or activity related to your potential career.
- Begin the file of activities and experiences for your résumé.
- Apply for a part-time or summer job related to your possible career choice.

Second Year in College

- Take an introductory course for a major in which you are interested.
- Join a student and professional organization.

(continued)

- Attend a job or internship seminar.
- Prepare a draft of a résumé.
- Learn more about various careers by surfing the Web for more information.
- Select a major and meet with an academic advisor to plan the sequence of your course work.
- Interview people in careers in which you may be interested.
- Participate in at least two extracurricular clubs or activities related to your potential career.

Third Year in College

- Complete courses in your major.
- Add entries about your academic achievements and collegiate experiences to your résumé.
- Meet with the internship advisor and explore options.
- Participate actively in a majors club in your area of interest.
- Attend job fairs or career events and seek out possible internships.
- Attend a meeting of a state, regional, or national professional organization to begin networking for possible internships.
- Explore internship opportunities online, via the print media, and through campus resources.
- Investigate your college's program for connecting students with alumni for internships.
- Attend seminars offered by the career development center.

Fourth Year in College

- Complete advanced courses in your major.
- Attend a meeting of a state, regional, or national professional organization to continue networking.
- Participate actively in a majors club in your area of interest.
- Prepare letters of application for internships and make contacts with potential internship sites.
- Complete the internship application process and attend the internship orientation meeting.
- Add entries about your academic achievements and collegiate experiences and complete your résumé.
- Complete a mock job interview through the career development center.
- Continue to network at career events and job fairs.
- Identify individuals who might be willing to write letters of recommendation for you and ask them to do so.

These experiences associated with your potential career choice may help confirm your interests or indicate that another field may be preferable. Another valuable learning experience is shadowing a person who agrees to mentor you as you learn more about a potential career. As a volunteer or intern, you will help others while developing your own abilities. Each time you participate in one of these activities, add this to a list of your extracurricular experiences. Later, when you apply for a job, you can include these activities on your résumé. Volunteer and internship experiences will help differentiate you from other applicants.

BEGINNING YOUR CAREER INVOLVEMENT

While you are a student, get involved in career-related activities. Most colleges and universities have majors' clubs in physical education, exercise science, and sport studies. Majors' clubs often sponsor faculty-student colloquia, invite leaders in the profession to give presentations, and interact academically and socially. These organizations also frequently organize trips to state, district, and national conferences or workshops where students learn about the profession, hear about current developments, and listen to research reports. Service projects, such as working with Special Olympics and conducting fund-raising events for charities, are also popular ways for young professionals to help others by sharing their expertise; at the same time, you gain valuable experience. Following are some questions to assist you in your career development:

- **1.** What would I like to do immediately following graduation? After five years? Ten years? Twenty years?
- 2. What experiences and learning opportunities can I take advantage of while in college to help me prepare for immediate, short-, and long-term career goals?
- **3.** What resources and people on my campus can help me achieve my immediate, short-, and long-term career goals?
- **4.** What objectives and action plans have I established to help me explore various aspects of my career development while in college?
- **5.** How will the development of a portfolio (describing work experiences, internships, volunteer experiences, and class activities) help demonstrate what I have learned in my career preparation?
- **6.** How will what I have learned in my college courses help me make better decisions in my career?
- 7. How are my personal, academic, and social strengths matched to the potential career for which I am preparing?
- **8.** How can others help me evaluate and understand my abilities and develop strategies to work on areas in need of strengthening?
- **9.** How will I use feedback from experiences and from others to better prepare myself to make decisions relative to my career choice?
- **10.** How motivated am I to devote the time and effort needed to be successful in and satisfied with my career choice?

Certifications

An important demonstration of professional growth and development is the attainment of certifications. Earning a specialized certification is an important career step for the following reasons:

- Confirms the attainment of a high level of competence and the achievement of the standards of the profession, such as becoming a Certified Athletic Trainer by the NATA Board of Certification.
- Shows a willingness and commitment on the part of certification applicants to enhance their career preparation, such as indicated by obtaining a Clinical Exercise Specialist certification from the American College of Sports Medicine.
- Provides potential clients and the general public with a quality control
 measure that reassures them that the certified person possesses a level
 of competence, such as completing one or more levels of coaching
 certification through the American Sport Education Program.
- Enables potential employers to differentiate among applicants based on a known standard of knowledge and skills, such as becoming a Certified Personal Trainer through the National Strength and Conditioning Association.

Before describing the general steps for obtaining certifications, a word of caution is needed. Unfortunately, there are certification mills that will provide you with pieces of paper, inevitably at a significant cost, that appear to certify your knowledge and skills without any examination of whether you are knowledgeable in an academic area or skillful in a specific endeavor. Potential employers realize this and will only be impressed with you and the certifications you hold if these have been obtained from reputable professional organizations and agencies that stand behind the competence of those they certify.

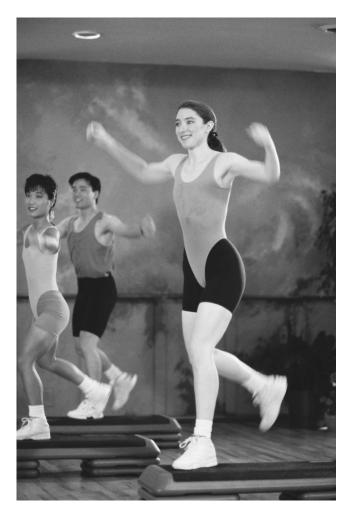
An excellent starting point for obtaining a certification is to do a Web search, such as by typing in "certification programs in fitness," click on an organization of interest, and follow the instructions specific to that organization. In general, the steps you will need to follow to obtain a certification include the following:

- Review the available certifications in your area of interest and select the one that you think is right for you.
- Determine that you meet the required prerequisite knowledge and skills for seeking this certification.
- Review any study materials about the examination.
- Take a practice examination or complete the sample questions, if provided.
- Read carefully the policies and procedures about the certification and application processes and any other information provided so that you are fully informed.
- Complete the application for the certification, making sure that all the required information is provided.

- Submit your completed application and payment to the certifying agency or organization.
- Complete successfully all aspects of the certification examination.
- Add to your résumé only after the certification has been awarded.

The American Red Cross offers certifications for lifeguards and instructors in water safety, first aid, cardiopulmonary resuscitation, and other health and safety services courses. The YMCA of the USA also certifies lifeguards and swimming instructors. These certifications can lead to employment as pool and beach lifeguards and as swimming teachers.

In certifying health and fitness professionals, the American College of Sports Medicine (ACSM) requires a rigorous level of knowledge and skill. ACSM believes that certified professionals set the best possible performance examples, provide safe and caring environments, and show a greater incidence of client and



Certified exercise leaders can help individuals of all ages develop physically.

patient success in achieving health and fitness goals. ACSM offers several types of certification.

Table 6-1 provides information about these and other certifications in health, fitness, sport, and coaching.

TABLE 6-1							
INFORMATION ABOUT PROFESSIONAL CERTIFICATIONS							
Certification	Description						
Aerobics and Fitness Association of America							
KickBoxing	To become certified, candidates must be able to apply the principles of biomechanics, exercise physiology, and injury prevention in the teaching and learning of kickboxing techniques.						
Personal Trainer	To become certified, candidates must demonstrate knowledge of anatomy, kinesiology, nutrition, and weight management, the ability to conduct fitness assessments, and the ability to lead exercise and weight programs.						
Primary Group Exercise	To become certified, candidates must demonstrate knowledge of the basic exercise sciences and the ability to lead group exercise.						
Step	To become certified, candidates must demonstrate scientific back- ground in physiology and biomechanics, verbal and visual cueing skills, and pattern choreography and sequencing.						

American College of Sports Medicine					
Certified Personal Trainer	These professionals develop and implement safe and effective methods of exercise, recommend appropriate healthy behaviors based on the fundamental principles of exercise science, and motivate healthy populations and those individuals with medical clearance to begin and continue exercise programs.				
Health Fitness Instructor	These degreed health and fitness professionals conduct and interpret fitness assessments, construct appropriate exercise prescriptions, implement exercise programs for low- to moderate-risk clients, and demonstrate the ability to effectively counsel individuals regarding lifestyle modification and motivate them to maintain positive lifestyle behaviors.				
Clinical Exercise Specialist	These degreed professionals conduct and interpret clinical exercise tests and electrocardiograms for individuals with controlled cardiovascular, pulmonary, and/or metabolic disease.				
Registered Clinical Exercise Physiologist	A candidate must have been certified as a Clinical Exercise Specialist and have a master's degree in exercise science, exercise physiology, or kinesiology. These certified professionals perform clinical exercise testing, data interpretation, and exercise prescriptions and counseling for individuals with cardiovascular, pulmonary, metabolic, orthopedic, musculoskeletal, neuromuscular, and/or immunological/hematological disease, who have been referred by a physician.				
Cancer Exercise Trainer	These professionals perform fitness assessments and recommend exercise programs for individuals with cancer or a cardiovascular				

disease, with low risk for complications from vigorous exercise.

	TABLE 6-1 (continued)					
INFORMATION ABOUT PROFESSIONAL CERTIFICATIONS						
Certification	Description					
Certified Inclusive Fitness Trainer	These professionals lead and demonstrate safe, effective, and adapted exercises for individuals with disabilities.					
Physical Activity in Public Health Specialist	These professionals, who must hold a bachelor's degree in a health-related field and have at least 1,200 hours of related expenses, promote physical activity at the policy level and provide leadership in collaboratively promoting physical activity for all.					
American Council on Exercise						
Advanced Health and Fitness Specialist	The candidate must demonstrate the ability to provide preventative and post-rehabilitative fitness programming to individuals with common diseases and disorders to help decrease their risk factors and improve health and fitness.					
Group Fitness Instructor	The candidate must demonstrate the knowledge and skills to teach an array of group fitness programs safely and effectively.					
Lifestyle and Weight Management Consultant	The candidate must demonstrate the knowledge and skills to help clients create healthier behaviors through sound nutrition, appropriate exercise, and lifestyle changes.					
Personal Trainer	The candidate must demonstrate knowledge of risk factor screening, fitness assessment, nutrition, exercise science, exercise programming, and instructional and spotting techniques.					
Cooper Institute						
Personal Trainer	These certified professionals provide personal training and fitness guidance to implement individualized programs that are safe, effective, and motivational.					
National Strength and Condition	oning Association					
Certified Personal Trainer	The candidate must demonstrate the knowledge and skills to work with active and sedentary physically healthy individuals one-onone in a variety of settings.					
Certified Strength and Conditioning Specialist	The candidate must possess the knowledge and skills to design and implement safe and effective strength and conditioning pro- grams for athletes in a team setting.					

TARIF 6-1 (continued)

The American Sport Education Program (ASEP) certifies coaches and officials for interscholastic and adolescent sport programs (www.asep.com/). Coaches can advance through three levels of online education with coaching principles, sport first aid, and coaching sport-specific techniques and tactics courses comprising the entry level. Those completing the second level receive preparation in sport mechanics, sport physiology, sport psychology, teaching sport skills, and coaching advanced and sport-specific skills and strategies. Sport nutrition, risk management, social issues, and advanced coaching and practice planning are included in the third level. Officials learn the principles of officiating as well as the methods of officiating specific sports.

The National Federation of State High School Associations (www.nfhslearn .com/) Coaches Education Program, is an online program comprised of two courses: The Fundamentals of Coaching course includes the responsibilities and roles of coaches in teaching, in conditioning athletes, and in interpersonal skills. The First Aid for Coaches course is a sports safety program.

The Program for Athletic Coaches Education (www.mhsaa.com/administration/pace.html) was designed to serve coaches in high schools who are not licensed teachers. This program offers two levels of certification. The first includes legal responsibilities; insurance for coaches and athletes; emergency procedures; prevention, care, and rehabilitation of sports injuries; and essential medical records. The second level focuses on the role of the coach in interscholastic sports; planning, conducting, and evaluating effective instruction; physical conditioning; personal and social skills; positive coaching and motivation; effective communication; and maintaining discipline.

Some institutions offer students the option to complete course work in tracks, specializations, concentrations, or minors in addition to their majors. For example, students majoring in exercise science might choose to use their electives to specialize in a corporate fitness track. Students in physical education might choose to take a coaching minor to better prepare for a teaching-coaching position in a school. Other students might choose to major in sport management while completing a concentration in marketing through the business school. Although each institution uses its own terminology for these programs, each allows students to take undergraduate courses in areas directly relevant to their chosen careers or as preparation for a graduate program for which knowledge in both areas of emphasis would be beneficial.

Undergraduate education is enriched when students learn how to read scholarly articles, conduct research, and share their research and scholarship in written and verbal formats. Students can enhance their preparation for graduate studies and some careers by independently or collaboratively working with faculty mentors or classmates on research projects to create and disseminate knowledge. Through their research experiences, students will develop their research and teamwork skills as they expand their abilities to think creatively.

Sometimes students are challenged when they are asked to read and critique empirical, peer-reviewed articles in scholarly journals. By asking and answering the following questions, students can gain more confidence in their abilities to become better consumers of the latest scholarship in their areas of interest.

- Does the abstract or summary provide a clear and succinct summary of the article?
- Does the introduction summarize what is known about the topic as well as what is not known?
- Is the significance of the study established?
- Is the statement of the problem clearly presented?
- Are the methods described specifically, such as the number and selection process of subjects, validity and reliability of the treatment or assessment, and data analysis process
- Does the experimental design specifically address the hypothesis and/or statement of the problem?

- Are the results stated clearly and concisely using appropriate statistical treatment and methods of reporting?
- Does the discussion section address the findings in an understandable and proper manner?
- Is the significance interpreted in the context of known and unknown knowledge within the limitations of the study?
- Do the data support the conclusions drawn?



WEB CONNECTIONS

- www.mindtools.com/page6.html
 This site provides a wealth of information about goal setting and career planning.
- www.cooperinstitute.org/education/courses/index.cfm
 Learn about the personal trainer certification program, personal
 training courses, online courses, and specialty courses offered by
 the Cooper Institute.
- 3. www.acsm.org/AM/Template.cfm?Section=Get_Certified
 Learn more about the certification programs offered by the American
 College of Sports Medicine and how to become certified.
- 4. www.acefitness.org/ Check out this site for information about fitness certifications offered by the American Council on Exercise.
- 5. www.nsca-cc.org/ Learn about the two certifications offered by the National Strength and Conditioning Association.
- 6. www.internships-usa.com/sport02/spmain.htm The annual Sports Internship Book provides information about internships, and related contact information, in college and professional athletics and in other sports settings.
- 7. www.sportsagentblog.com/internships/
 This blog describes internships with sports agents and their agencies.
- 8. www.internsearch.com/ At this site, students can search for internships in sports, fitness, and recreation.

GRADUATE EDUCATION

Your career objective may require advanced study in physical education, exercise science, or sport studies at an accredited institution. Master's degree programs usually take one to two years to complete; doctoral degree programs require two to four years beyond the master's degree. Master of Science (M.S.), Master of Arts (M.A.), Master of Education (M.Ed.), and Master of Arts in Teaching (M.A.T.) are the typical offerings. They normally require 30 to 36 semester hours for completion, although the actual course work taken varies from institution to institution. The M.S. and M.A. degrees generally emphasize more discipline-oriented study and may allow for specialization in athletic training, exercise physiology, sport management, or sport psychology, as shown in Table 6-2. Completion of these degrees usually requires a thesis, an original research project, or an internship in addition to a comprehensive examination or other summative assessment. Oriented toward education and teaching, the M.Ed. and M.A.T. degrees lead to advanced licensure for individuals working in the schools and usually require an internship or practicum experience (see Box 6.3). Many institutions offer licenses in advanced study beyond the master's degree in special education, supervision, counseling, and administration, as well as educational specialist degrees. Increasingly, schools expect teachers to obtain master's degrees or higher as they continue their lifelong learning.

The highest academic degrees are the Doctor of Philosophy (Ph.D.) and the Doctor of Education (Ed.D.). The Ph.D. is oriented toward research in an exercise or sport science, such as exercise physiology, sport history, sport management, motor learning, or sport and exercise psychology. The focus of most Ed.D. programs is advanced study in education, with physical education forming one portion of the program.

Before deciding whether to enroll in a prospective graduate program, determine whether advanced education is needed for your career. If so, you will need to find out which accredited universities offer the type of program that meets

BOX 6.3 EXAMPLES OF COURSE WORK FOR A MASTER'S DEGREE EMPHASIZING PHYSICAL EDUCATION

Curriculum and Instruction Educational Psychology

Educational Research

Educational Statistics

Education lan Statistics

Issues and Trends in Physical Education

Legal Issues in Education

Motor Learning in Physical Education

School and Program Management

Scientific Foundations of Physical Education

Internship or Practicum Experience

TABLE 6-2

EXAMPLES OF COURSE WORK AND INTERNSHIPS ASSOCIATED WITH MASTER'S DEGREE PROGRAMS IN FOUR EXERCISE SCIENCES

Athletic Training

Care and Management of Athletic Injuries

Clinical Methods in Athletic Training

Applied Statistics and Research Methods

Applied Exercise Physiology

Psychological Considerations for Injury

and Rehabilitation

Issues in Athletic Training

Nutritional Aspects of Exercise

Scientific Analysis of Human Motion

Advanced Orthopedic Assessment

and Treatment

Practicum in Athletic Training

Exercise Physiology

Exercise Physiology

Applied Statistics and Research Methods

Assessment of Physiological Functions

in Exercise

Exercise Testing and Prescription

Nutritional Aspects of Exercise

Planning Health Promotion in Medical

and Worksite Settings

Cardiovascular Disease Epidemiology

Seminar in Exercise Physiology

Practicum in Exercise Physiology

Thesis in Exercise Physiology

Sport Management

Personnel Management in Sport Organizations

Sport Law

Sport Finance

Social Issues in Sport

Applied Statistics and Research Methods

Sport Marketing

Sport Ethics

Sporting Event and Facility Management

Applied Sport Marketing Research

Internship in Sport Management

Sport and Exercise Psychology

Psychological Aspects of Sports

Applied Statistics and Research Methods

Motivation in Sport

Social-Psychological Issues in Sport

Issues in Sport and Exercise Psychology

Stress Management

Counseling and Interviewing Skills

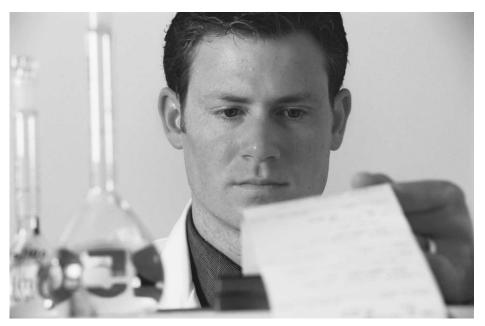
Social Cognition

Personality Assessment and Research

Practicum in Sport Psychology

your area of interest. For example, only a few institutions offer a specialization in athletic training at the master's degree level. Although some institutions require an area of specialization for a master's degree, others offer a general physical education, exercise science, or sport studies program.

Most admission requirements include an undergraduate degree in physical education or related exercise or sport science emphasis, a minimum of a 3.0 (on a 4.0 scale) grade point average, and a better-than-average score on the Graduate Record Examination (GRE) or Miller Analogies Test (MAT). Since institutions are free to set their own admissions standards, review the requirements of the institutions that offer the program you desire. You may write for information or



One important component of graduate education is participation in research projects.

check out multiple institutions and their programs by visiting their Web sites, some of which offer online applications. Applications should be completed during the middle of the senior year or at least six months prior to the expected entrance date. Required admissions materials include college transcript(s), letters of recommendation, application forms, and test scores (such as GRE or MAT results).

For careers that do not require advanced degrees, additional and ongoing education is beneficial. Employers sometimes provide this on the job; otherwise, employees need to attend workshops, conferences, or continuing education classes. Keep current with and stimulated by career changes and developments. These often result in greater job productivity and can lead to career advancement. Remember, career development is a lifelong process.

GAINING EXPERIENCE

Your exploration of career options is enhanced when you gain experience through volunteer work, internships, extracurricular activities, and summer or part-time jobs. When you do such work, you are able to investigate what is involved in a position as well as to develop job-related skills. Through these experiences, you will find out what you do or do not enjoy, which may result in your pursuing a career enthusiastically or rethinking your future career. **Experiential learning**, which describes the knowledge, skills, and abilities developed through involvement in actual work, expands and completes the learning that occurs through

BOX 6.4 POSSIBLE QUESTIONS TO ASK ABOUT YOUR PROSPECTIVE CAREER

- 1. What is the educational background required?
- 2. How much prior experience is needed?
- **3.** What are the typical work hours?
- 4. What is the daily routine and the average time spent on each part of these activities?
- **5.** What is the starting salary and salary range?
- 6. How much vacation time is provided?
- **7.** What are the fringe benefits?
- 8. To what extent will the job responsibilities affect my personal life?
- 9. What are the requisite skills and knowledge for this job?
- 10. What personal characteristics, such as creativity, problem-solving ability, or enthusiasm, are necessary for being successful in the job?
- **11.** What is the potential for employment in this career?
- **12.** In what regions or states is this job available?
- 13. What is the potential for advancement in this career?
- **14.** Is on-the-job training or advanced education required to maintain employment or to advance in this career?
- **15.** What are the specific work responsibilities of this type of job? How much time is spent doing each?
- **16.** What criteria are used to evaluate job performance?
- 17. What are the most satisfying or advantageous aspects of this job?
- **18.** What are the most frustrating or disadvantageous aspects of this job?
- **19.** What has been your biggest disillusionment?
- **20.** What has been your most rewarding or enjoyable experience?

your academic studies. Exploring career options while a student gives you an advantage in your postcollege job search because potential employers will be impressed by the skills and knowledge you already have as well as by your accomplishments while completing these experiences. In reality, many entry-level positions for graduates grow out of networking, internships, and volunteer contributions because students have already demonstrated the quality of their work.

While you are still a first- or second-year college student, it is important to investigate the job market by talking with older students, faculty members, or individuals in the career(s) you are considering, maybe by asking them the questions listed in Box 6.4. Reflect on their responses as you continue to narrow or broaden your career possibilities and make the most of your education. By carefully selecting your elective courses, you may be able to obtain a double major or specialize in an area such as corporate fitness. Through certain courses you may

BOX 6.5 TIPS FOR PREPARING AN EFFECTIVE RESUME

- Assume that your resume is a one-of-a-kind marketing communication about YOU (with the goal of convincing the employer that you are a superior candidate who should be granted an interview)
- Target your resume to the specific job for which you are applying. State at the top an
 objective that shows the available job is exactly what you want and you are the superior
 candidate because you possess the qualities they seek and are committed to being
 successful
- Grab the interest of the reader in the top half page of the resume by making honest assertions about your abilities, qualities, and achievements that elicit interest and excitement about you
- Provide evidence of assertions by listing jobs held, scope of responsibilities in each, and successes in these positions
- List jobs and experiences in reverse chronological order, with an emphasis and more detail about more recent or relevant jobs and experiences
- Show that you meet the requisite job requirements, such as education and experience
- List education in reverse chronological order and include any licenses and advanced professional training
- Use powerful, action verbs
- Demonstrate your excellent writing skills by ensuring that your resume is clearly written, well-organized, concise, consistent in format, error-free, and visually enticing
- Include a summary statement that describes your expertise and skills, breadth and depth of experiences and accomplishments, one or more personal or professional characteristics, and your professional interest or objective

Go to www.rockportinstitute.com/resumes.html for more tips for preparing an effective resume.

qualify for an internship, a summer work experience, or a part-time job, or you may have an opportunity to gain valuable experience as a volunteer in intramurals or intercollegiate athletics.

Why should you be concerned about preparing a résumé early in your collegiate career? The most pragmatic reason is that having one may help you get a part-time job or volunteer experience that might even give you the opportunity to learn more about a potential career and begin to build a network in this field. Another reason is that it is easy with technology to keep up with your activities, experiences, and achievements, lest you forget some of these, as you move through your college years. Having complete information for the preparation of a résumé will definitely help when you begin to seriously apply for the first job in your chosen career. Box 6.5 provides tips for preparing an effective resume. Tables 6-3 and 6-4 show sample résumés, and Boxes 6.6 and 6.7 show sample application letters (for full-time or part-time positions). You may want to visit your college's placement center to learn about the services it offers. Professionals

TABLE 6-3

SAMPLE RÉSUMÉ FOR A PROSPECTIVE TEACHER

LEWIS RAY KNIGHT

School Address: Permanent Address:

1234 Drake Lane 567 Swinging Bridge Boulevard

Columbus, FL 38281 Norlina, TX 72802 Phone: (915) 437-4921 Phone: (173) 548-2183

Education: University of South Miami, Miami, Florida, May, 2009

Bachelor of Science in Physical Education

Major GPA: 3.7; Overall GPA: 3.1

Experiences: Student Teacher, East Junior High School, Miami, Florida (Spring 2009)

Teacher's Aide, West Junior High School, Miami, Florida (Fall 2008) Miami Boys' Club volunteer basketball coach (2005–2009) Counselor at Norlina, Texas, summer sports camp (2006–2008)

Honors and Awards: Residence Hall Intramural Manager of the Year (2007)

Dean's List (2006-2009)

College Activities: Chairperson of the Physical Education Majors' Club Social Committee

(2006-2008)

Intramural and Boys' Club basketball official (2006–2009)

Intramural participant in basketball, touch football, softball, and tennis

(2005–2009)

Student member of the American Alliance for Health, Physical Education,

Recreation and Dance

Availability: Available for employment, August, 2009

References: Will be furnished upon request

there can help you get a summer job as well as your first job after graduation. Numerous online resources can also provide assistance.

It has been said that "it's not what you can do, but whom you know" that determines whether or not you get certain jobs. Many good jobs are obtained through personal contacts. Why not let this work for you? Notify friends, relatives, former employers, and other people you have met that you are looking for a part-time or summer job or an internship. Follow up on all leads, because sometimes getting a good job results from "being in the right place at the right time." Initiate contact with anyone you think can help you. Networking is extremely important. **Networking** is connecting with others on a personal basis in ways to expand your professional opportunities. You can begin to establish a network of acquaintances in your chosen career through your extracurricular activities, internships, volunteer experiences, and summer jobs and by attending workshops and conferences. The people whom you meet, interact with, and impress can help you get your initial or a subsequent job. Networking includes expanding your number of friends in the field and building positive relationships with them.

TABLE 6-4

SAMPLE RÉSUMÉ FOR A PROSPECTIVE CORPORATE FITNESS LEADER

MARY ANN SMITH

School Address: Permanent Address:

 8923 Amigo Drive
 7421 Langley Road

 Northridge, CA 90324
 San Antonia, CA 97181

 Phone: (412) 901-4413
 Phone: (433) 821-0431

Personal Strengths:• Integrity
• Hardworking

Responsible
 Loyalty
 Good communication skills
 Excellent technology skills

Experiences: Intern exercise leader with Jones & Jones Company in Newark,

New Jersey (summer 2008)

• Designed an aerobics program for 125 employees

• Organized a family-oriented fun run

• Initiated a company-wide incentive program for weight reduction

Volunteer at Redwood Convalescent Center, Northwest, California (2006–2008)

• Developed a recreation program for non-ambulatory patients

Sales person, The Sports Shop, Northwest, California (2005–2007)

College Activities: Vice President of the university's Racquetball Club (2008–2009)

Member of Exercise Science Majors' Club (2006–2009)

Volunteer assistant in department's exercise physiology laboratory

(2006-2008)

Education: California State University, Northridge, California, May, 2009

Bachelor of Science in exercise science Major GPA: 3.8; Overall GPA: 3.5

Special Skills: Certified as a Health/Fitness Instructor (American College of

Sports Medicine)

Certified in first aid and cardiopulmonary resuscitation

Affiliations: Student member of the American College of Sports Medicine

Student member of the American Alliance for Health, Physical

Education, Recreation and Dance

References: Will be furnished upon request

Another way to lead potential employers to view your job application favorably is to provide them with a portfolio that describes and illustrates your educational accomplishments, work experiences, and unique abilities. A **portfolio** is a representative collection of a student's work that demonstrates performance, achievements, and experiences. This portfolio could be provided in a looseleaf notebook for the interviewer to review, shared on a compact disk submitted at the time of application for review prior to the personal interview, or via a Web page that you design and maintain. Box 6.8 provides an outline for a portfolio.

BOX 6.6 SAMPLE APPLICATION LETTER FOR A PART-TIME JOB

Ms. Terry Ann Cowan Manager, Sports Unlimited 1902 Smithfield Road Helena, MO 61102 October 1, 2009

Dear Ms. Cowan:

As a sophomore at Western State University majoring in sport management, I am interested in finding a part-time job related to my prospective career. Specifically, I would like to learn about retail sporting goods sales by working 10 to 12 hours per week, in the evenings and on weekends.

My previous work experience includes three summers as a camp counselor teaching racket sports to boys and girls ages 6 to 16, and 9 months as a clerk in a fast-food restaurant. My immediate supervisors for these two jobs have agreed to provide you with an evaluation of my work.

At the university, I am a member of a social sorority, the jazz dance club, and the Sport Management Majors' Club. My commitments to these would not interfere with whatever hours you might assign me to work. I have enclosed my résumé, which provides you with additional information about my work experiences and campus activities.

If you have an opening for a sales clerk or anticipate one in the near future, I would appreciate your calling me at 371-9882 or contacting me at tac1@aol.com. In the event that you cannot reach me within one week, I will call you to follow up on this inquiry. Thank you for your consideration.

Sincerely,

Mary Sue Markam

BOX 6.7 SAMPLE APPLICATION LETTER FOR A TEACHING-COACHING POSITION

1742 Maple Avenue Cary, GA 37938

June 1, 2009

Dr. Raymond C. Van Meter Personnel Director Guilford City Schools Guilford, GA 37941

Dear Dr. Van Meter:

In May, 2009, I graduated from the University of South Miami with a bachelor's degree in physical education with a 3.1 G.P.A. (out of a possible 4.0). I am writing

(continued)

BOX 6.7 SAMPLE APPLICATION LETTER FOR A TEACHING-COACHING POSITION (continued)

to inquire about current or potential vacancies for a physical education teacher and coach in Guilford.

I have benefited from a strong liberal arts and in-depth professional education at South Miami. Since the completion of my current student teaching experiences, conducted under the supervision of John R. Williams, at East Junior High School in Miami, I am eager to continue to enjoy helping students learn. I am committed to and enthusiastic about teaching as a career.

As a volunteer coach, an intramural and Boys' Club official, and an intramural participant for four years and a former varsity player in high school, I believe that I have both the technical knowledge and the personal qualities to coach basketball at the junior high school level. I would also welcome the opportunity to serve as an assistant coach in football, baseball, or softball because of my past experiences in these sports.

Other items on my enclosed résumé indicate my potential to be involved professionally and to contribute as a staff member at a school in Guilford. If a vacancy currently exists, I would appreciate being considered a candidate. If no positions are available at this time, please keep my application on file in the event one becomes available. I may be contacted at my school address through June 15 and thereafter at my permanent address.

Thank you very much for considering my application. I hope that we will meet someday to discuss the possibility of my teaching and coaching in the Guilford City Schools.

Sincerely,

Lewis Ray Knight

Enclosure

BOX 6.8 OUTLINE FOR A PORTFOLIO

Professional Philosophy

- Provide a brief profile about yourself.
- Describe your personal values.
- Share your short-term professional goals specifically as they relate to this career.

Educational Background

- List colleges attended, degrees earned, and major.
- Describe academic honors earned and recognitions received.
- Explain how your collegiate studies prepared you for a career in this field.

(continued)

BOX 6.8 OUTLINE FOR A PORTFOLIO (continued)

- Identify memberships held in professional organizations and describe how your past participation has helped enhance your professional development.
- List any professional certifications and licenses and explain their significance relative to the
 position sought.

Work Experiences

- List all work experiences that helped prepare you for the position sought.
- Describe the scope of your work responsibilities in each job.
- Include commendations and illustrations of the quality of your work.

Extracurricular Activities

- Describe your participation in nonacademic clubs and organizations and how what you learned and experienced helped increase your abilities and knowledge.
- Explain the importance of each aspect of your volunteer work.

Examples of Your Professional Abilities

- Include copies of awards, dean's list citations, and thank-you letters for service.
- Illustrate your competence, such as through publication of student research, a videotape of a professional presentation, samples of lesson plans, or internship evaluations.
- Provide examples of your commitment to lifelong learning, such as workshops or conferences attended.

Professional Goals

• Share your long-term career aspirations and your current plans for achieving them.

SUMMARY

As you prepare for your career, you need to begin to set short- and long-term goals. These will help you make incremental progress toward the achievement of your career aspirations. Your choices of courses to fulfill requirements, your selection of a major, and your use of electives will determine the quality of your education and career preparation. The quantity, quality, and diversity of your extracurricular activities will enrich your college years and possibly assist in your career choice. Internships and volunteer activities, especially those that enable you to gain valuable experiences related to your interest area, are important additions to your undergraduate years. It is beneficial to obtain any appropriate certification prior to seeking your first job, since many positions require this for employment. In addition, completing an advanced degree in an area of specialization will enhance your knowledge and marketability. The process of getting a job begins with the courses you take, the experiences you gain, and the abilities you demonstrate as a young professional. Build on this base of knowledge and experience by examining various career options, developing a résumé, writing application letters, and interviewing for a part-time or summer job.

CAREER PERSPECTIVE



MARTY POMERANTZ

Director of Campus Recreation University of North Carolina at Chapel Hill Chapel Hill, North Carolina

EDUCATION

B.S., pre-physical therapy, State University of New York at Binghamton

M.A., physical education with a specialization in Intramural Administration, Michigan State University

JOB RESPONSIBILITIES AND HOURS

Marty oversees the operation of a comprehensive university campus recreation program, including intramural sports, sport clubs, fitness and aerobics, and outdoor recreation. This includes managing the program budget, supervising 12 full-time professional staff, and coordinating long-term strategic planning. He generally works from 8:30 to 5:30 Monday through Friday, fairly typical hours for a director. However, Marty frequently works on weekends, checking on activities, making sure staff members are on duty, and completing work he is unable to finish during the week. Assistant directors and those who oversee programming (i.e., intramurals and sport club activities) work many evening and weekend hours. Depending on school size, type of institution, region of the country, and other variables, salaries for directors range from \$35,000 to \$150,000, with the average around \$50,000. Salaries for other campus recreation personnel start around \$28,000 and then advance depending on duties and experiences.

SPECIALIZED COURSE WORK, DEGREES, AND EXPERIENCES NEEDED FOR THIS CAREER

To become a director of a campus recreation program, you need a minimum of a master's degree. The National Intramural-Recreational Sports Association offers a certification for campus recreation specialist, which many professionals hold, but most employers do not require this. Marty states that the following experiences are most helpful in pursuing a career in this field: an internship; a graduate assistantship; a position as an intramural official, supervisor, or sport director; serving as an officer or member of an executive council in club sports; and experience as an instructor, a personal trainer, a monitor in fitness and aerobics, a ropes course facilitator or climbing monitor, or an expedition leader in outdoor recreation. Through these experiences, you develop specialized skills and demonstrate a passion for the field. Marty states that probably the most important course he completed was a basic one in programming and scheduling activities. Other courses, including budgeting, diversity, interpersonal relations, organizational behavior, and facility development, were also helpful in completing his current responsibilities.

SATISFYING ASPECTS

To Marty, the most satisfying aspect of his work is knowing that he makes a tremendous difference in the quality of life on campus. While he may not be responsible for a student learning his or her class material, Marty believes he helps create an environment

that enhances the learning process. By providing opportunities for students to develop lifetime skills, such as leadership, time and money management, problem solving, and interpersonal relationship skills, he and his colleagues help educate the whole person. Also, it is gratifying to help bring good health and smiles to the faces of students, faculty, and staff. While there are occasional conflicts and issues of inadequate facilities, Marty believes he could not have chosen a better career and lifestyle.

JOB POTENTIAL

There are many opportunities for jobs and advancement in campus recreation. If you are willing to relocate, become involved in national and regional committee work, and take time to get to know and network with other professionals, the sky is the limit.

SUGGESTIONS FOR STUDENTS

Marty suggests that you get involved in your campus recreation/intramural program as a paid employee or volunteer. He advises that you see whether this field is something you are passionate about; if so, then plunge in. He recommends that you look for a graduate assistant-ship to complement your graduate work or pursue a full-time internship where you know you will receive a good experience. Most important, he states, you have to really enjoy working with people, including all kinds of people with diverse perspectives and problems.

KEY POINTS FOR CHAPTER 6

Setting goals	Goals	should	be	specific,	measurable,	attainable,
	_					

rewarding, and timely.

Volunteer activities Gaining experiences related to a potential career is

an invaluable way to learn which and to what degree

activities are personally rewarding and enjoyable.

Internship A formal supervised period of work in a position related

to a potential career provides an excellent opportunity to expand one's knowledge, learn more about career options, build networks, and help prepare for working in

a selected field.

Certification Through demonstrating more extensive knowledge,

one can show greater expertise and commitment while setting oneself apart from other applicants for positions.

Undergraduate Students should take advantage of participating in research projects with their professors and expanding

their scholarly knowledge in their areas of interest.

Graduate degrees Since graduate degrees are often required for entry into

some fields, and for advancement in many fields, students should examine the job requirements of their potential careers and explore options for obtaining any required

or desired advanced degrees.

Experiential Learning is optimized whenever knowledge, skills, and learning

abilities can be developed and enhanced through related

work experiences.

Résumé The development of a résumé should be an ongoing

process that includes a record of all relevant activities

and achievements during the undergraduate years.

Networking Meeting and building relationships with individuals

> in potential careers may be the most important factor in obtaining an entry-level position or advancement

opportunity.

Portfolio This representation of a student's or professional's work

> can help differentiate a person from other applicants for positions because of how it illustrates or describes personal accomplishments, experiences, and unique

qualities.

REVIEW QUESTIONS

1. What are goals? Why is establishing long- and short-term goals important?

- 2. What are several reasons why volunteering in activities related to your intended career is important?
- 3. Why is an internship important?
- 4. What are the various types of graduate degree programs offered by universities? What are examples of the programs of study they offer?
- 5. Describe the process for obtaining a certification related to your intended career.
- 6. What should a résumé include?

STUDENT ACTIVITIES

- 1. Talk with students who have completed internships in intramurals, in campus recreation, in athletics, with a community group, in a corporate fitness program, or with a sports business. Ask them about the positive and negative aspects of their experiences.
- 2. Get involved in one professionally related extracurricular activity. Evaluate your experiences to determine what you learned and how they could help you in the future.
- 3. Find out about your institution's majors' club in your field of study and become actively involved with it.
- 4. Select a certification, such as one in health and fitness, and set short- and long-term goals for achieving it.
- 5. Interview an individual in a career that interests you. Ask this person's advice about how best to prepare to enter that career.

- **6.** Write a letter of application for a position in your chosen career. In one paragraph, highlight your most significant qualities.
- 7. Using the Internet, obtain information about three graduate programs that interest you.

SUGGESTED READINGS

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- Beggs, B., Ross, C. M., & Goodwin, B. (2008). A comparison of student and practitioner perspectives of the travel and tourism internship. *Journal of Hospitality, Leisure, Sport and Tourism Education*, 7(1), 31. In this study of the perceptions of college student interns and practitioners in travel and tourism, the interns and practitioners disagreed on 13 of the 48 items in the Web-based survey, such as significantly different perceptions regarding intern skills, the role of the intern, responsibilities that interns should be given, and factors to consider in selecting an internship.
- Cunningham, G. B., Sagas, M., Dixon, M., Kent, A., & Turner, B. A. (2005).

 Anticipated career satisfaction, affective occupational commitment, and intentions to enter the sport management profession. *Journal of Sport Management*, 19(1), 43. These authors examine the impact of internships on students' career-related affect and intentions and report that affective occupational commitment fully mediates the relationship between anticipated career satisfaction and intentions to enter the profession.
- Durrett, A. (2008). Handling career changes with aplomb. *IDEA Fitness Journal*, 5(7), 84. The authors offer strategies for fitness professionals to help them with handling career changes, such as the challenges of earning an advanced degree, juggling working as a part-time or full-time personal trainer while pursuing a degree, and starting a training studio.
- Gavin, J., & Mcbrearty, M. (2008). Becoming a coach: A roadmap to training. *IDEA Fitness Journal*, *5*(6), 50. The authors describe the growth and distinctive features of current programs, and offer suggestions to help a person in the career of a personal or life coach.
- Paulson, S. (2008). EPCs and a proactive health model: The relay. *Professionalization of Exercise Physiology, 11*(8), 1. The author argues for having certified exercise physiologists who possess the professional preparation, responsibility, and accountability of a health care professional.
- Perusek, A. (2008). What a clinician needs to know to become an effective teacher. *Athletic Therapy Today*, 13(6), 1. After describing the challenges of becoming a teacher after a long career as an athletic trainer, the author emphasizes that the most important factor in good teaching is mastery of the subject matter.
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- *Journal*, 31(1), 3. Based on a Web-based survey, senior-level students and campus recreational sport directors are mostly in agreement with the role of the internship experience, role of the internship agency, intern abilities, and factors in selecting an internship. The authors discuss the significant differences in perceptions.
- Ross, C. M., & Schurger, T. (2007). Career paths of campus recreational sport directors. *Recreational Sports Journal*, *31*(2), 146. In this study of the job profiles and career paths of 145 directors of campus recreation, the respondents share the importance of gaining diverse practical experiences, being actively involved in professional organizations, learning how to network effectively, and being passionate about recreational sport management.
- Smith, S. (2007). Utilizing sport management internships in the interscholastic athletic department. *Interscholastic Athletic Administration*, *34*(1), 16. The author describes how a carefully planned, supervised, and evaluated internship experience working in an interscholastic athletic department can benefit the student and administrator.

UNIT

HISTORY AND DEVELOPMENT OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT



7

EARLY HERITAGE IN SPORTS AND GYMNASTICS

KEY CONCEPTS

- Early civilizations, including the Greeks, valued physical development to varying degrees.
- The Greek Ideal stressed the unity of the "man of action" and the "man of wisdom."
- Training to become a knight was the primary physical development valued during the Middle Ages.
- A search for knowledge and an emphasis on "a sound mind in a sound body" emerged during the Renaissance.
- Naturalism focused on teaching children when they were ready to learn and on meeting their individual needs.
- European gymnastics programs developed to train soldiers for nationalistic purposes and later influenced school curricula.
- The British popularized and spread their love of sports and games.

Throughout history, people have participated in various physical activities. Integral to the early civilizations' survival tasks of seeking food, clothing, shelter, and protection were the utilitarian skills of running, jumping, throwing, wrestling, climbing, and swimming. Before formal educational programs emerged, tribal leaders and parents mandated that children learn and practice survival skills through imitation. Communal requirements stressed physical prowess for both aggressive and defensive purposes.

Modern programs of physical education in the United States borrowed primarily from the philosophies, activities, and developments of Europeans from prehistoric times through the 1800s. The Greeks valued optimal physical prowess, and Greek athletics laid the foundation for subsequent physical education and sport programs. In Europe, military training served utilitarian purposes. After social conditions stabilized, the philosophy of naturalism stressed development of the body to help educate the whole child. Gymnastics that stressed nationalistic

goals borrowed the apparatus and activities of earlier naturalistic programs. Sports and games in England offered an alternative to formalized gymnastics systems.

EARLY CULTURES

The earliest known hieroglyphic writing and the formation of the Egyptian state occurred around 3100 B.C. with Egypt unifying into one kingdom under the pharaohs around 2650 B.C. The next few hundred years saw the building of the great pyramids and tombs with their extensive inscriptions. The classical period of art, manifested in painting, carving, sculpting, and literature, occurred between 1975 and 1640 B.C. This era also was characterized by extensive knowledge about the body, antiseptics, and surgery. After tumultuous times of disunity and foreign rule, the Egyptians subsequently defended their state, which was ruled by military generals and pharaohs until it was conquered by the Persians in 525 B.C. After Alexander the Great captured Egypt from the Persians in 332 B.C., thus making it part of his empire, he built a fortified city and named it Alexandria. This city dominated the eastern Mediterranean world culturally, politically, and economically for more than nine hundred years due to its location, which served as a geographical and political bridge between Europe and Africa. Alexandria was enriched by maritime trade, the Greek intellectual tradition, and its status as the capital of Egypt and seat of rule for the Ptolemaic dynasty.

The Egyptians have been recognized more for their alphabet and their scientific, agricultural, and engineering prowess than for their educational achievements. Although the Egyptians did not have health objectives related to physical activity, they showed interest in physical development if it achieved a vocational, recreational, or religious objective. The warrior class physically trained for hunting, charioteering, warfare, and wrestling. For recreation, people of all classes swam, hunted, and played ball games. Dancing, like wrestling, was a form of entertainment. Dancing was also important in religious rituals.

Scholars have divided the history of China, one of the earliest civilizations in the world, into a series of dynasties. During the Shang Dynasty between 1500 and 1000 B.C., the bronze culture enabled China to achieve unprecedented advancements in politics, economy, industry, culture, art, medicine, transportation, astronomy, and written communication. The subsequent Zhou Dynasty, which reigned until 221 B.C., was noted for its brilliant achievements in culture. Under the Qin Dynasty, which lasted only 15 years, China was unified into the first multinational, autocratic state in Chinese history. This beginning of the imperial history of China saw the initiation of the construction of the Great Wall. The Tang Dynasty, which lasted between 618 and 907 A.D., elevated China into arguably the largest, richest, and most sophisticated state in the world at that time as its people spearheaded cultural exchange between the East and the West in politics, economics, military power, foreign relations, literature, and poetry. Between 960 and 1279, China flourished economically and enjoyed such great artistic and intellectual achievement that this era has been called the Chinese Renaissance. The Yuan Dynasty, which lasted 98 years, emerged in 1271 following the defeat of much of China by nomadic fighters from Mongolia led by Genghis Khan. The Mongols established Beijing as a political, economic, and cultural center. The prosperous Ming Dynasty was characterized by advances in the arts and sciences, an agrarian-centered society, growth in industries, the refurbishing of the Great Wall, and a strong and complex central government.

Although in earlier eras physical training had been valued, the religions of Taoism, Buddhism, and Confucianism emphasized the contemplative life. The defense-minded Chinese maintained a military class who participated in archery, boxing, chariot racing, football, and wrestling, but these activities were never popularized for the masses. Many Chinese flew kites, played chess, practiced light exercises called *Ku fu*, hunted, did acrobatics, and fished. For the Chinese, literary studies and moral and religious training were valued most.

The geography of India has shaped its history, with its location an attraction to invaders from the East and West. The first invaders, the Aryans, with their strong cultural traditions, introduced the caste system. Local Hindu kingdoms, however, survived numerous invasions and perpetuated their culture and religion. While the Persians and the Greeks invaded India, their influence was limited in time and in scope. The Maurya Empire, beginning around 300 B.C., conquered nearly the entire subcontinent, and one of its kings introduced Buddhism throughout much of central Asia. Although Arab (Muslim) armies had previously conducted raids in India, they returned in 1192 under Mohammed of Ghor and devastated the city of Delhi and its Buddhist temples, and this time they did not leave. Numerous Muslims vied for dominance until 1527 when the Mughal (Persian for Mongol) monarch Babur came into power. While ruling India, his descendents established a tradition of cultural acceptance that contributed to their success and left behind several colossal monuments, including the Taj Majal. Subsequently, Europeans began their imperialistic forays into India, led by the Portuguese in 1510, who were displaced by the British in 1610.

In India, Hinduism renounced pleasure and individualism and was characterized by asceticism in preparation for the next life. Spiritual well-being led to healthful practices and participation in physical exercises such as yoga, a system of meditation and regulated breathing. Buddhism, which deemphasized physical activities, sought to reform the excesses of the Indian caste system.

For various reasons, the Egyptians, Chinese, and Indians engaged minimally in physical activities. Not until the Greeks did a civilization openly stress physical prowess and prescribe organized methods for its development.

Greece, regarded as the birthplace of Western civilization, produced a rich heritage of art, drama, history, mathematics, oratory, philosophy, poetry, science, and sculpture, as well as the earliest recorded athletic or sports activities. This progressive society, which recognized the importance of educating the whole individual, evolved through four eras: (1) the Homeric era, from prehistoric times until the first recorded Olympic Games in 776 B.C.; (2) the era of the totalitarian city-state of Sparta, from 776 B.C. to 371 B.C.; (3) the early Athenian era, which emphasized democracy and individual freedom, from 776 B.C. to the end of the Persian Wars in 480 B.C.; and (4) the later Athenian era, from 480 B.C. until 338 B.C., which grew out of heightened intellectual curiosity (Van Dalen & Bennett, 1971).

THE HOMERIC GREEKS (BEFORE 776 B.C.)

The Homeric era was named for the Greek poet Homer, who is credited with composing *The Iliad* and *The Odyssey*, which include the earliest records of athletic competitions. Book XXIII of *The Iliad* describes the funeral games held in honor of Patroclus, Achilles' friend who was killed in the Trojan War. The contests included a chariot race, boxing, wrestling, a footrace, a duel with spears, a discus throw, archery, and a javelin throw. Athletes of the period competing in individual events like these fought fiercely to win. In *The Odyssey*, Homer chronicled the wanderings and return of Odysseus from the Trojan War. Illustrative of these adventures was one episode in Book VIII in which Odysseus, taunted by the Phaeacians, responded by throwing the discus beyond the distances achieved by their athletes.

The predominant philosophy that developed during the Homeric era became known as the **Greek Ideal**, which stressed the unity of the "man of action" and "man of wisdom." This all-around mental, moral, and physical excellence was called **arete** and was believed to be personified by the Greek gods. Revered as part deity and part human, the 12 major gods of the Olympic Council were worshiped as the personifications of the Greek Ideal, with superior intellectual and physical capacities, such as strength, endurance, agility, and bravery. In funeral games held in honor of both respected soldiers killed in battle and the gods, Greek warrior-athletes competed to prove their arete. Success, or winning to prove one's athletic superiority, was valued more highly than prizes, although lucrative prizes were awarded. Prior to competing, many athletes sought the favor of the gods.

THE SPARTANS (776 B.C. TO 371 B.C.)

The Greeks organized themselves into small governmental units known as city-states. The two dominant, though dramatically contrasting, city-states were Sparta and Athens. By the eighth century B.C. Sparta had begun its military conquests. As Sparta conquered land and took captives, a strict code of discipline, rather than adherence to the Greek Ideal, was imposed on its people. The **agoge**, an educational system that ensured the singular goal of serving the city-state, evolved. Mandating complete submission, the Spartan civilization became stagnant because everything, including education, was controlled by the government.

At birth, a child was examined by a council of elders. If healthy and strong, the child was spared. Weak or sickly children were exposed to the elements to die. The mothers' roles in raising children resembled those of state nurses; they had to suppress tender and maternalistic feelings. While sons were taught to value their roles as obedient soldiers, daughters learned about their responsibility to bear healthy children.

To prepare themselves physically for this duty, girls participated in stateprescribed gymnastics in addition to wrestling, swimming, and horseback riding. Dancing was also important in the education of girls and boys as a means both of physical conditioning and honoring the gods. The boys' educational system, the agoge, was highly structured and formalized. Boys were conscripted by the state at seven years of age and remained in military service until death. Spartan boys began their military training with running and jumping for conditioning. They progressed to swimming, hunting, wrestling, boxing, playing ball, riding horses bareback, throwing the discus and the javelin, and competing in the **pancratium**, a contest combining wrestling and boxing skills. Young boys were trained to endure hardships and pain. Discipline reigned supreme; youths who failed to develop valor, devotion to the state, and military skill were punished, often severely.

Beginning at 20 years of age, youths engaged in intensive military maneuvers and actual warfare. These Spartan soldiers, who had been conditioned to fight until death, repeatedly demonstrated their superiority over neighboring city-states and other foes. Not only did the Spartans dominate militarily during this time, but they also won more Olympic victories than athletes from any other city-state. Spartan men, at the age of 30 years, qualified for citizenship and were expected to marry; however, their obligation to the state continued as they trained youth in the public barracks. The Spartan military machine, with its focus on physical prowess and disregard for intellectual development, contributed to its inability to rule its innumerable captives and lands. Although they made excellent soldiers, the people were trained not to think for themselves but to perform on command. The Spartans were also few in number due to their strict practices. These factors contributed to the end of their domination as a city-state.

THE EARLY ATHENIANS (776 B.C. TO 480 B.C.)

Athens differed sharply from Sparta. The Greek Ideal became the Athenian Ideal as this city-state sought to provide an educational system that encouraged boys to develop their physical and mental abilities. Within a framework of democracy, liberalism, and the popularization of various philosophies, physical prowess flourished in Athens as an integral part of the preparation of boys for war and as a means to depict beauty and harmony.

Girls remained at home under the care of their mothers and received little or no formal education. Once married, they lived secluded lives. Unlike the physically trained women in Sparta, the Athenian women's social role typically was very different from the men's role. Boys in the lower classes, though, were as uneducated as girls.

The Athenian educational system, which valued the all-around citizen, dominated the lives of upper-class boys, who, under the guidance of their fathers, learned about their future responsibilities. Usually beginning at age 7 and lasting until 14 to 18 years, young boys were formally educated at privately owned schools. The time when each boy started, the length of time he attended, and the time when he ended this phase of his education were determined solely by the father, since no governmental regulations existed. Not all boys could attend these schools, since fathers had to pay for their sons' education.

The importance attached to the all-around-development ideal was evident in each boy's attendance at two schools. A music school provided instruction in

arithmetic, literature, and music, while at a **palaestra**, called a wrestling school, boys trained physically. Both schools were equally valued, as the unity concept prevailed. Palaestras were owned and directed by **paidotribes**, the first physical education teachers. They were not elaborate athletic facilities but varied from sparse rooms to simple buildings where the boys practiced wrestling, boxing, jumping, and dancing. Some palaestras also included playing fields and a place for swimming.

At the age of 18 years, Athenian boys became eligible for citizenship. For two years thereafter they were subject to military service, if the state needed them, although no mandatory conscription existed. From 20 years of age onward, upper-class Athenian men did not work but instead spent much of their time at government-furnished **gymnasiums**, sites for intellectual and physical activities for Greek citizens. There they practiced athletics to maintain their readiness as warriors in case they were needed by the state. Intellectual discussions, dealing with political issues, and social interactions were equally important facets of days at the gymnasium.

Greek dancing provided one means of honoring the gods as part of religious worship. It also enhanced physical conditioning and demonstrated the symmetry and beauty adored by the Athenians. Athletics played a similar role, as festivals honoring the gods gave Greek men the opportunity to display their physical prowess and aesthetically pleasing bodies. The importance of honoring the gods eventually led to a proliferation of festivals throughout Greece.



WEB CONNECTIONS

- www.museum.upenn.edu/new/olympics/olympicintro.shtml
 This site at the Penn Museum provides a plethora of historical facts and information about the history and events of the ancient Olympic Games.
- www.perseus.tufts.edu/Olympics/ Students visiting this site can learn more about ancient Olympic sports, take a virtual tour of ancient Olympia, gain an understanding of the context and spirit of the ancient Olympic Games, and read stories about Olympic athletes of that time.
- 3. http://multimedia.olympic.org/pdf/en_report_658.pdf
 This site provides information about the ancient Olympic Games, the athletes, sport program, rewards, and ending of the Games.
- 4. www.roman-empire.net/
 Learn more about the Roman Empire through the brief descriptions of the early and late Republic, the Emperors, the army, society, and religion, as well as through the pictures provided on this site.

(continued)

- 5. www.vroma.org/~bmcmanus/arena.html
 This site provides information about gladiators and their contests.
- http://library.thinkquest.org/10949/fief/medknight.html
 This site describes the knights, their weapons, and the era of chivalry.
- 7. www.ibiblio.org/wm/paint/glo/renaissance/ Learn about the rebirth of knowledge or Renaissance.

THE LATE ATHENIANS (480 B.C. TO 338 B.C.)

The Athenian-led victory over the Persians in 480 B.C. set the stage for several cultural changes. Economic expansion, self-confidence, increased leisure time, intellectual curiosity, and expansion of political power combined to shift educational goals away from devotion to the state and toward a heightened pursuit of individual happiness. This rampant individualism led to a deemphasis on the physical aspects of education because, as members of the dominant city-state, citizens no longer saw the need to train as soldiers. The Athenian warrior-athletes were replaced by mercenary soldiers and professional athletes.

The gymnasiums became more like pleasure resorts than places for exercise. They provided sites for philosophical discussions and the training of professional athletes. The Golden Age of Athens (the fifth century B.C.) was highlighted by a flowering of democracy and intellectual curiosity led by the Sophists, a class of teachers of rhetoric, philosophy, and the art of successful living, and by the Athenian statesman, Pericles. Warning cries from some philosophers about the undermining of the Athenian society went largely unheeded. As a result, the Athenians were militarily unprepared and fell to the Macedonians in 338 B.C.

THE PAN-HELLENIC FESTIVALS (776 B.C. TO A.D. 400)

Festivals honoring the gods during the Homeric period led to the establishment of regular celebrations, which expanded dramatically in the fifth century B.C. The warrior-athletes, who were expected to perfect their skills for warfare, used these religious festivals to demonstrate their physical prowess, especially since this proved their allegiance to the Greek Ideal as personified by the gods. Some of these **Pan-Hellenic** (meaning for all Greeks) **festivals** also included musical events and aquatic displays (see Table 7-1 for a list of the four major Pan-Hellenic festivals). The Pan-Hellenic festivals were exclusively for men with one exception: the Heraean Games, which were held for maiden women who competed in a footrace.

The ancient Olympic Games were unmatched in prestige among these festivals. They were held every four years at Olympia, in honor of Zeus, the chief Greek god. These events began at least by 776 B.C. (the date of the earliest

TABLE 7-1				
PAN-HELLENIC FESTIVALS				
Name	Frequency	Honoring	Location	Wreath for Victor
Olympic Games	Every four years	Zeus	Olympia	Olive leaves
Pythian Games	Every four years (third year of each Olympiad)	Apollo	Delphi	Bay leaves
Isthmian Games	Every two years (second and fourth years of each Olympiad)	Poseidon	Isthmia	Pine
Nemean Games	Every two years	Zeus	Nemea	Wild celery

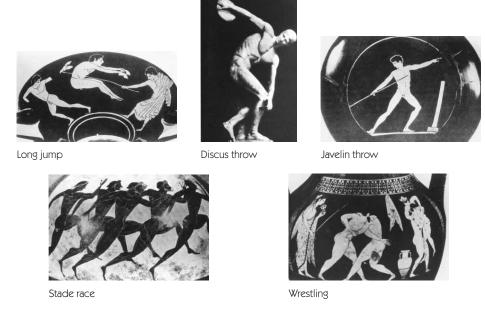
existing artifact of a victory at Olympia), but probably started much earlier. The sacrifices to Zeus, feasting, and athletic contests lasted five days in August and attained such prestige that the perennially warring city-states would guarantee safe passage to travelers to the games. Box 7.1 lists when it is believed that each event became a part of the games at Olympia and provides a probable outline of how events were organized during the five days. This sequence of events, with sacrifices and other tributes to Zeus, reinforced the link between religious service and athletic competition.

To be eligible for the games at Olympia, a prospective athlete had to be male, Greek born, and free (not a slave), and had to train for 10 months before the contests (with the last month of training at Olympia under the guidance of the judges). Although the games were open to men from all social classes, the training requirement precluded participation by most poor Greeks, who had to work. Athletes were required to take an oath of fair play. Victors received a wreath of olive branches to symbolize their highly respected victory. Honored by a hero's welcome when returning home, a victor reveled in triumphal processions and banquets, special privileges, and monetary rewards. Initially Olympia provided no accommodations for either spectators or athletes, as neither a stadium nor a site for the contests existed. The games were scheduled in open spaces with spectators sitting wherever they could. Later construction of a stadium (for footraces) and the hippodrome (for horse and chariot races) provided space for about 40,000 spectators.

The **stade race** was named because it was a footrace the length of the stadium, although the dirt running area was nothing like a track or stadium of today with seating for spectators. This race of about 200 meters was probably the only event in the first games at Olympia. A two-stade race, a longer race of about 12 laps, and a race in armor were later added to this phase of the athletic contests. Marble slabs with toe grooves may have served as starting blocks, and either a trumpet blast or a starting gate was probably used to start these events. In the longer distance races, the athletes rounded posts at the opposite end of the stadium.

BOX 7.1 ANCIENT OLYMPIC GAMES Chronology 776 в.с. Stade race 794 B.C. Added the two-stade race 720 B.C. Added the longer distance race 708 B.C. Added pentathlon and wrestling 688 в.с. Added boxing 680 B.C. Added chariot race 648 в.с. Added pancratium and horse race 639 B.C. Added events for boys 520 B.C. Added the race in armor 472 B.C. Festival set as a five-day event and the sequence of events set as follows: First Day **Fourth Day** Oath-taking ceremony Wrestling Contests for heralds and trumpeters Boxing Contests for boys Pancratium Sacrifices, prayers, singing of hymns, Race in armor and other religious observances Fifth Day **Second Day** Prize-giving ceremony Chariot race Service of thanksgiving to Zeus Banquet Horse race Pentathlon (discus, javelin, long jump, stade race, and wrestling) Third Day Main sacrifice to Zeus Footraces

Hand-to-hand combat events included boxing, wrestling, and the pancratium. Since no weight categories existed, boxing pitted two athletes of any size against each other until one raised a hand to admit defeat. No gloves were worn; the boxers' hands were wrapped with pieces of leather. Blows were confined primarily to the head, often resulting in severe injuries. Wrestling was one of the most popular events because its competitors displayed agility, gracefulness, and strength (see Research View for one example). The objective was to throw the opponent to the ground three times. The pancratium borrowed from boxing and wrestling to become an "almost-anything-goes" combat. Except for biting and gouging, an athlete could employ any maneuver, such as tripping, breaking fingers, and strangleholds, to force an opponent's admission of defeat.



FIVE EVENTS OF THE PENTATHLON

Chariots, two-wheeled vehicles pulled by four horses, raced, as did horses, at the hippodrome, a narrow field about 500 meters long. These races were limited to the wealthy, who could afford to maintain the horses and hire the charioteers.

RESEARCH VIEW

The Strength of Milo of Kroton

Milo of Kroton was a legendary Greek athlete and six-time renowned Olympic champion in wrestling (once as a boy, and after eight years he won five consecutive titles). Numerous real, or possibly mythical, accounts added to his reputation of unrivaled strength. For example, Milo did not develop his strength by lifting a bull each day as the bull grew. However, Milo's development of strength affirms the principle of training known as progression, increasing gradually the stress on the muscles so the body can adapt. According to ancient sources, Milo could tie a cord around his forehead, hold his breath, and break the cord with his bulging forehead veins. He could stand with his right elbow against his body and arm outstretched, hold out his right hand with the thumb pointed upward with his fingers spread, and no one could bend any of his fingers. Milo carried an ox for several miles and then killed it with one blow of his fist, cooked it, and immediately ate it all. On another occasion, he held up a falling roof so others could escape and then ran out of the house himself.

BOX 7.2 GAINING A BETTER UNDERSTANDING OF THE HISTORY OF SPORT AND PHYSICAL ACTIVITY IN GREECE

Students: Why did the Greeks do the following? (If you do not know the answer, see if you can find the answer in your textbook or do a Web search to find the answer.)

Why did...

- 1. boys and men train and compete in the nude?
- 2. Spartans leave some of their children on mountains to die?
- 3. Spartan females train physically and Athenian females did not?
- 4. the Greeks have no weight categories for competitions in wrestling, boxing, and the pancratium?
- 5. the Greeks crown only the victors (there were no second- or third-place awards) in the Olympics and other Pan-Hellenic festivals?

The victors were the owners, not the charioteers or jockeys. The chariot race consisted of 12 laps.

The winner of the **pentathlon** was recognized as the best all-around athlete. Although the order of events and the method of determining the victor have been lost in antiquity, the discus throw, the javelin throw, the long jump, the stade race, and wrestling constituted the pentathlon. Like the long jump and the javelin throw, the discus throw existed only as a pentathlon event. In the discus throw, the athlete hurled a circular piece of stone or bronze about 1 foot in diameter and weighing 4 to 5 pounds. In the long jump, jumpers were aided by handheld weights, called **halteres**, which were swung to enhance their performances. The javelin was thrown for both distance and form as a test of skill and strength. A leather thong was wrapped around the 8- to 10-foot javelin, giving it a rotary motion upon release, thereby increasing accuracy. The stade race and the wrestling match probably concluded the pentathlon, although these may not have been held if one athlete had already won the first three events.

Two developments ushered in a change in attitude toward the Pan-Hellenic festivals. Intellectual curiosity and a search for knowledge in Athens replaced the Greek Ideal and hence lessened interest in physical development. Within the games themselves, lucrative prizes increasingly overshadowed the earlier motive of honoring the gods through displays of athletic prowess. Professional athletes who trained under coaches at the gymnasiums and specialized in certain events now dominated the contests. Expensive prizes led to cheating, corruption, and bribery. Although officially ended by Roman decree around A.D. 400, the Olympic Games or other Pan-Hellenic festivals continued at sporadic intervals for many years.

Before leaving the Greeks, take the challenge to answer the questions in Box 7.2.

THE ROMAN REPUBLIC (500 B.C. TO 27 B.C.)

Roman civilization began as a small tribal community near the Tiber River during the height of the Greek civilization. By extending its rule over neighboring tribes, the Roman nobles, who were landowners, succeeded in establishing a republic around 500 B.C. Soon the common people, who had been given land for their military service, demanded and received greater voice in the government. Thus, through this democratization process, many Romans attained higher degrees of political and economic freedoms.

Roman life during this era focused singularly on serving the state, even though the home provided education for youths without government involvement. Fathers and mothers taught their sons to become **citizen-soldiers**, including in their education a mental and physical readiness for war, respect for the law, and reverence for the gods. Accompanying their fathers to the Campus Martius or other **military camps**, boys learned military skills such as archery, fencing, javelin throwing, marching, riding, running, swimming, and wrestling; they developed bodily strength, courage, and obedience to commands as they trained. Conscripted into the military at 17 years of age, men were available for active duty, if needed, until age 47. During these 30 years, men were expected to fulfill their business and political duties as well.

Daughters were educated to assume a vital role in raising children and were expected to instill in their sons the importance of fighting, and even dying, for the state. Roman women were more highly respected and socially active than Athenian women, although they did not usually train physically.

Festivals honoring the gods held as prominent a place in Roman society as they had in Greek society. However, the Romans did not participate in athletic contests or dance; rather, they offered sacrifices to their gods and preferred to watch others compete. These festivals provided leisure-time relief from strenuous military training, but served no educational purposes. Table 7-2 compares Greek and Roman athletic programs.

TABLE 7-2				
COMPARISON OF ATHLETIC PROGRAMS				
Early Athens	Late Athens	Roman Republic	Roman Empire	
Participants Aristocratic citizens	Professional athletes	Citizen-soldiers	Professional gladiators and charioteers	
Motivation All-around development	Profit	Preparation for war	Profit	
Training Gymnasiums and palaestras	Gymnasiums under trainers	Military camps and fathers	Specialized schools	

TABLE 7-2 (continued)				
	COMPARISON OF ATHLETIC PROGRAMS			
Early Athens	Late Athens	Roman Republic	Roman Empire	
Events				
Archery, boxing, chariot races, discus, footraces, javelin, and wrestling	Boxing, chariot races, footraces, horse races, pancratium, pentathlon, and wrestling	Archery, fencing, javelin, marching, riding, running, swimming, and wrestling	Chariot races and gladiatorial contests	
Organization				
Festivals	Scheduled games and festivals	Festivals	Frequent, organized festivals	
Number of Stadiums or Arenas				
Few	Many	Few	Many	

THE ROMAN EMPIRE (27 B.C. TO A.D. 476)

The economic and political freedoms gained by citizens during the Republic eroded during the century before the Empire was established in 27 B.C. under Augustus Caesar. The peasants, who had received land in exchange for military service, were ravaged by years of war and subsequent debts and taxes. Powerful landowners seized this opportunity to expand their estates and gain greater political influence. The poorer citizens, who were forced off their land, migrated to Rome, where they lived off the public dole. Replaced by a professional army and denied political freedoms and personal dignity, the common people spent their days attending the festivals and games sponsored by upper-class senators or the emperors who sought the support of the masses. Gambling on the outcomes of these contests became a favorite pastime.

At least 200 days per year were public holidays and provided opportunities for festivals. Around 150,000 spectators watched **chariot races** at the Circus Maximus, attesting to the popularity of these contests. Professional charioteers hired by the teams (the blues, the greens, the reds, and the whites) raced their low, lightweight chariots drawn by four horses in seven-lap races, for a distance of about three miles. The Colosseum became the favorite site for the **gladiatorial contests**, where, to the pleasure of as many as 90,000 spectators, animal fights featured elephants, bulls, tigers, lions, panthers, and bears. Condemned criminals, social undesirables, and Christians were forced to combat lions, tigers, and panthers. Massive sea battles in the Colosseum provided additional bloody, gory entertainment. Gladiators, armed with shield and sword, buckle and dagger, or net and spear, fought each other for freedom or for money.



Gladiatorial contests occurred in the Colosseum. These remains in Rome show the massive size of this arena and the openings for animals beneath the floor of the arena.

Gladiators and charioteers trained physically, but most other Romans lost interest in developing their bodies because they were no longer expected to serve as soldiers. **Thermae**, baths of varying water temperatures, filled the leisure hours for upper-class men and women (with separate hours reserved for the women). At the numerous thermae, Roman men participated in health gymnastics or ball play to overcome indolent lifestyles that featured gluttonous feasts and drinking bouts.

Claudius Galen, born in Pergamum in Greece and educated in Alexandria in Egypt when it was the greatest medical center in the ancient world, became a physician to emperors and gladiators. His public demonstrations of anatomy enhanced his stature as a physician, despite the prevailing taboo against human dissection that resulted in his conducting most of his anatomical studies using animals. Galen's writings were circulated widely during his lifetime, and translations of his original Greek manuscripts formed the basis of medical education in medieval universities.

The physical abilities of the Romans dissipated rapidly during an era characterized by governmental upheavals, power struggles, and an apathetic and dependent populace. In A.D. 476, with the deposition of the last Roman emperor by the Visigoths under Odoacer, the Roman Empire ended. As was true of the demise of the city-state of Athens, a lack of emphasis on physical development contributed to the decline of a once powerful civilization.

MEDIEVAL EUROPE (500 TO 1500)

The years following the fall of the Roman Empire represented a low point physically and intellectually. During the Middle Ages, many church leaders, such as St. Augustine, spoke against dancing. Church leaders also opposed frivolous

activities that might detract from piety, proper commitment to worship, and godly living. The Catholic church, in seeking a higher level of morality than displayed by most Romans, regarded the body and anything that benefited it as sinful. **Asceticism,** a doctrine that renounces the comforts of society and espouses austere self-discipline, especially as an act of religious devotion, was practiced by monks during medieval times.

The only schools that existed during this time were at the monasteries, which restricted intellectual education to those who served the church. The monks, however, preserved the Greek philosophies. Later these philosophies would be studied and valued by a broad range of people.

European society in the eleventh to the sixteenth centuries was feudalistic; that is, the economic, political, and social aspects of life centered on ownership of land and the military power to maintain or expand territory. The monarch, at least theoretically, owned the land. Unable to rule diverse properties successfully, the king divided the territory among nobles who, in turn, promised military service. As vassals to the king, they similarly divided their holdings among lesser vassals, with the same reciprocal protection guarantees. At the bottom of this pyramidal structure were the serfs, or peasants, who toiled in the fields. Their labors were meagerly rewarded with protection provided by those they served.

The vassal landowners, who were **knights**, were the ones in feudal society who valued physical training, although the peasants engaged in various recreational pursuits. At 7 years of age, the sons of nobles left their homes to go to the manors of other knights. Under the guidance of the ladies of the castles for the next seven years, these **pages** were educated through stories about chivalry, with its code of moral and social duties of knighthood. **Squires**, beginning at 14 years of age, learned archery, climbing, dancing, fencing, jousting, riding, swimming, and wrestling. As a valet for a knight, the squire served meals, cleaned armor, cared for the knight's horse, played chess and backgammon, and accompanied the knight into battle. Following seven years of extensive training as a squire, the youth became eligible for knighthood. Once knighted, these nobles engaged in hunting and hawking and continued their training for battle.

In the isolation of the manorial system of the Middle Ages, few opportunities existed for social interaction and entertainment, so tournaments grew in popularity to fill this void. Although festive occasions, these tournaments included combat between knights, who divided into two teams and fought under conditions similar to war in the **grand tourney**, or **melee**. Although strict rules and blunt weapons supposedly limited the injuries, fatalities frequently occurred in the melee, leading to its demise. Another event at the tournaments was **jousting**, which pitted two mounted knights armed with lances in a head-on attempt to unseat each other. Since weapons were blunt and the objective was not to kill the opponent, the joust gradually became the primary event of the tournaments.

Because war served as an adventurous solution to boredom, and because service to God was required of the knights, many willingly volunteered for the



Knights were outfitted in armor for battle, jousts, and grand melees.

eight Crusades between 1096 and 1270. Instigated by the church, these military expeditions attempted to expel Moslems and Turks from the Holy Lands and to establish papal control in that region. The knights profited from the captured spoils of war, and some took part mainly for this reason.

Interaction with people from other civilizations through the Crusades contrasted markedly with the isolated lifestyle of the feudalistic period, which peaked between 1250 and 1350. As the importance of the knights lessened because of the invention of gunpowder, towns became established as trade centers. The emergence of a strong merchant class in these towns started the transition to a period of intellectual, cultural, and social reawakening.

THE RENAISSANCE AND THE REFORMATION (1450 TO 1650)

A renewed appreciation for classical culture grew out of the intellectual void of the Middle Ages. Intellectual curiosity and creativity were encouraged rather than stymied as education came to be highly valued by people of all social classes. During the Middle Ages, several allied yet diverse philosophies developed; these blossomed from the fifteenth to seventeenth centuries, marked by a renewed appreciation for classical culture called the **Renaissance.** They directly influenced attitudes toward physical education, although most often the mind and the body were viewed as two separate entities. Scholasticism, based on the authority of church leaders and the writings of the Greek philosopher Aristotle, placed intellectual development in a revered position alongside a fixed religious dogma.

Humanistic education in Italy stressed the harmonious and holistic development of human beings, embracing the Greek Ideal of unity. A sound mind in a sound body described this philosophy, which implemented the principles of humanism and emphasized the physical as well as the intellectual development of students. Humanists stressed the importance of a healthy body as preparation for intellectual endeavors rather than stressing a dichotomous relationship between mind and body.

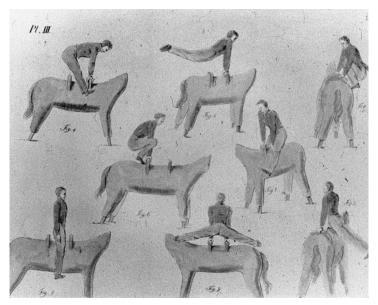
Realism, which grew out of humanism, emphasized the importance of understanding the Greek classics and of educating for life. The development of health (through exercise and play) and scientific thinking became critical educational outcomes for the realists.

During the Protestant Reformation of the 1500s and 1600s, educational moralism developed as religious fervor combined with nationalism. Although initially wanting only to purify the Catholic church, reformers such as Martin Luther and John Calvin became catalysts for widespread religious and cultural change. Their doctrines stressed personal salvation, moral responsibilities, and state duties. Most of the Protestant sects deemphasized physical development as a distraction from these objectives. One religious group, the Puritans, was especially vehement in its opposition to what they deemed frivolous activities and tried to enforce its strict doctrines on others. While humanism and realism furthered the Renaissance theme of a sound mind in a sound body, moralism hindered its acceptance as an educational goal.

Throughout the Renaissance, the 1700s, and most of the 1800s, education was valued for boys, especially those from the upper class, who attended boarding schools or were taught privately by tutors. Seldom was education provided for girls.

THE AGE OF ENLIGHTENMENT (1700s)

The Renaissance set the stage for the Age of Enlightenment, during which two additional philosophies influenced physical education. Englishman John Locke wrote about educational disciplinarianism. He said that character, especially



Examples of various German gymnastics movements on the horse.

valued for upper-class boys, requires a sound mind in a sound body, and developed best through moral and physical discipline. Jean-Jacques Rousseau, a French philosopher, led the rebellion against the devaluation of the individual. In his book *Emile*, Rousseau described the ideal way to educate a boy, stressing **naturalism**, or everything according to nature. That is, each child possesses a unique readiness to learn in a natural developmental process that should dictate when a child is exposed to various types of knowledge. The child, free to explore nature while recreating, thus prepares physically for later intellectual pursuits and therefore will learn optimally. The Age of Enlightenment provided additional insights into how to educate a child, thereby laying the foundation for European gymnastics programs.

NATURALISM (1770 TO 1830)

Although the French were not receptive to Rousseau's educational theories, Johann Basedow, a German teacher, was. In establishing a school for boys called the Philanthropinum in 1774, Basedow sought to implement naturalistic principles that focused on meeting individual needs; he also stressed the importance of readiness to learn. At his school, he allotted three hours each day to instructional and recreational activities, such as gymnastics, sports, and games, and two hours to manual labor. While Basedow advocated dancing, fencing, riding, and vaulting, the teacher hired to direct the program, Johann Simon, introduced Greek gymnastics, consisting of jumping, running, throwing, and wrestling. Simon utilized natural settings to provide the needed apparatus, such as balance beams,

high-jumping poles, jumping ditches, and tree swings. Johann Du Toit, Simon's successor, added archery, skating, swimming, marching, gardening, and woodworking to Basedow's original curriculum.

In 1785, Christian Salzmann patterned the program at the Schnepfenthal Educational Institute after Basedow's naturalistic lessons in games and gymnastics. Johann GutsMuths, who taught at Schnepfenthal for 50 years, was strongly influenced by Basedow's writings and provided similar activities and pieces of apparatus. GutsMuths's three- to four-hour daily program consisted of the following:

- Natural activities, such as jumping and running
- Greek gymnastics, such as throwing and wrestling
- · Military exercises, such as fencing and marching
- Knightly activities, such as climbing and vaulting
- Manual labor, such as gardening and woodworking.

GutsMuths influenced many people through two significant books: *Gymnastics for the Young*, which not only described Schnepfenthal's program but also laid the theoretical foundation for modern programs, and *Games for Exercise and Recreation of the Body and Spirit*, which described the skills developed in 105 games or activities and provided illustrations of the apparatus used, such as climbing masts, hanging ladders, rope ladders, and wooden horses.

NATIONALISM (1800s)

Friedrich Jahn, a German educator and an ardent patriot, visited the Schnepfenthal Educational Institute and borrowed many aspects of GutsMuths's program. But, Jahn's purpose for **German gymnastics** was nationalistic rather than naturalistic. He sought to develop fitness and strength in German youth with goal of their helping in the re-unification of all German people. After encouraging his students to climb trees, jump over ditches, run, and throw stones on halfholiday excursions from classes, he established the first turnplatz near Berlin in 1811. A turnplatz was an outdoor exercise area where boys, who became known as **turners**, trained using balance beams, ropes and ladders for climbing, high-jumping standards, horizontal bars, parallel bars, pole-vaulting standards, broad-jumping pits, vaulting horses, a figure-eight-shaped track, and a wrestling ring. Jahn also promoted nationalism through patriotic speeches and stories and group singing of patriotic songs. First boys and then, as the turner system of gymnastics expanded, males of all ages and social classes participated in the increasingly popular gymnastic exercises. Jahn explained his program in his book German Gymnastics.

The turners vigorously advocated for a unified Germany, and many local turnplatz initially received government subsidies. After the Congress of Vienna realigned Germany into a confederation of 38 independent states in 1815, though, the turners' single-minded goal of a unified nation was viewed as threatening.

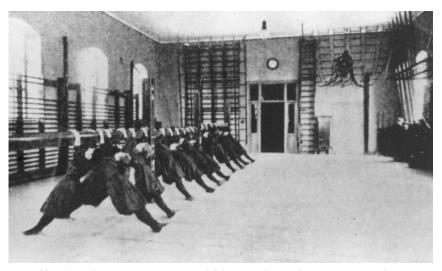
Finally, in 1819, government leaders succeeded in banning turner gymnastics. Not until 1840 was it again legal to participate in turner gymnastics, although underground programs continued during the intervening years. Jahn's turner gymnastics never gained widespread popularity in other nations because of its nationalistic appeal and emphasis on strength.

In the 1840s, Adolph Spiess borrowed from his training in turner gymnastics to devise a system of German school gymnastics. Approval of his program in the public schools hinged on his defense of gymnastics as a subject equal to all others, one that had progressions for various ages, boys and girls, and all ability levels, and that required trained teachers and equipped indoor and outdoor facilities. Although influenced somewhat by Jahn's and GutsMuths's programs, Spiess devised a school system that stressed discipline and obedience and included diverse activities such as marching, free exercises, and gymnastics with musical accompaniment.

Nationalism became the dominant theme of **Danish gymnastics** in the early 1800s, too. Fitness, strength, and military competence emerged as the goals of Franz Nachtegall. In 1799, he established a private gymnasium in Copenhagen, the first of its kind. Nachtegall's curriculum, which borrowed extensively from the apparatus and exercises of GutsMuths, gained popularity and, in 1809, helped Denmark initiate the first European school program in physical education for boys. His *Manual of Gymnastics*, published in 1828, provided the curriculum for the schools. Teachers for the schools were initially educated alongside military men at the Military Gymnastic Institute, founded in 1804 by the king of Denmark, with Nachtegall as its director. Danish gymnastics in the military and in the schools was based totally on command-response exercises, with rigid, mass drills associated with a nationalistic theme.

Patriotism raged in Sweden in the late 1700s and early 1800s due to Sweden's loss of territory to Russian and Napoleonic forces. This nationalistic fervor initially influenced Per Henrik Ling to study and write about the Scandinavian heritage. While pursuing this objective in Denmark for five years, he learned gymnastics from Franz Nachtegall and engaged in fencing, through which he improved an arthritic arm. The personal therapeutic benefits Ling experienced led him to promote gymnastics throughout his career. Returning to his homeland in 1804, Ling became a fencing master and an instructor of literature and history, while also teaching gymnastics.

Ling's theory that the knowledge of Norse literature and history combined with gymnastics training could make Sweden a stronger nation influenced the king, so the king provided financial support to establish the Royal Gymnastics Central Institute in Stockholm in 1814, under Ling's direction. As a training institute for military men, this program allowed Swedes to stress precise execution of movements on command, mass drills, posture-correcting movements, and specific exercises on specially designed exercise apparatus. Swedish apparatus developed by Ling included stall bars, booms, vaulting boxes, and oblique ropes. England, Denmark, Belgium, Greece, and other countries adopted Swedish gymnastics for military training.



Class of female students exercising on a Swedish boom at the Royal Gymnastics Central Institute. A boom was a piece of equipment used for support while executing various bending and moving activities. Stall bars, which a attached to the (left side) wall, similarly, were used for hanging and moving activities.

In addition to Ling's primary emphasis on nationalism through military training, he also emphasized three other themes through his **Swedish gymnastics** program: medical, educational, and aesthetics. Ling developed exercises that had a therapeutic or medical emphasis so that through movement health could be restored to injured or weak parts of the body. He is credited with devising a system of massage to treat ailments involving joints and muscles. As military men were trained, Ling valued the preparation of leaders of the gymnastics movements and thus emphasized the use of proper pedagogy or educational methodology. Ling's aesthetics involved the expression of feelings through movement. Even though Swedish gymnastics focused on movement on command, rigidly held positions, and posture, it offered exercises that were viewed as appropriate for females, as well as males.

When Hjalmar Ling, Per Henrik Ling's son, began teaching at the Royal Gymnastics Central Institute, he initiated the development of Swedish school gymnastics. Borrowing from his father's program the principles of progression and precise execution of movements on command, Hjalmar Ling devised the **Day's Order**, systematized, daily exercises that progressed through the whole body from head to toe. These lessons were appropriately graded for the age, ability, and gender of each child and used apparatus designed for children. Mass drills under a teacher's direction remained paramount.

Table 7-3 compares the three major gymnastics systems in Europe and Figure 7.1 provides a Timeline for the significant periods. Figure 7.2 on page 223 illustrates how European philosophies and innovators influenced subsequent programs. The Research View Strength Training adds information about the influence of early cultures on strength training.

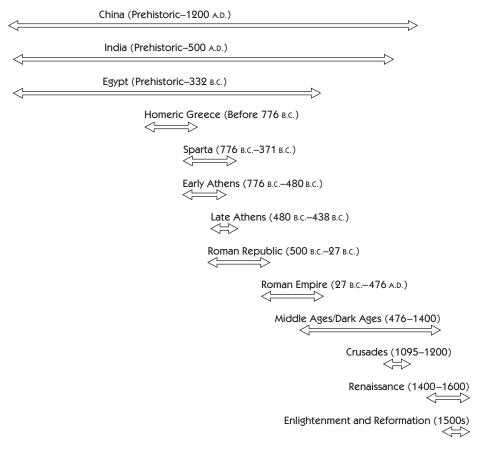


FIGURE 7.1
Timeline from Prehistoric to Modern Times

RESEARCH VIEW

Strength Training

Long before strength training became a scientific discipline, soldiers and others in ancient China, India, and Egypt lifted weights to develop strength. Greeks and Romans also exercised with weights. According to Mel Siff in *A Short History of Strength and Conditioning*, the first books on weight training were published in the sixteenth century in Europe. Weight training was included in some educational programs in England, France, and Germany. As espoused by Per Henrik Ling, muscular exercise was believed to offer therapeutic benefits. Building on these concepts in the mid–nineteenth century, Archibald MacLaren developed a system of physical training with barbells and dumbbells for the British Army.

TABLE 7-3					
	COMPARISON OF EUROPEAN GYMNASTICS SYSTEMS				
System	Theme(s)	Participants	Program	Apparatus	
German	Nationalism; physical activities used to develop strong, sturdy fearless youth	Upper-class boys; all boys; males of all ages	Individualized under Jahn and vorturners (teachers)	Vaulting horses; parallel bars; ropes and ladders for climbing; balance beams; running tracks	
Danish	Nationalism	Soldiers; teachers	Formalized exercises on command; no individual expression	Hanging ladders; rope ladders; masts and poles for climbing; balance beams; vaulting horses	
Swedish	Nationalism; therapeutic or medical; pedagogical or educational; aesthetics	Soldiers; teachers	Movement on command; posture correcting	Stall bars; vaulting boxes; climbing poles; oblique ropes; Swedish booms	

SPORTS IN GREAT BRITAIN (1800s)

The nationalistic fervor for German, Danish, and Swedish gymnastics never gained prominence in Great Britain, other than through minimal usage of Ling's program by the British military. As the dominant world power, Great Britain had not faced territorial decimation as so many other nations had; therefore, nationalism failed to undergird a gymnastics program in that country. Instead, the British legacy to both European and worldwide physical education has undoubtedly been its sports and games.

Englishman John Locke's sound mind and sound body concept paralleled the Greek Ideal. The **British Amateur Sport Ideal** of "playing the game for the game's sake" is similar to the Greek love of athletic supremacy. Frenchman Pierre de Coubertin, who is credited with founding the modern Olympic Games in 1896, was highly influenced by the British Amateur Sport Ideal and the role of sports in British public schools.

Sports and recreational pastimes have traditionally been divided along class or socioeconomic lines in Great Britain. Given few alternatives due to their socioeconomic status, working-class males were especially attracted to pugilism (bareknuckle boxing), blood sports (such as cockfighting), and varieties of football (soccer). These "poor man's sports" required little equipment, usually encouraged gambling, and were often banned by the church.

British upper-class sports, such as cricket and rugby, were popularized at private boys' boarding schools, called public schools, in the 1800s. Thomas Arnold, headmaster at Rugby School, praised the role of sport according to Thomas Hughes in *Tom Brown's Schooldays*. Arnold regularly advocated sports

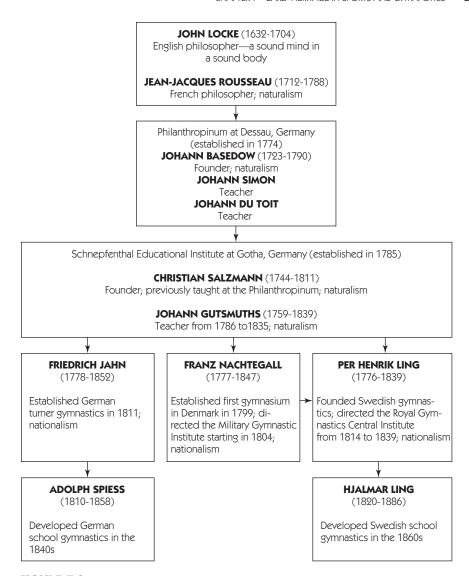


FIGURE 7.2Significant European influences on physical education and sport programs in the United States.

participation as a means for boys to learn moral virtues such as cooperation, leadership, loyalty, self-discipline, and sportsmanship. Sport within these public schools stressed participation in a variety of sports rather than specialization in one, playing the game rather than training in skills and fitness, and competition between boys in various residences. Public school boys often demonstrated greater learning through sport than in their scholastic efforts. Since graduates of these public schools were the future leaders of the nation, lessons learned in sports were acclaimed for preparing better citizens.



The British first popularized rugby in boys' boarding schools in the 1800s.

Cricket, rowing, association football (soccer), track and field athletics, rugby, and field hockey became the most popular sports at Oxford and Cambridge Universities despite faculty disfavor. The British Amateur Sport Ideal of playing the game for the game's sake rather than for remuneration prevailed in these sport competitions, especially since these upper-class men did not need to play for money.

Muscular Christianity traces its history to at least the Victorian era in Great Britain. This movement emphasized vigorous masculinity, such as achieved through sports, in combination with spiritual and moral character. For example, Thomas Hughes described the importance of males who attended public schools and universities developing their physical strength and health along with Christian ideals, which would serve them well in their personal lives and as political leaders. Team sports were viewed as ideal for nurturing the physical and moral health of boys and men.

While not linked directly with organized religion, which often was associated with women and feminization in the late nineteenth century, upper-class males used muscular Christianity to reflect masculine values, such as manliness and discipline. As a result, religion and sports for males in Great Britain peacefully coexisted as long as ethical conduct remained important. Fair play, honorable victories, and respect for opponents came to be expected outcomes of British sports for schoolboys, university men, and upper-class gentlemen.

Many sports started in Great Britain spread throughout the world during their years of colonization (see Table 7-4). Sometimes these sports were welcomed by indigenous people; at other times they were rejected outright. Horse racing, tennis, golf, soccer, badminton, field hockey, and rugby are among the most prominent of these sports. Most sports in the United States were introduced by British colonists. Before concluding this chapter, take the challenge to answer the questions in Box 7.3.

TABLE 7-4			
SELECTED SPORTS AND THEIR ORIGINS			
Wrestling	China	с. 2000 в.с.	
Boxing	Mesopotamia	с. 1500 в.с.	
Track and field	Greece	776 в.с.	
Soccer	Great Britain	1200s	
Ninepin bowling	Great Britain	1200s	
Golf	Scotland	1400s	
Cricket	Great Britain	1600s	
Lacrosse	North America	1700s	
Baseball (rounders)	Great Britain	1700s	
Gymnastics	Germany	late 1700s	
Field hockey	Great Britain	mid-1800s	
Water polo	Great Britain	1870	
Badminton	India	1870s	
Tennis	Great Britain	1873	
Table tennis	Great Britain	1880s	

BOX 7.3 GAINING A BETTER UNDERSTANDING OF THE HISTORY OF GYMNASTICS AND SPORT IN EUROPE

Students: Why did these occur? (If you do not know the answer, see if you can find the answer in your textbook or do a Web search to find the answer.)

- **1.** Why did the lady of the castle train the page?
- 2. Why was naturalism a popular theme for the teaching of physical skills?
- **3.** Why was German (Jahn) gymnastics banned in Germany?
- **4.** Why was nationalism such an important theme for gymnastics systems?
- 5. Why did the British affirm the belief that sports build character?

SUMMARY

The European legacy of athletics, gymnastics, and sports laid the foundation for physical education and sport programs in the United States. The Greeks provided a rich heritage of mind-body unity and glorified the aesthetically developed, all-around athlete. Varying dramatically from this ideal were Spartan soldiers and the specialized, professional athletes of the later Athenian era. The Roman Republic illustrated the utilitarian goal of a fit military force. During the next thousand years, it was primarily the knights who developed their bodies, but they did so primarily for military conquest rather than for any inherent value. Church leaders discouraged frivolous activities. During the Renaissance, philosophers and educators emphasized physical development for overall education and grappled with whether the mind and body should be educated separately or simultaneously. Naturalism and nationalism directly influenced the development of gymnastics systems in Germany, Denmark, and Sweden. British sports and games, with their associated emphasis on moral values, laid the foundation for physical education and sport programs in the United States.

CAREER PERSPECTIVE



JIM WHITTAKER

Owner and President of VeloTek Training and Revolution Racing, LLC Lawrence, Kansas

EDUCATION

B.S., psychology, with emphasis in health and behavior modification, University of Kansas M.S., physical education, with emphasis in exercise physiology, biomechanics, and health, University of Kansas

JOB RESPONSIBILITIES AND HOURS

Jim owns his own event promotion business (www.revolution-racing.com) and coaches cycling (www.Velotekperformance.com). He provides custom training programs to amateur and professional road and off-road cyclists in North America, serves as a personal trainer for athletes and special populations, and promotes and manages bicycle races and triathlons. Jim's primary job responsibilities include coaching, designing and implementing training programs, and managing and promoting sporting events. In completing these, Jim uses his background and experiences in accounting, sales, marketing, customer service, and technology. Since his hours are flexible, there is no normal work schedule. But, being self-employed, he often works long hours and needs to be available at any time to meet the needs of customers, such as when coaching athletes who call for assistance outside of normal workday hours and especially in the spring and summer. Depending on the scope of work and quality of services provided, the salary range for a small-business owner in this field is \$30,000 to more than \$100,000.

SPECIALIZED COURSE WORK, DEGREES, AND WORK EXPERIENCES NEEDED FOR THIS CAREER

It is helpful for coaches to have experience playing in their chosen sports to augment their scientifically based, technical knowledge. Strength and conditioning specialists do not necessarily need experience in any sport. To promote sporting events, marketing skills and sales experiences are imperative. For both types of positions, a person must have good interpersonal skills. The most important courses for Jim were sports psychology, general psychology, exercise physiology, and anatomy, but he adds that business and marketing classes would have been helpful had he taken those. However, Jim notes that courses completed should not be permitted to stifle creativity and initiative, which are essential to small-business ownership. He believes that a master's degree helps to distinguish among applicants in the marketplace. Other distinguishing marks are the certifications Jim holds: ASCM Exercise Test Technologist; NSCA Certified Strength and Conditioning Specialist; NSCA Certified Personal Trainer; and USA Cycling Elite Level Cycling Coach.

SATISFYING ASPECTS

Jim really enjoys helping people believe in their abilities on and off the playing field. He takes special pleasure in seeing clients progress as their belief in themselves and their confidence grow. Because of the flexible work schedule that self-employment allows,

Jim appreciates being able to get up when he wants and go to bed when he chooses. He likes to treat others the way he wants to be treated. It is exciting and challenging to manage all aspects of his business and learn new skills. The workload varies during the year, resulting in the stress of large events and projects; high levels of energy and commitment are demanded year round; and it is often difficult to balance private life with the job, especially when working at home.

JOB POTENTIAL

Jim views self-employment in this field of exercise as unlimited. He stresses that it is important not to grow the business too quickly and to focus on what is important, not just the bottom line.

SUGGESTIONS FOR STUDENTS

Jim states, "Never, never give up on your dreams!" He advises that even though others will discourage starting and managing your own business, be patient, work hard, and have some fun. He suggests studying business and marketing as well as completing core exercise classes. Jim says that although advanced education provides the tools to think, it is up to you to do something with what you have learned and to overcome the greatest challenge: to set out by yourself.

KEY POINTS FOR CHAPTER 7

Egypt Warriors trained; dancing was valued in religion

China Only the military class valued physical development

India Participated in yoga, a system of meditation and regulated

breathing

Greece Characterized by the Greek Ideal of the "man of action"

and "man of wisdom"

Homeric Era Upper-class males, who were warriors, competed in

funeral games in boxing, chariot racing, wrestling, foot

racing, and throwing the javelin and discus

Spartans Emphasized military supremacy; boys and girls trained

physically

Early Athenians Emphasized the Greek Ideal; boys attended wrestling

schools and music schools; girls had no physical training;

adult males spent time at gymnasiums

Late Athenians Lost interest in physical development as they emphasized

the man of wisdom

Characteristics Honored Zeus; olive wreath for each winner; required to **of Olympic Games** be a Greek citizen; could be from any social class;

be a Greek citizen; could be from any social class; required to train 10 months and last month at Olympia;

pledged an oath of fair play; competed in the nude

Roman Republic Males trained for war at military camps

Roman Empire People entertained at chariot races and gladiatorial

contests

Middle Ages Knights learned skills in riding, swimming, archery,

climbing, jousting, wrestling, and fencing and competed

in jousts and the grand tourney

Renaissance Health stressed to overcome epidemics; embraced the

classical ideal of "a sound mind in a sound body"

Reformation Protestant sects relegated physical education to an

inferior position; led to the Protestant work ethic in

United States

Jean-Jacques Rousseau Stressed "everything according to nature" and a readiness

to learn physical activities

Johann Basedow Established school for boys based on naturalistic

principles from Rousseau

Johann GutsMuths His school program was based on naturalism and included

natural activities, Greek-type activities, knightly activities,

military exercises, and manual labor

Friedrich Jahn Developed German gymnastics to develop strong youth

based on nationalism

Adolph Spiess Developed German school gymnastics by adapting Jahn's

program for boys and girls

Franz Nachtegall Developed Danish gymnastics for military (nationalism)

and schools

Per Henrik Ling Developed four areas of Swedish gymnastics—military

(nationalism); medical; educational; and aesthetics—with

an emphasis on formal movements and posture

Hjalmar Ling Developed Swedish school gymnastics based on the

progressive, precise execution of movements on

command

English sports Emphasized for upper-class boys to learn values, and

believed in "playing the game for the game's sake"

STUDENT ACTIVITIES

- 1. As a class project, reenact the ancient Olympic Games by having each student participate in an appropriate athletic contest. Each student is expected to research the specifics about the assigned or selected event before competing against classmates.
- 2. Select one activity or area of training for a page or squire during medieval times. Prepare a five-minute oral report and demonstration of how the boys were taught and how they practiced the necessary skills.
- **3.** Along with several classmates, prepare a demonstration of German, Danish, or Swedish gymnastics, and then lead the class in a five-minute lesson.

- 4. Write a five-page paper about the early history and development of any sport that is associated with the British Amateur Sport Ideal or that was founded in Great Britain.
- **5.** Challenge yourself to find 20 people or terms from the ancient world and European heritage in the puzzle below. Define or describe each one found.

G B H U I T C Z D W OP A C F J M N B R O S H U P K C E S T U P L B A S D E NOQE WE FRNT FYSHUEKEI HOCSPKBOLJORSJREPT G R E A P E R H E N R I K L I N G O N R T S J D W F W G L C N H W S P I E S S C Z V A B G N E M C L R K N P E H W N A T I O N A L I S M E B R P R S N G B EMCLNTULHTEIYAJHOIGFYDSVASWAQWOHTTDTAU AUNACHETAL LI BBE OZ VBS D V Z F HS G HI U X P T Y F A O P T C WE P V L T OR P V E T P D M N T C G E C Y D X M A P C I E R H P T A W L HOS GONMR Y DT AYST ADER ACELSATYZYNR TOOHCR DAETXTTUYTUR NERTCFY MVCADFTFNHTGYEK OLAN URSRMGENP DNOMI BAETR JBXEVBI DSL OEWARHOLB E I K A E L W V Y E R A D U L N O E L O Y T O K H C E P O T U N M O S N A M NOCTSI ROK C GATHWOHPYPRENAIS SANCEE GUTI OP R T S E C E N R W C S I E U A T W M T K B U T S B U B R D C Y I C S R C I R HRLDGSIKINMJXTRIBCHAICBULHOTIBONESEDSR E A M O A T H P G E D A M E C A R L N G R E E K I D E A L U W T O E D B O S WCNTYOMPYSICGAVOLDSYGDNWCGWNPGIRKATIEO F E T N P Y G T D L P B A M R G D I P I S R D P N N Y S N L B H S U O R X L D S C E L A E A Y L S R D P D S U N S O P R F D H O U I N N S D F T I C K Y TIJ ODY T WACBHKT HXPTB MMIAR DP MADR NP MNPIT M DPTRPWSBRITISHAMATEURSPORTIDEALLTBSGBT

- **6.** Conduct a class debate about the similarities and differences among the early and later Athenians, the Roman Republic and Empire, and modern-day sporting activities and competitions.
- 7. Identify 10 contributions to or influences on American physical education and sport as described in this chapter.

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8

EARLY AMERICAN PHYSICAL EDUCATION AND SPORT

KEY CONCEPTS

- Participation in sporting activities was a valued part of Native Americans' lives.
- Colonists coming to the New World, especially those from Great Britain, brought with them a love for sports and games.
- Early physical education programs in the United States promoted calisthenics, light gymnastics, hygiene, and strength development.
- German and Swedish gymnastics formed the basis for many early physical education programs.
- Teacher training institutes and a professional organization provided the educational foundation and a forum for the future development of physical education and sport programs.
- Play became recognized as an essential aspect of healthy child development.
- Amateur sports in clubs and on college campuses were organized and became competitive.

The early colonists brought with them a love for sporting pastimes. Once survival was assured, time was spent bowling, racing horses, skating, wrestling, and playing various ball games. Formalized exercises comprising the German gymnastics and Swedish gymnastics systems appealed to a few, but neither won full acceptance as a unified, national approach to physical education appropriate for people in the United States. People from Great Britain, through worldwide colonization (including North America), spread their love of sports and games. **Hygiene**, the science of preserving one's health, was the focus of many early school programs in the United States. These programs were often called physical culture or physical training. Emphasizing health, strength, and bodily measurements, physical training programs in the 1800s were added to school and college curricula primarily under the direction of physicians. Leaders established teacher training institutes that offered course work in the theoretical aspects of the emerging profession of physical education. Sports and

play activities drawn from a European heritage continued to grow in popularity as college students and upper-class clubs sponsored contests. Many towns also provided playgrounds, further stimulating interest in physical education and sport.

Before examining the major programs and developments that contributed to early American physical education and sport programs, it is important to explain their significance. The emerging field of physical education was built on a heritage of hygiene, medicine, strength development, formalized exercises, play, and sports. Early leaders in physical education developed organizations to govern their myriad activities. Many individuals contributed to the solid foundation laid prior to the twentieth century that led to subsequent developments in physical education, exercise science, and sport, described more fully in Chapter 9.

PHYSICAL ACTIVITIES IN THE COLONIES

Sports, physical activities, and dance occupied a prominent role in the lives of most Native Americans when colonists from other countries arrived in North America. These activities were associated with religious ceremonies, festive celebrations, and social relaxation. However, differences in language, lifestyles, geographic regions, livelihoods, and overall cultures verify that one cohesive image did not exist. Most tribal nations contributed to the popularity of sporting pastimes.

According to Oxendine (1988), some of the most important factors characterizing traditional Native American sports include the following:

- A strong connection between sport and other social, spiritual, and economic aspects of daily life
- The serious preparation of mind, body, and spirit of participants and the community as a whole prior to major competition
- The assumption that rigid adherence to standardized rules and technical precision was unimportant in sport
- Strong allegiance to high standards of sportsmanship and fair play
- The prominence of males and females in sport activity, but with different expectations
- A special perspective on team membership, interaction, and leadership styles
- The role of gambling as a widespread and vital component in all sports
- The importance of art as an expression of identity and aesthetics (pages 3–4)

The most popular Native American sport was lacrosse, also called baggataway, meaning ball game or the game of ball. The competitors displayed grace, adroitness, and dexterity, often in honor of their gods. The courage, ruggedness, skill, speed, and endurance required to play this game helped train males for war. The rules, size of the playing field, equipment, and clothing varied widely.

Native Americans, including many girls and women, played shinny, a ball-and-stick game similar to modern field hockey. Women also actively participated in double ball, in which a stick was used to propel two balls attached by a string.

Footraces among Native Americans served as a source of motivation and pride. Besides children's play and ceremonial uses by adults, running skills benefited males in war, the pursuit of game animals, and the delivery of messages. The sacred ball race combined kicking a ball along a prescribed 25-mile course and running after it.

Other sports of major interest to Native Americans included archery, swimming, fishing, canoeing, and snow snaking, which involved sliding a pole a great distance across a frozen path. Ritualistic dances and games of chance were also popular.

The first colonists came to North America in search of a new life, adventure, and religious freedom. During the 1600s, the prime motivator for physical activity was survival: Men hunted, fished, and grew crops, while women performed domestic chores. What little time existed for relaxation was frequently spent in work-related recreation, such as barn raisings, corn huskings, or quilting bees. Dancing and games were often a part of these gatherings, although some religious groups forbade dancing.

The sporting heritage brought to this country by Europeans became increasingly popular in the 1700s. In spite of Puritan-initiated laws forbidding gambling, card playing, and mixed dancing, New Englanders relaxed by bowling, fishing, fowling, or playing cricket, rugby fives (a game similar to handball), and marbles.

Led by the Dutch in New York, settlers in the middle colonies, free from many of the religious prohibitions imposed on their northern neighbors, eagerly engaged in merriments such as pulling the goose (snapping off the head of a greased goose while riding horseback or standing in a moving boat); played games, such as skittles (in which a ball or flat disk is thrown down an alley at nine skittles, or pins); and participated in outdoor amusements, such as boating, fishing, hunting, horse racing, and sleighing. These activities were enthusiastically pursued by the upper class. Interestingly, when nine-pin bowling was prohibited by law because of its association with gambling, a tenth pin was added to allow bowlers, and hence gamblers, to participate legally in their favorite pastime. The Quakers of Pennsylvania favored fishing, hunting, and swimming as diversions while banning many other leisure pursuits.

Virginia, strongly influenced by the British, emerged as the leading Southern colony. Emulating the gentry across the ocean, the Southern plantation owners sought to acquire all the trappings befitting their aristocratic status, including sporting pastimes. Cockfighting, bowling, and card playing were engaged in at taverns, which initially were exclusively for men. Fox hunting, horse racing, hawking, and watching boxing matches found many enthusiasts.

Participation in various physical activities increased throughout the 1700s as an emerging nationalism placed emphasis on the development of health and strength. Benjamin Franklin, Noah Webster, and Thomas Jefferson were among those who supported physical activities for healthful benefits. At the same time, sports involvement continued to win new adherents because sports offered competition, freedom, and fun.

In the late 1700s, as the colonists prepared for a confrontation with the British, military days provided opportunities for marching and drilling with weapons, but also offered opportunities for social interaction and game playing. The military training was utilitarian in purpose, though, and did not lead to an emphasis on physical fitness in the post–Revolutionary War years. This trend repeated itself throughout the history of the United States as each war signaled a need to have trained soldiers; aside from these times of emergency, there was little emphasis in this country on physical fitness programs.

Following the War of 1812, nationalism became a dominant force in American life, setting the stage for a gradual extension of democratic rights to more people and the provision of education to more children. Beginning in the 1800s, free, public education for boys and girls consisted primarily of the three Rs (reading, writing, and arithmetic). These public schools initially showed little interest in physical education, although in 1853 Boston became the first city to require daily exercise for children. In private academies and schools in the early 1800s, though, the belief that physical activities contributed to health led to children's participation in sports. Prior to the Civil War, few colleges provided for their students' physical development; however, academies and private schools for boys and occasionally for girls (such as Mt. Holyoke Female Seminary beginning in 1837) included physical exercises in their curricula.

Early experiences in physical activities and sport for minority groups in this country could be described as either isolation or assimilation influenced by an emerging nationalist spirit. African Americans, whether enslaved or free, valued their cultural heritage in music and dance but, due to prejudicial attitudes, remained largely excluded from organized sport programs. While William Lewis became an All-America football star at Harvard University in 1892–1893, and Moses and Welday Walker briefly played professional baseball in the late 1800s, they were notable exceptions to segregated sports. German, Irish, Italian, Jewish, and other European immigrants during this time engaged in dances, games, sports, and gymnastics brought from their homelands. Other immigrants chose to pursue sports like baseball and boxing as a way to become more like their American playmates.

Early American physical education and sport was influenced by European gymnastics, the development of normal schools and a national organization, the provision of play for children, and amateur sports for men and women. Each of these contributed to the content and structure of twentieth-century physical education and sport programs, which are an amalgam of a variety of exercises, gymnastics, formalized educational curricula, play, and sports. Before concluding this section, take the challenge to answer the questions in Box 8.1.

BOX 8.1 GAINING A BETTER UNDERSTANDING OF EARLY SPORTS IN THE UNITED STATES

Students: Why did Native Americans or early settlers in this country do the following? (If you do not know the answer, see if you can find the answer in your textbook or do a Web search to find the answer.)

Why did Native Americans . . .

1. play the game of baggataway?

Why did early settlers . . .

- 2. change the Dutch game of nine-pin bowling to a game with ten pins?
- 3. fight roosters against each other?
- 4. claim baseball was invented in the United States?
- 5. box without gloves?

EARLY GERMAN GYMNASTICS IN THE UNITED STATES

The first private school to initiate required physical education in the United States was the Round Hill School, founded in 1823 in Northampton, Massachusetts. Table 8-1 lists this school's establishment, along with other highlights in the development of physical education in the nineteenth century. The founders of Round Hill School scheduled time each day for sports and games even before they employed Charles Beck, a German turner, to instruct boys in the German system of gymnastics. Beck established an outdoor gymnasium, taught the first turner exercises on apparatus in this country, and translated Friedrich Jahn's treatise on gymnastics into English. In addition, Harvard students and Bostonians were taught turner gymnastics by German immigrants in the 1820s. The interest in turner gymnastics dissipated when these instructors ceased to teach and because this system's emphasis on developing strength failed to appeal to sportsminded Americans.

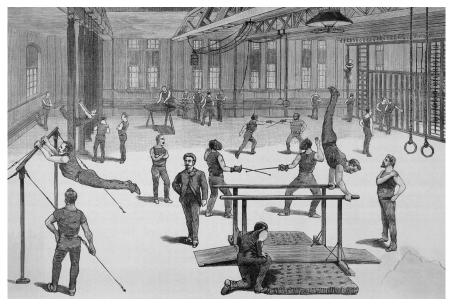
When a second wave of political refugees fled Germany beginning in 1848, they too brought their love of gymnastics to the United States, where they established turner societies (beginning in 1848 in Cincinnati) and turner festivals (in 1851). These **turnfests** featured thousands of turners who exhibited their physical prowess on German apparatuses and through running and jumping activities. In 1866, they founded the Normal School of the North American Gymnastic Union in New York City to prepare teachers of German gymnastics. When most German immigrants migrated to the Midwest, they settled in isolated communities and maintained their national identity, including their gymnastics programs. Gradually their turner societies broadened their programs to include social functions and exercises appropriate for the entire family. Later in the 1800s, they introduced the turner system into several schools, although it was modified with Adolph Spiess's school gymnastics principles. The influence of German gymnastics on programs in the United States was limited because of its ethnic isolation and the emphasis

TABLE 8-1

A FEW SIGNIFICANT EVENTS IN EARLY AMERICAN PHYSICAL EDUCATION

1823	Round Hill School is established with physical education in its curriculum
1824	Hartford Female Seminary, directed by Catharine Beecher, included calisthenics in its curriculum
1837	Mount Holyoke Female Seminary opened with calisthenics listed as part of the school's program
1851	First national turnfest held in Philadelphia
1853	Boston became the first city to require daily exercises for school children
1865	First women's physical education program started at Vassar College
1866	California passed the first state physical education law
1872	Brookline, Massachusetts, became the first community in America to use public funds for the establishment of a playground
1885	Association for the Advancement of Physical Education founded in Brooklyn, New York
1889	Boston Conference on Physical Training held
1892	Ohio became the second state to pass a physical education law
1893	Harvard became the first college to confer an academic degree in physical education

on strength development and nationalism. However, during the late 1800s and early 1900s, many schools and colleges incorporated exercises on German apparatuses into their programs. Some of these apparatuses, such as the parallel bars, rings, and balance beam, remain vital parts of the sport of gymnastics.



German gymnastics in the United States in the late 1800s.

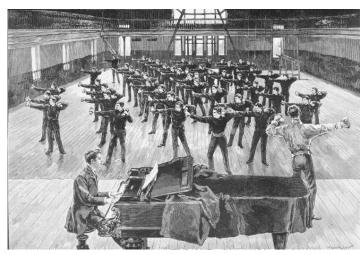
EARLY AMERICANS WHO INFLUENCED PHYSICAL EDUCATION PROGRAMS

Catharine Beecher, the first American to design a program of exercises for American children, tried to get daily physical activity into schools. As director of the Hartford (Connecticut) Female Seminary beginning in 1824 and later, when she founded the Western Female Institute in Cincinnati in 1837, she introduced girls to calisthenics. At the latter school, she set aside 30 minutes per half-day for this program of exercises, which was designed to promote health, beauty, and strength. Beecher's objective was to aid girls in improving their vitality so they could better fulfill their missions in life as wives and mothers. She expanded her concepts from a Course of Calisthenics for Young Ladies, which she wrote in 1832 primarily for girls, to A Manual of Physiology and Calisthenics for Schools and Families, published in 1856, in which she advocated the introduction of physical training in American schools for all children. Borrowing from the therapeutic concepts of Swedish gymnastics as developed by Per Henrik Ling, Beecher, through her writings and school programs, emphasized exercises that could be executed at home without a teacher, using diagrams from her books as guides.

Although Beecher's efforts did not achieve widespread results, she did influence another American. Dioclesian Lewis was a promulgator of causes for the day, including the abolition of slavery, temperance, women's rights, and health. At the convention of the American Institute of Instruction in 1860, Lewis had the opportunity to bring his concept of **light gymnastics** to the attention of



Examples of movements and handheld apparatus used in Dioclesian Lewis's light gymnastics program.



Class exercises at Amherst College. Note the dumbbells used along with the class leader.

educators from around the country and, especially, Boston. For his program, Lewis borrowed from Beecher's calisthenics, adding light apparatus such as bean bags, dumbbells, Indian clubs, and wands. He also borrowed from Swedish gymnastics its special emphasis on treatment of curvature of the spine and other chronic maladies. As a result of his promotional efforts, Boston adopted his system in its elementary schools. To prepare teachers to instruct children in light gymnastics, he founded the Normal Institute for Physical Education in 1861, the first of its kind. A **normal school** was a specialized institution for preparing students to become teachers.

The 10-week program of study at the Normal Institute for Physical Education included instruction in anatomy, physiology, hygiene, and gymnastics. Seemingly ahead of his time, Lewis believed in equity between the genders, cardiorespiratory conditioning, and conducting measurements to demonstrate the success of his program in improving the health of students. He also emphasized that exercises done to the accompaniment of music would result in more activity and more enjoyment.

In 1860, the first required college physical education program began at Amherst College because its president was concerned about the health of the students. This paramount concern led to the hiring of Edward Hitchcock, who, as director of the Department of Hygiene and Physical Education, gave health lectures, served as college physician, and supervised the required physical exercises for all students. As was true of most of the early physical educators, Hitchcock's primary credential for the job was a medical degree. Borrowing from Lewis's light gymnastics, Hitchcock's program, led by squad captains, included class exercises to the accompaniment of music. Students had class four days per week and were allowed to use a portion of their class time to practice sport skills or exercise on the horizontal bars, rings, ropes, and vaulting

horses. Hitchcock also administered a battery of bodily, or **anthropometric,** measurements, such as height, weight, chest girth, and lung capacity, to evaluate the effects of the program on students and compare their progress from year to year.

A second noteworthy college physical education program was developed by Dudley Sargent at Harvard College beginning in 1879, when he was hired to direct the newly opened Hemenway Gymnasium. Since no required physical education program existed at Harvard, Sargent, who was also a physician, used an individualized approach to encourage students to exercise. Based on numerous anthropometric measurements, Sargent prescribed a series of exercises to meet each student's physical needs, using chest expanders and developers, leg machines, rowing machines, and other apparatuses that he had designed. Opposed to strict German gymnastics and light gymnastics programs, Sargent encouraged students to participate in baseball, bowling, boxing, fencing, rowing, and running in addition to their individual conditioning programs.

Box 8.2 on page 241 provides a brief summary of the contributions of the early leaders in physical education in the United States. The Research View describes the contributions of the "father of physical culture."

RESEARCH VIEW

The Father of Physical Culture

Bernarr Macfadden (1868–1955) has been called the "father of physical culture." He was a lifelong advocate of physical fitness, eating fresh, all-natural food, and promoting bodybuilding and outdoor exercise. He advocated the natural treatment of disease and stressed the avoidance of drugs and stimulants. Macfadden wrote over 100 books and became a millionaire publisher of Physical Culture, a magazine for women called Beauty & Health, and other magazines and newspapers that inspired millions to live healthy, vigorous lives. Although only 5' 6" and weighing around 145 pounds, he developed amazing physical strength, including powerful upper body muscles, a strong chest, and incredible stamina and energy. After reading William Blaikie's How to Get Strong and How to Stay So (published in 1879), Macfadden became a highly skilled gymnast, champion wrestler, and showman who liked to demonstrate his muscles, which he did by illustrating and posing (wearing limited or no clothing) for his books and magazines. Physical Culture, begun in 1899, focused on bodybuilding but also became the most popular health magazine of the time and was the forerunner of today's health and bodybuilding publications. Macfadden advocated bodybuilding for men and women. He conflicted with societal standards of his time by encouraging women to exercise, participate in outdoor sports such as tennis and swimming, and discard restrictive clothing. For more about the enigmatic life of Bernarr Macfadden, visit www.bernarrmacfadden.com.

BOX 8.2 EARLY LEADERS IN PHYSICAL EDUCATION IN THE UNITED STATES

Charles Follen (1796-1840)

Established gymnasium in Boston (1826)

Taught German gymnastics to Harvard College students (1826–1828)

Charles Beck (1798-1866)

Hired as first physical education teacher in the United States (1825)

Taught at Round Hill School (1825–1830)

Catharine Beecher (1800–1878)

Taught at the Hartford Female Seminary (1824)

Started the Western Female Institute (1837)

Promoted calisthenics in American schools for boys and girls

Dioclesian Lewis (1823-1888)

Developed light gymnastics with handheld pieces of apparatus

Started the Normal Institute for Physical Education (1861)

Edward Hitchcock, M.D. (1828–1911)

Served as Professor of Hygiene and Physical Education at Amherst College (1861–1911)

Elected first president of the Association for the Advancement of Physical Education (1885)

Led in the development of anthropometric measurements of males

Amy Morris Homans (1848-1933)

Directed the Boston Normal School of Gymnastics (1889–1909)

Directed the Department of Hygiene and Physical Education at Wellesley College (1909–1918)

Founded the Association of Directors of Physical Education for College Women (1915)

Dudley Sargent, M.D. (1849–1924)

Directed the Hemenway Gymnasium at Harvard College (1879–1919)

Led in the development of anthropometric measurements of males

Founded the Sargent School for Physical Education (1881)

Founded the Harvard Summer School (1887)

Edward Hartwell, M.D. (1850-1922)

Instructed (1882) and directed (1885–1890) the gymnasium at Johns Hopkins University

Directed physical training for the Boston public schools (1890–1897)

William Anderson, M.D. (1860–1947)

Initiated the meeting that led to the formation of the Association for the Advancement of Physical Education (1885)

Founded the Chautaugua Summer School of Physical Education (1886)

Founded the Brooklyn (Anderson) Normal School (1886)

Hartvig Nissen (1856–1924)

Introduced Swedish gymnastics at the Swedish Health Institute in Washington, DC (1883)

Served as assistant director (1891–1897) and director (1897–1900) of physical training for the Boston public schools Taught at the Harvard Summer School and Sargent Normal School and directed the Posse-Nissen School

Nils Posse (1862–1895)

Graduated from the Royal Gymnastics Central Institute in Stockholm

Led in instruction of Swedish gymnastics in the United States (1885–1895)

Taught at the Boston Normal School of Gymnastics (1889)

Started the Posse Normal School (1890)

Delphine Hanna, M.D. (1854–1941)

Taught at Oberlin College (1885–1920)

Became professor of physical education (1903)

Initiated anthropometric measurements of females

Taught Luther Gulick, Thomas Wood, Jay Nash, and Jesse Williams

EARLY SWEDISH GYMNASTICS IN THE UNITED STATES

The first American introduction to Swedish gymnastics as a complete system occurred in 1883, when a Norwegian, Hartvig Nissen, opened a Swedish Health Institute in Washington, DC. Two years later Nils Posse, a graduate of the Royal Gymnastics Central Institute in Stockholm, introduced Swedish gymnastics in Boston. Impressed by Posse's program, philanthropist Mary Hemenway volunteered to furnish the Boston School Committee free teacher training in Swedish gymnastics if the schools would offer this program to children. This led Hemenway to finance the establishment of the Boston Normal School of Gymnastics in 1889. Hemenway selected Amy Morris Homans for its director; Nils Posse became the first instructor. The graduates of this school taught in the Boston schools and nationally, especially in women's colleges, spreading Swedish gymnastics. Edward Hartwell, director of physical training for the Boston public schools beginning in 1890, was also a strong supporter of Swedish gymnastics. Previously he had directed the Johns Hopkins University gymnasium, where he experimented with many of the principles that Dudley Sargent advocated.

THE BATTLE OF THE SYSTEMS

Between 1885 and 1900, a leading topic for discussion among physical educators was which system of gymnastics could provide a unified, national program for the United States. This controversy became known as the **Battle of the Systems**. Although there was some overlap between programs, in general the German and Swedish systems and those advanced by various Americans developed and vied for supporters (see Figure 8.1 and Table 8-2).

In an attempt to introduce Swedish gymnastics to the general public and leaders in physical training and thus gain its acceptance as the program for American schools, Mary Hemenway financed the Boston Conference on Physical Training in 1889. Under the direction of Amy Morris Homans, this conference was highly successful and one of the most important conferences in physical education ever held in the United States. Its significance can be attributed to the exposure given to the various programs existing at that time. German gymnastics, Swedish gymnastics, Hitchcock's program, Sargent's system, and others were explained, and the merits of each were discussed. After explaining his program, Sargent proposed this solution to the search for an American system:

What America most needs is the happy combination which the European nations are trying to effect: the strength-giving qualities of the German gymnasium, the active and energetic properties of the English sports, the grace and suppleness acquired from French calisthenics, and the beautiful poise and mechanical precision of the Swedish free movement, all regulated, systematized, and adapted to our peculiar needs and institutions. (Barrows, 1899, page 76)

Although the leaders in physical education at this conference were exposed to the various systems, no one system was found to meet completely the needs of Americans because each seemed to have its weaknesses. Still, the Boston conference provided an opportunity for leaders to learn about the various systems and exchange ideas for the future promotion of American physical education.

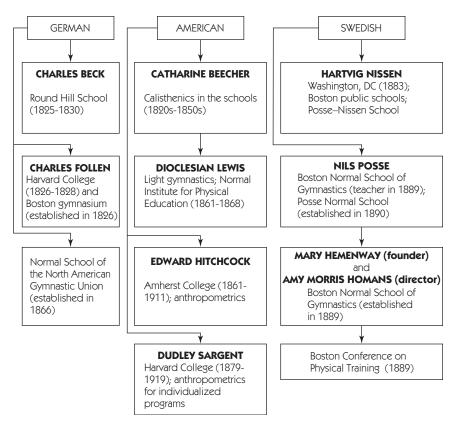


FIGURE 8.1
Leaders in early American physical education.

TABLE 8-2			
BATTLE OF THE SYSTEMS			
System	Purpose	Advocates	
German gymnastics	Developed individual abilities and healthy, strong youth for war or emergencies using apparatus	German turners, including Carl Betz, C.G. Rathman, George Brosius, and William Stecher	
Swedish gymnastics	Promoted health, correct expression, and beauty of performance using exact movement patterns	Hartvig Nissen; Nils Posse; Amy Morris Homans; Edward Hartwell	
Hitchcock's system	Emphasized hygiene through required exercises with light apparatus	Edward Hitchcock	
Sargent's system	Provided individualized exercises on exercise machines	Dudley Sargent; Delphine Hanna	
Association gymnastics	Contributed to the development of the all-around person	YMCA directors	

Although German gymnastics were widely accepted in the Midwest as were Swedish gymnastics in the Northeast, few states mandated physical education. In 1866, California passed a law providing for twice-a-day exercises for a minimum of five minutes to promote health and bodily vigor, but it was short-lived. Ohio's 1892 law was the first lasting physical education law. Louisiana (in 1894), Wisconsin (in 1897), North Dakota (in 1899), and Pennsylvania (in 1901) passed similar legislation. In the late 1800s, most colleges included German and Swedish gymnastics in their physical education programs, but they also borrowed from Hitchcock's program and Sargent's principles and equipment. Before concluding this section, respond to the review items in Table 8-3.

TABLE 8-3

GAINING A BETTER UNDERSTANDING OF THE BATTLE OF THE SYSTEMS

The Battle of the Systems occurred as individuals in the United States participated in various types of European gymnastics or sports, designed new programmatic approaches unique to their specific settings, and sought to decide what should be included in school and college physical education and sport programs. Match the statements in the middle column with the system in the right column to help you better understand each of these systems and why they may or may not have been adopted or influenced programs in the twentieth century. (Items on the right may be used more than once or not at all.)

	Review Questions	System
1	Used an individualized approach in prescribing exercises	A. Anderson's system
2	Borrowed from others for a more general approach	B. Association gymnastics
3	3. Focused on posture and movement on command	C. British sports
4	4. Advocated for schoolchildren by Edward Hartwell	D. Calisthenics
5	5. Emphasized the use of machines to develop the body	E. Danish gymnastics
6	6. Included practice for sports in its required program	F. German gymnastics
7	7. Associated with the development of character	G. Hitchcock's system
8	8. Emphasized the development of strength	H. Light gymnastics
9	More popular for schoolchildren and females	I. Sargent's system
10	10. Had as its goal the development of the all-around man	J. Swedish gymnastics
11	11. Focused on exercises for health, beauty, and strength	
12	12. Used Indian clubs and other apparatuses during exercise	
13	13. Used anthropometrics to determine the effect of the program on students	
14	14. More popular regionally and among immigrants	
15	15. Influenced Delphine Hanna's program at Oberlin	
16	16. Required class exercises four days a week for all students	
17	17. Influenced other programs through a normal school	
18	18. Influenced Mabel Lee's program at Nebraska	
19	19. Had very few advocates in the United States	
20	20. Emerged as the primary content in today's school programs	

ESTABLISHMENT OF NORMAL SCHOOLS FOR PHYSICAL EDUCATION

One means by which the various programs were promoted was the development of normal, or teacher training, schools. The 1880s were especially noteworthy: Six institutions were established to prepare physical education teachers either in a specific system or in an eclectic program that borrowed from several systems. In 1881, Dudley Sargent began teaching women from Harvard Annex and other women and men who were interested in his apparatuses and methodology. At the resultant Sargent School for Physical Education, he provided a general curriculum based on a theoretical, scientific foundation, along with various activities of a practical nature.

Delphine Hanna took courses from Dioclesian Lewis, Nils Posse, and Dudley Sargent; she attended both the Sargent School for Physical Education and the Harvard Summer School of Physical Education. The program she initiated at coeducational Oberlin College in 1885 closely resembled Sargent's. Besides using many pieces of apparatus that he designed, Hanna emphasized anthropometric measurements of female students to assess their individual development. The scope of her work included teaching a class to train men to instruct their male classmates. Among her first students were Thomas Wood and Luther Gulick, later luminaries in physical education. Table 8-4 summarizes the early teacher training institutions in the United States and their curricula.

A unique normal school established in 1885 in Springfield, Massachusetts, was the Young Men's Christian Association (YMCA) Training School. The YMCA's goal, through its association gymnastics, was to develop the all-around man and send him out as a physical director to the increasing number of YMCAs, both nationally and internationally. (The first YMCA gymnasiums had opened in 1869 in New York City, San Francisco, and Washington, DC.)

In 1886, William Anderson established two normal institutions. While teaching in New York, he started the Brooklyn Normal School; later, when he became the director of the Yale College gymnasium, he moved this school to New Haven, Connecticut, and renamed it the Anderson Normal School. Anderson, along with Jay Seaver, also worked with leaders in the Chautauqua movement



A class at the Sargent School for Physical Education performing an Indian club routine.

1890-1942

Nils Posse

TARIF 8-4

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	NORMAL SCHOOLS FOR PHYSICAL EDUCATION		
Years	Founder	Name	Program
1861–1868	Dioclesian Lewis	Normal Institute for Physical Education	Light gymnastics
1866–1951	Turners	Normal School of the North American Gymnastic Union	German gymnastics
1881–1929	Dudley Sargent	Sargent School for Physical Education	Theoretical and practical curriculum
1885-today	Young Men's Christian Association	YMCA Training School (Springfield College)	Association gymnastics
1886–1920s	William Anderson	Chautauqua Summer School of Physical Education	Advanced theoretical and practical curriculum
1886–1953	William Anderson	Brooklyn (Anderson) Normal School	Theoretical and practical curriculum
1887–1932	Dudley Sargent	Harvard Summer School of Physical Education	Advanced theoretical and practical curriculum
1889–1909	Mary Hemenway and Amy Morris Homans	Boston Normal School of Gymnastics	Swedish gymnastics
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to set up the Chautauqua Summer School of Physical Education. The curricula at both schools focused on a generalized approach with theoretical and practical course work.

Posse Normal School

Swedish gymnastics

In 1887, Dudley Sargent gained approval to open the Harvard Summer School of Physical Education, which provided opportunities for teachers already in the field to start or continue their professional training in physical education. This summer school was particularly important in the expansion of knowledge in physical education, since at this time no graduate degree programs existed. The diversity and breadth of the offerings, along with its outstanding faculty, made attendance at the Harvard Summer School prestigious; a certificate from the school was highly respected.

Swedish gymnastics was initially taught at the Boston Normal School of Gymnastics in 1889 and continued to be taught following the school's affiliation with Wellesley College beginning in 1909. Amy Morris Homans directed the programs at both these institutions. In 1890, Nils Posse established the Posse Normal School, which also promoted Swedish gymnastics.

Beginning in the late 1800s, normal schools were replaced with teacher preparation programs that offered undergraduate college degrees. In 1885, Delphine Hanna initiated a physical education teacher curriculum for women students at Oberlin College; it became a four-year degree program in 1900. Only programs at Stanford University, the University of California, the University of Nebraska, and Harvard College preceded it.



WEB CONNECTIONS

- www.lacrosse.org/museum/history.phtml
 The Web site of us Lacrosse provides a descriptive and chronological history of Native American lacrosse.
- www.nawgjwa.com/HISTORY/historyearlyamerica2.html
 This site provides an overview of the early gymnastics programs and significant individuals in the United States.
- 3. www.faqs.org/childhood/Pa-Re/Playground-Movement.html
 This brief article describes the beginning of the playground movement
 and provides related links for additional information.
- 4. http://aausports.org/default.asp The Amateur Athletic Union, one of the largest, multi-sport, volunteer sports organizations in the United States, offers amateur sports competitions including the AAU Junior Olympic Games.
- 5. www.northnet.org/stlawrenceaauw/timeline.htm Check out this site for an extensive timeline of the significant events in women's sports.
- www.ymca.net/about_the_ymca/history_of_the_ymca.html
 This history of the Young Men's Christian Association explains its
 contributions to the promotion of physical activities and sports
 in the United States.
- 7. http://www.musarium.com/kodak/olympics/olympichistory/ Visit this site for a timeline with superb photographs that capture the essence of competition and athletic excellence in the modern Olympic Games.

This country's first degree program in physical education (a Bachelor of Science in Anatomy, Physiology, and Physical Training) was established in 1891 at Harvard College. Carl Fitz, a physician, worked with Dudley Sargent in the development and delivery of this program, which was designed to prepare gymnasium directors to teach and provide general preparation for individuals wishing to pursue the study of medicine. Working at the Physiological Laboratory, which was associated with the Lawrence Scientific School, Fitz focused on the importance of research in the relatively new field of physical education and was one of the foremost researchers in the experimental study of physiology of exercise in the 1890s.

FOUNDING OF THE NATIONAL ASSOCIATION

In the late 1800s, physical education programs offered a potpourri of activities reflecting the philosophies and interests of their leaders. As a young teacher, William Anderson recognized this diversity and the fact that few opportunities existed for the exchange of curricula and philosophical ideas among individuals interested in physical development. After seeking support from two recognized leaders in the field, Edward Hitchcock and Dudley Sargent, Anderson invited gymnastics teachers, ministers, journalists, school principals, college presidents, and others engaged in the promotion of physical training to meet at Adelphi Academy in Brooklyn, New York, on November 27, 1885, to discuss their various programs and decide whether sufficient interest existed to regularly provide a forum for professional interchange. Of the 60 people who attended, 49 responded positively, resulting in the formation of the Association for the Advancement of Physical Education, today's American Alliance for Health, Physical Education, Recreation and Dance.

PROMOTION OF PLAY FOR CHILDREN

While organized school programs were being established, the **playground movement** outside the schools gained support and momentum. The industrialization of the United States directly influenced this development. Immigration and the massive influx of Americans into urban areas resulted in overcrowded cities with miles of brick tenements. In an effort to provide suitable play space for children in this environment, the first sand boxes were built in Boston in 1886. In 1888, New York passed the first state legislation that led to an organized play area for children. By 1899, the Massachusetts Emergency and Hygiene Association sponsored 21 playgrounds.

Jane Addams's Hull House, a Chicago **settlement house** started in 1894, included a model playground. Settlement houses engaged children in playing sports and games popular in the United States. They also helped children and their parents learn English and adopt the ways of their new home. Boston constructed the Charlesbank outdoor gymnasium in 1889. Religious leaders, school administrators, philanthropists, and social workers worked together or alone in the late 1800s to ensure that children were provided both places and opportunities to play. In part, these efforts demonstrated a genuine concern for the welfare of children and society as a whole. These playgrounds also served as a method of social control, to assimilate immigrants into a new culture to replace their past ethnic or cultural connections. That is, the early leaders in the playground movement sought to use play to "Americanize" the myriad immigrants, streaming into the cities.

DEVELOPMENT OF AMATEUR SPORTS

Americans' love for sports preceded the founding of the United States but blossomed after the Civil War as baseball became the national sport for men of all ages and amateurs as well as professionals. Races between cyclists, horses,

runners, and yachts, with associated gambling, were especially attractive to the upper class. Normally these races, as well as sports such as cricket, golf, and tennis, were organized or played by members of elite social clubs. The New York Athletic Club, founded in 1868, led the formation of the Amateur Athletic Union (AAU) in 1879. This organization sought to promote amateur sports for upperclass males, similar to the British ideal of the pure amateur who played sports for the love of the game. Paid, professional athletes were disdained because they played for the money; hence, the AAU sought to check the evils associated with professionals playing sports.

In 1853, Scottish immigrants, through their Caledonian games, began to promote their native sports, such as hammer throwing, putting stones, and tossing the caber (lifting a large wooden pole and flipping it end over end). The Czechoslovakian Sokols also promoted physical activities through mass displays in national festivals, such as the first held in 1879 in New York City. Table 8-5 lists many of the sports organizations that helped promote amateur sports during the late 1800s.

Frenchman Pierre de Coubertin, through persistent promotional efforts, established the modern Olympic Games and the spirit of amateurism that honored the integration of mind, body, and spirit. The classical restoration of the Panathenaic Stadium, in pure white marble, provided an awe-inspiring setting

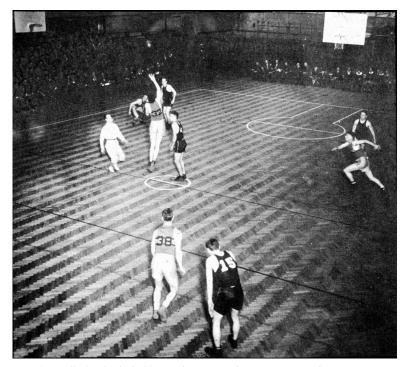


Tossing the caber was a popular event at the Caledonian games.

TABLE 8-5

AMATEUR SPORTS ORGANIZATIONS

1871	National Rifle Association
1875	National Bowling League
1878	Cricketer's Association of the United States
1879	National Archery Association
1879	Amateur Athletic Union
1880	League of American Wheelmen (cycling)
1880	National Canoe Association
1881	United States National Lawn Tennis Association
1882	National Croquet Association
1884	United States Skating Association
1887	American Trotting Association
1892	United States Golf Association



Men's intercollegiate basketball was a slower-paced game years ago when a center jump followed each basket scored.

for the first Olympic Games of the modern era in Athens in 1896. Male athletes (241) representing 14 countries competed. While track and field athletics occupied center stage, athletes also competed in cycling, fencing, gymnastics, lawn tennis, shooting, swimming, weight lifting, and wrestling. None of these sports was open to female athletes.

James Connolly, one of the 13 athletes representing the United States, captured the first victory in the triple jump. Athletes from the United States dominated the track and field events, with first-place medals in the 100-meters, 400-meters, 110-meter hurdles, long jump, high jump, pole vault, shot put, and discus throw. Greek athletes placed in swimming, cycling, fencing, gymnastics, and shooting, and won the marathon. Germans captured most of the gymnastics medals.

The YMCA developed and promoted two sports. In 1891, at the YMCA Training School, Canadian James Naismith developed the rules for basketball and initiated the first game. This game was designed as an indoor sport to fill the void between football and baseball seasons. Five years later, William Morgan, at a YMCA in Holyoke, Massachusetts, originated volleyball as a less vigorous indoor game. Both sports met a need and found more early adherents in the YMCAs than in private clubs and colleges. The YMCA also promoted both sports internationally and urged American youth to play basketball.

Gambling had been associated with sports since colonial times when owners and spectators bet on the outcomes of horse races. Americans from all levels of society wagered on cockfights, wrestling bouts, boxing matches, walking contests, and baseball games throughout the 1800s. One of the evils the AAU sought to eliminate in its promotion of amateur athletics was gambling. Baseball promoters had to overcome the perception that all players and fans bet on the outcomes of professional games. Nevertheless, college students enthusiastically gambled on their sports competitions, especially football.

COLLEGIATE SPORTS FOR MEN

Sports on college campuses were initially organized by students as extracurricular activities, to the displeasure of administrators and faculty who viewed them as extraneous to the mission of higher education. The first intercollegiate event, in 1852, matched Harvard and Yale in rowing. The two early favorites in collegiate sports were baseball, which first matched Amherst against Williams in 1859, and football, which actually began as a soccerlike game between Princeton and Rutgers in 1869. Students founded organizations to standardize rules for competitions in rowing, baseball, football, and track.

College faculties paid little attention to sports until they began to infringe on students' academic work. Missed classes, decreased academic performance, injuries, gambling, property damage on campus and in nearby towns during victory celebrations, playing against professional teams, commercialization, and a general overemphasis on athletics compelled faculties to take action. In 1882, a group of Harvard faculty members recommended that a committee of three faculty



The University of Virginia versus the University of North Carolina in baseball in 1895. Note in the foreground of this picture the position of the umpire. At that time, he was not positioned behind the catcher.

members oversee athletics. Three years later, this committee was expanded to include two students and one alumnus. In 1888, it again expanded to an equal representation of three faculty, three students, and three alumni. In 1883, representatives of nine eastern colleges met, established the Intercollegiate Athletic Conference, and proposed that colleges should not compete against professional teams; no professional athletes should coach college teams; students should be permitted only four years of participation in athletics; contests should take place only on campuses; and faculties should control athletics. Because only three colleges ratified them, these regulations failed to take effect.

In 1895, the Intercollegiate Conference of Faculty Representatives (today's Big Ten Conference), composed of one faculty member from each of seven midwestern institutions, adopted rules requiring all players to be enrolled in college, all transfer students to wait six months before being eligible to play on a team, and all athletes to maintain the required academic standards to be eligible to play. These efforts, however, did not control the overwhelming growth of student-initiated and student-administered intercollegiate athletics in the late 1800s. Table 8-6 chronicles the initiation of collegiate sports organizations and competitions.

COLLEGIATE SPORTS FOR WOMEN

In the late 1800s, archery, croquet, and tennis were among the first sports to attract female participants because these activities did not require revealing clothing and were nonvigorous. Male and female attitudes about proper feminine

TABLE 8-6

DEVELOPMENT OF COLLEGIATE SPORTS FOR MEN 1843 First collegiate rowing club started at Yale 1844 Harvard forms a rowing club 1859 First intercollegiate sports competition in rowing occurs as Harvard defeats Yale by four lengths 1859 College Union Regatta Association established by Harvard, Yale, Brown, and Trinity 1864 Haverford beats Penn 89–60 in the first intercollegiate cricket competition 1869 Rutgers outscores Princeton (6–4) in the first intercollegiate football game 1871 Rowing Association of American Colleges formed 1873 First intercollegiate track and field competition held in conjunction with the intercollegiate rowing regatta 1876 Intercollegiate Football Association established 1876 Intercollegiate Association of Amateur Athletes of America formed to govern track and field 1877 Harvard shoots 20 points better than Yale in the first intercollegiate rifle competition 1877 New York University defeats Manhattan (2–0) in the first intercollegiate lacrosse contest 1883 Intercollegiate Lawn Tennis Association founded 1883 Harvard's J. S. Clark wins the singles and the doubles (with P. E. Presbrey) events during the first intercollegiate tennis tournament 1883 Intercollegiate Athletic Conference established by Harvard, Princeton, and Cornell 1884 Penn defeats Wesleyan (16–10) in the first intercollegiate polo contest 1890 First intercollegiate cross-country competition occurs as Penn beats Cornell 1894 Harvard outscores Columbia (5–4) in the first intercollegiate fencing meet 1895 Brown beats Harvard (4-2) in the first intercollegiate ice hockey game 1896 Yale beats Columbia by 35 holes in the first intercollegiate golf event with six-man teams 1896 First intercollegiate swimming meet with Penn defeating Columbia and Yale 1896 First intercollegiate sports competition for women in basketball occurs as Stanford defeats California (2-1) 1899 Penn surpasses Columbia (2–0) in the first intercollegiate water polo contest 1899 Intercollegiate Cross Country Association of Amateur Athletes of America established 1899 Yale's gymnastics team defeats competitors from 19 institutions in the first intercollegiate

behavior and medical opinion that vigorous activity would irreparably harm women's reproductive capabilities combined to prevent women from engaging in aggressive and highly competitive sports. Bicycling introduced a radical change in attire with the bloomer costume, or divided skirt, which allowed freedom from the appropriate attire of the day, which included voluminous skirts and petticoats and tightly laced corsets. Bloomers and middy blouses became the accepted costume for gymnastics and other physical activities; students at the Sargent School for Physical Education were among the first to wear them.

gymnastics meet

Societal attitudes toward women in the 1800s closely paralleled the Victorian perception that females were weak, objects to be placed on pedestals for admiration but not to be taken seriously because they were incapable of mental achievements. Females who sought schooling, especially college attendance, encountered ridicule and suspicions about their femininity. Their roles as wives and mothers were viewed as contradictory to the development of their minds.

Catharine Beecher's calisthenics and Swedish gymnastics with their therapeutic emphasis, became acceptable because they were believed by many to complement the feminine role. When college women enthusiastically participated in baseball, basketball, and rowing, many physicians and some women strongly opposed such vigorous exertion. They argued that although mild activity such as walking, gardening, or moderate exercise could benefit women, an overexpenditure of energy might leave them infertile, hopelessly depleted of the energy needed to survive childbirth or motherhood. Not until medical opinions gradually changed in the twentieth century did these restrictive opinions dissipate as women began to be viewed as capable of physical and mental achievement.

Women in the upper socioeconomic strata shared their husbands' and fathers' desires to engage in conspicuous consumption. In flaunting their wealth, the rich popularized sports such as archery, golf, tennis, and yachting. In each case, these sports were organized at private clubs or in settings where social interaction between the sexes usually was a desired outcome. Following the lead of men, upper-class women began to compete nationally in archery (1879), tennis (1887), and golf (1896). Because of societal expectations, they always dressed in the latest fashions, many of which severely limited their mobility and skill development.

Women eagerly adopted basketball but adapted and modified its rules to make the game less strenuous and rough. The Committee on Women's Basketball was established by the American Association for the Advancement of Physical Education to standardize these rules. In 1896, the first intercollegiate contest between women, from the University of California and Stanford University, occurred. In addition to basketball, field days for track events and a few other sports became popular in women's colleges in the 1890s.

SUMMARY

Early physical education in the United States evolved from recreational sports and games into organized school and college programs that either emphasized one system of gymnastics or combined exercises from various systems. Swedish and German gymnastics had their advocates, but neither found widespread national acceptance. Health and strength were favored outcomes, but even these did not fully satisfy Americans' needs. Prior to 1900, teachers of physical education had completed programs in normal schools; a fledgling national association existed; but an accepted curriculum had not emerged nationally. With the popularization in the late 1800s of children's play and of sports in amateur clubs and on college campuses, the stage was set for the development in the 1900s of American programs based primarily on playing sports and games. The Timeline in Table 8-7 will help you review a few key events that impacted physical education and sport during the 1800s.

TABLE 8-7 TIMELINE FOR THE 1800S IN THE UNITED STATES

	Significant Events		Firsts
1823	German gymnastics introduced in United States		
1824	Calisthenics introduced by Catharine Beecher		
		1837	Calisthenics program for college women
		1851	National German turnfest
		1852	Intercollegiate athletic competition
		1853	Required daily exercise for school students
1860	Light gymnastics introduced by Dioclesian Lewis	1860	Required college physical education program
		1861	Normal school for gymnastics
		1879	National amateur sports organization
1883	Swedish gymnastics introduced in United States		
		1885	Meeting of today's AAHPERD
		1885	YMCA Directors trained
		1886	Sand boxes provided for urban children
1889	Hull House (settlement house) opened		
1889	Boston Conference on Physical Training held		
		1891	Degree program in physical education
		1892	Lasting physical education law
		1896	Female full professor of physical education
		1896	Modern Olympic Games

CAREER PERSPECTIVE



MIKE WALTERS

Exercise Specialist in Cardiac and Pulmonary Rehabilitation Lawrence Memorial Hospital Lawrence, Kansas

EDUCATION

B.S.E., education with an emphasis in exercise science, Fort Hays State University in Hays, Kansas

JOB RESPONSIBILITIES AND HOURS

Mike provides Phase I, II, and III cardiac rehabilitation and outpatient pulmonary rehabilitation to patients. This work involves medically supervised exercise instruction and education on risk factor modification for cardiac and pulmonary rehabilitation. His typical work schedule is Monday, Wednesday and Friday from 6:30 to 3:30 for cardiac rehabilitation and Tuesday and Thursday from 8:30 to 3:30 for pulmonary rehabilitation. Occasionally, Mike may work on a Saturday or in the evening, such as when he makes a presentation at a health fair or educational workshop. The pay range for this position is between \$15 and \$22 per hour.

SPECIALIZED COURSE WORK, DEGREES, AND EXPERIENCES NEEDED FOR THIS CAREER

The minimum qualification for working in cardiac and pulmonary rehabilitation is earning a bachelor's degree in exercise science after completing an internship. The preferred qualifications are a master's degree in exercise physiology and certification by the American College of Sports Medicine as an Exercise Specialist or Clinical Exercise Physiologist. Mike believes that the undergraduate courses he completed in exercise science, exercise physiology, and kinesiology, and the laboratory and practicum courses that provided hands-on experiences were the most useful in fulfilling his job responsibilities.

SATISFYING ASPECTS OF YOUR CAREER

Mike finds that personal interactions with patients are the most satisfying parts of his job. As a specialist in cardiac rehabilitation, he spends 2–3 hours a week for 6–12 weeks helping each patient and gets to know them well. These individuals really appreciate the time he spends with them. Mike enjoys seeing his patients reach their health goals, especially since for some of these individuals, this is the first time in their lives they have exercised or focused on their own health and wellness. While the personal interaction is rewarding, Mike does not like dealing with the lack of complete insurance coverage for outpatient rehabilitation.

JOB POTENTIAL

Within cardiac or pulmonary rehabilitation clinics, there are typically one to two positions available for an exercise specialist. There also are opportunities to advance into a coordinator's or director's position based on a person's academic credentials and experiences.

SUGGESTIONS FOR STUDENTS

Mike encourages undergraduate students to get experiences early by volunteering at a hospital in cardiac or pulmonary rehabilitation. Getting as much hands-on experience as possible while in college will help link and apply content from courses with the learning needed to be successful in this career. These experiences should precede and lead to an internship. He also recommends, after graduation, volunteering or working part-time in a related health-care area outside of cardiac or pulmonary rehabilitation, such as in a catheterization laboratory or as an electrocardiogram monitor technician, to gain greater insights and skills. He also urges young professionals to stay active in professional organizations like the American College of Sports Medicine and American Association of Cardiovascular and Pulmonary Rehabilitation.

KEY POINTS FOR CHAPTER 8

Native Americans Sport closely aligned with social, spiritual, and economic

aspects of life with gambling often associated with

sports, such as lacrosse

Colonial Americans Engaged recreationally in bowling, sleighing, fox hunting,

horse racing, hawking, cockfighting, rounders, cricket,

and boxing

German gymnastics Introduced at Round Hill School, spread from New York

City to the Midwest in isolated enclaves of Germans; not adopted because of its emphasis on nationalism and

development of strength using apparatus

Catharine Beecher Offered calisthenics, a course of exercises designed to

promote health and thus to secure beauty and strength,

especially for females

Dioclesion Lewis Taught light gymnastics, exercises with wands, rings,

bean-bags, dumbbells, and Indian clubs along with music,

at Normal Institute for Physical Education

Swedish gymnastics Taught by Hartvig Nissen and Nils Posse at the Boston

Normal School of Gymnastics, primarily to females and

children

Edward Hitchcock Gave lectures on health, led the light gymnastics program

for students, and used anthropometrics to find the

average, ideal college male at Amherst College

Dudley Sargent Designed individualized programs for Harvard students

using apparatuses he designed, taught females at his normal school, and directed the advanced teacher

training program in the Harvard Summer School

Delphine Hanna Took anthropometric measurements of college women

and instructed Luther Gulick, Thomas Wood, Jav Nash,

and Jesse Williams at Oberlin College

William Anderson Founded two normal schools for physical education

and was pivotal in establishing the Association for the

Advancement of Physical Education

YMCA Established a training school in Springfield to prepare

physical directors for developing the all-around man

(intellectual, physical, and spiritual)

The socially elite engaged in horse racing, yachting, and Men's amateur sports

gambling, played tennis, golf, and cricket, and formed

athletic clubs for track and field

Some engaged in horseback riding (sidesaddle), walking, Women and sports

dancing, croquet, cycling, or tennis

STUDENT ACTIVITIES

1. As a class, reenact a portion of the Boston Conference on Physical Training (1889) by having each student report on one of the following systems: Swedish, German, Edward Hitchcock's, or Dudley Sargent's.

- 2. Read about the founding of the first professional organization in physical education (today's American Alliance for Health, Physical Education, Recreation and Dance), and report your findings to the class orally or in a three-page paper.
- 3. Research the name(s) and starting date(s) of the oldest normal school(s) for physical education for males and for females in your state.
- 4. Investigate which college(s) in your state offered the first intercollegiate athletic competitions for men and for women. In which sports did these competitions occur?
- 5. Research any one of the individuals, events, or topics discussed in this chapter. Write a five-page paper about the major contributions of this individual, event, or topic to the history and growth of physical education and sport.

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9

TWENTIETH AND TWENTY-FIRST CENTURY PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

KEY CONCEPTS

- The new physical education emphasized play, sport, games, and natural, outdoor activities.
- Men's intercollegiate sports expanded from their interclass origins into commercialized businesses.
- Women's intercollegiate sports featured mass participation until the early 1970s, when competition, aided by federal legislation, became a primary goal.
- The children's play movement began with a recreational emphasis and evolved into a focus on fitness.
- Starting in the 1950s, youth sports expanded from value-oriented programs to adult-controlled leagues.
- The federal government mandated equal educational opportunities (including physical education) for individuals with special needs.

Professional discussions concerning which system of gymnastics would best meet the needs of students in the United States continued into the early twentieth century. Beginning in the 1920s, school physical education moved from formalized exercise programs to curricula that included sports, games, aquatics, and outdoor activities with educational outcomes stressed. Two themes emerged in the middle of the twentieth century: Education "through" the physical and education "of" the physical vied for advocates and influenced school physical education and sport curricula. The popularity of athletics at all levels and for both sexes has expanded tremendously. Nonschool programs from midcentury until today have offered sports competitions for individuals of all ages and skill levels, lifetime recreational activities, and fitness alternatives. Federal

legislation mandating equal opportunity for participation in sports and physical activities for females and individuals with special needs led to dramatic changes in school and nonschool programs. Today people participate in physical activities to develop and maintain fitness and in lifetime sports for fun, fitness, and competition.

THE NEW PHYSICAL EDUCATION

By the end of the nineteenth century, no gymnastics system had been adopted. The formal nature of the alternatives had failed to appeal to a broad base of physical educators and their students, who were seeking activities that offered competition, fun, and more freedom of expression. Speaking at the International Congress on Education sponsored by the National Education Association in 1893, Thomas Wood articulated his vision to address this need by calling for a new approach to physical education:

The great thought in physical education is not the education of the physical nature, but the relation of physical training to complete education, and then the effort to make the physical contribute its full share to the life of the individual, in environment, training, and culture. (page 621)

Delphine Hanna's influence helped bridge the transition from the nine-teenth to the twentieth century. A student of Dioclesian Lewis, Nils Posse, and Dudley Sargent, she taught at Oberlin College, which is the oldest, continuously-operating coeducational institution in the United States. In addition to directing the physical education program for female students at Oberlin, she taught Luther Gulick, Thomas Wood, Jay Nash, and Jesse Williams. These four men, along with Clark Hetherington, were instrumental in developing and promoting programs that moved away from formalized gymnastics systems and were appropriate for individuals of all ages.

This **new physical education** beginning in the 1920s focused on developing the whole individual through participation in play, sports, games, and natural, outdoor activities. The curriculum and philosophy of the new physical education was heavily influenced by and consistent with educational and psychological theory that was developing at that time.

Psychologist G. Stanley Hall made Clark University a center for child study after publishing his landmark book, *Adolescence*, in which he defined the educational significance of children's developmental stages. Other leaders in the study of the individual, many of whom influenced one another's work, included William James, Edward Thorndike, William Kilpatrick, and John Dewey. They successfully integrated scientific education, educational developmentalism, and social education. Educational developmentalism, also known as the psychological movement, used children's play and other natural activities for learning. Teachers College of Columbia University nurtured the development and popularization of the latter two educational themes through faculty members Thorndike and Dewey, who were close associates of Hall.

Teachers College also contributed to the integration of educational developmentalism and social education into the new physical education. Thomas Wood taught there for 31 years. Rosalind Cassidy took a Teachers College degree, as did hundreds of physical educators in the middle decades of the 1900s. For 27 years, Jesse Williams influenced Teachers College students to advocate for education through the physical as proposed by Wood and Cassidy. Williams was the primary advocate for seeking to achieve social outcomes through physical education and sport.

LEADERS IN THE NEW PHYSICAL EDUCATION

Luther Gulick and his roommate, Thomas Wood, discussed their mutual interest in physical education while attending Oberlin College, where they were influenced by Delphine Hanna. In 1887, Luther Gulick became an instructor at the YMCA Training School in Springfield, Massachusetts, and, two years later, was named superintendent. While at the YMCA Training School, he emphasized sports in the physical directors' curriculum and started the YMCA's Athletic League to promote amateur sports. Stressing unity in the development of body, mind, and spirit, he designed the YMCA triangle (see Figure 9.1), emblematic of the all-around man. He then moved to New York and taught before accepting the position of director of physical training for the New York City public schools. Although Gulick supported gymnastics as the basis of school curricula, he also founded the Public Schools Athletic League to provide after-school sports opportunities for boys, especially in track and field activities.

Another Gulick legacy was his promotion of play. In 1906, he helped establish the Playground Association of America and served as its first president. He also advocated for the provision of playgrounds and public recreation in this country, initiated (with his wife) the Campfire Girls in 1913, and led in the camping movement. In *A Philosophy of Play*, he articulated the importance of play as an educational force and helped begin the play movement within physical education.

For two years, Thomas Wood directed the gymnasium work for men at Oberlin College. After receiving a medical degree at Columbia, he developed the undergraduate teacher training curriculum in physical education at Stanford University, beginning in 1891. Ten years later, he joined the faculty of Teachers College of Columbia University, where he led in the establishment of the first master's (1910) and doctor's (1924) degree programs in physical education. He was also instrumental in the development of health education as a separate field of study.



FIGURE 9.1YMCA emblem designed by Luther Gulick.

The New Physical Education, which he co-authored with Rosalind Cassidy in 1927, provided the philosophical foundation for refocusing school programs from gymnastics to sports, games, dance, aquatics, and natural activities.

Rosalind Cassidy helped broaden and clarify the tenets of the new physical education during her professional career at Mills College in California. She helped develop and promote an understanding that physical education could uniquely contribute to the education of the whole person through physical activities. Through her voluminous writings, she also redefined physical education as the study of human movement.

Clark Hetherington was taught and greatly influenced by Wood at Stanford University. This influence is evident from Hetherington's coining of the term *new physical education* and from his advocacy of organic, psychomotor, character, and intellectual development as descriptive of physical education's objectives. G. Stanley Hall, a second mentor for Hetherington, emphasized educational developmentalism, which paralleled Hetherington's philosophy that play is a child's chief business in life. At the University of Missouri, the University of Wisconsin, New York University, and Stanford University, Hetherington helped establish undergraduate physical education programs. At New York University, he led in the development of graduate degree programs.

One of the first graduates of New York University's Ph.D. program in physical education was Jay Nash. Nash had served as the California assistant supervisor of physical education under Hetherington before joining the faculty at New York University in 1926 as Hetherington's replacement. Nash stressed that recreational skills should be learned early in life and could provide enjoyment throughout life. Fearing an overemphasis on spectating in the United States, Nash stated that school programs should teach carryover, or lifetime, sports to encourage people to adopt active lifestyles; that is, people should be educated for leisure.

Building on the concept of complete education espoused by Thomas Wood and Rosalind Cassidy, Jesse Williams led in the promotion of **education through the physical.** This theme stated that physical education as a field uniquely contributed to the education of the whole person because it included learning through the physical realm. This was a vitally important approach during the years of the Depression when funds for education were being severely cut. Williams stressed that physical education programs should be retained because they, more than all school curricula, uniquely contributed to the physical development of students as well as the education of the total child. Williams also was influenced by John Dewey's social education theories. Williams applied these to physical education by stating that the social and intellectual interactions that occurred during physical activities would help educate children to live in a democratic society. Through his 41 books and the students he influenced in the highly regarded graduate physical education programs at Teachers College of Columbia University, he helped physical education programs gain a strong position in schools during the middle decades of the twentieth century.

Figure 9.2 summarizes the influence of these new physical educators on one another. It is interesting that Nash signaled a change in the professional training of physical educators: Whereas Hanna, Gulick, Wood, and Williams held medical degrees, Nash earned a Ph.D. in physical education.

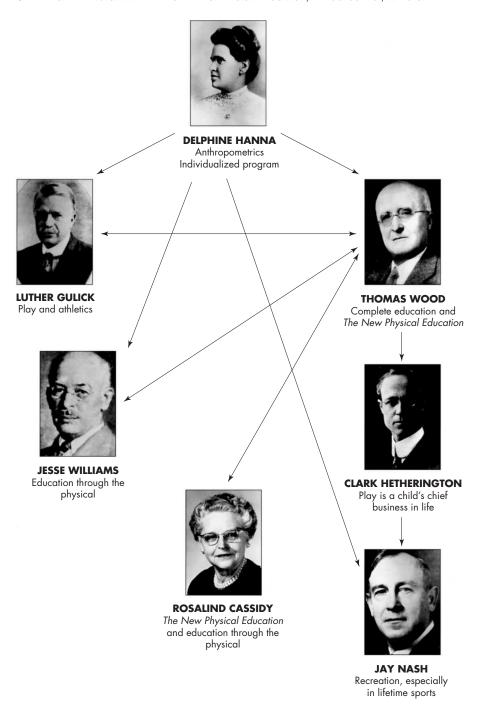


FIGURE 9.2

New physical educators.

The European gymnastics systems had failed to appeal to a broad spectrum of individuals in the United States. These systems were either too structured or too focused on strength or posture. Even the systems advocated by Edward Hitchcock, Dudley Sargent, William Anderson, and the YMCA did not seem to fully meet the needs of educating school and college students physically. This set the stage for the development of the new physical education, which sought to incorporate play, sports, games, and outdoor activities into the curriculum. The inclusion of a variety of movement forms appealed to individuals of all ages much more than had any of the gymnastics systems. Just being physically active, however, was not enough. Rather, the new physical educators sought to expand on the importance of physical development within education by linking it directly with the education of the whole child. Thus, the logical extension of the new physical education was the emphasis on education through the physical.

MAJOR DEVELOPMENTS IN PHYSICAL EDUCATION AND EXERCISE SCIENCE

Several parallel movements built on the advances of the new physical education, expanding this educational curriculum even further. These developments included the play movement; the growth of women's physical education; the education of the physical movement; the emergence of exercise science; the focus on human movement; and the influence of the scientific movement, educational developmentalism, and social education in the schools. Box 9.1 highlights many of the leaders in these developments.

The Play Movement

Luther Gulick proclaimed the importance of play for children, especially outside the schools. In New York, he established the Public Schools Athletic League's (PSAL) sports competitions for boys and the Girls' Branch of the PSAL, which provided opportunities for girls to participate in folk dancing. Elizabeth Burchenal directed the Girls' Branch of the PSAL before founding and presiding over the American Folk-Dance Society.



Mabel Lee, the first female president of the American Physical Education Association.

BOX 9.1 TWENTIETH-CENTURY LEADERS IN PHYSICAL EDUCATION IN THE UNITED STATES

Delphine Hanna, M.D. (1854–1941)

Taught at Oberlin College (1885–1920)

Used anthropometrics to prescribe exercise programs for college women

Established a four-year degree program (1900)

Named professor of physical education (1903)

Instructed Luther Gulick, Thomas Wood, Jay Nash, and Jesse Williams

Luther Gulick, M.D. (1865–1918)

Served as instructor (1887–1900) and superintendent (1889–1900) of the Department of Physical Training at the YMCA Training School

Directed physical training for the New York City public schools (1903–1908)

Established the Public Schools Athletic League in New York City (1903)

Helped establish the Playground Association of America (1906)

Influenced by Delphine Hanna and Thomas Wood

Thomas Wood, M.D. (1864–1951)

Taught at Stanford University (1891–1901)

Taught at Teachers College of Columbia University (1901–1932)

Helped formulate the philosophical cornerstone for the new physical education

Appointed the first professor of health education at Teachers College of Columbia University Influenced by Delphine Hanna, Luther Gulick, and Rosalind Cassidy

Clark Hetherington (1870–1942)

Directed physical training and athletics at the University of Missouri (1900–1910)

Established a Demonstration Play School at the University of California at Berkeley (1913)

Taught at the University of Wisconsin (1913–1918)

Served as state supervisor of physical education for California (1918–1921)

Taught at New York University (1923–1929)

Taught at Stanford University (1929–1938)

Influenced by Thomas Wood and G. Stanley Hall

Jay Nash (1886-1965)

Taught at New York University (1926–1953)

Promoted recreation and carryover sports

Influenced by Clark Hetherington and extended his theories as well as those of Luther Gulick and Thomas Wood

Jesse Williams, M.D. (1886–1966)

Taught at Teachers College of Columbia University (1911–1916; 1919–1941)
Stressed educational values, social education, and education through the physical

Became a dominant influence in physical education (1930–1960)

Influenced by John Dewey

(continued)

BOX 9.1 TWENTIETH-CENTURY LEADERS IN PHYSICAL EDUCATION IN THE UNITED STATES (continued)

Rosalind Cassidy (1895–1980)

Taught at Mills College in California (1918–1947)

Taught at the University of California at Los Angeles (1947–1962)

Led in writing about and promotion of the new physical education, education through the physical, and physical education as human movement

Influenced by Thomas Wood

Elizabeth Burchenal (1876–1959)

Served as executive secretary of the Girls' Branch of the Public Schools Athletic League (1906–1916)

Founded and served as first president of the American Folk-Dance Society (1916–1929)

Became first chairperson of the Committee on Women's Athletics of the American Physical Education Association (1917)

Influenced by Luther Gulick and Melvin Gilbert (in dance)

Ethel Perrin (1871–1962)

Supervised physical culture in the Detroit public schools (1909–1923)

Provided leadership with the executive committee of the Women's Division of the National Amateur Athletic Federation (1923–1932)

Served as assistant/associate director of health education for the American Child Health Association (1923–1936)

Influenced by Amy Morris Homans

Tait McKenzie, M.D. (1867–1938)

Taught (1891–1904) and served as medical director of physical education (1896–1904) at University Medical College (Canada)

Taught as professor on medical faculty and directed physical education (1904–1931) and served as professor of physical therapy (1907–1931) at the University of Pennsylvania

Depicted hundreds of athletic events in works of sculpture that showed the aesthetic harmony of bodily proportion and expression

Mabel Lee (1886–1985)

Directed physical education for women at the University of Nebraska (1924–1952)
Elected first woman president of the American Physical Education Association (1931)
Led the profession as a proponent of wholesome sport for women
Influenced by Amy Morris Homans

Charles McCloy (1886–1959)

Worked for the YMCA in the United States and internationally (1908–1930)

Served as a research professor in physical education at the University of Iowa (1930–1954)

Stressed the development of skills and organic vigor (education of the physical) as the primary objectives of physical education

(continued)

BOX 9.1 TWENTIETH-CENTURY LEADERS IN PHYSICAL EDUCATION IN THE UNITED STATES (continued)

Eleanor Metheny (1908–1982)

Taught at Wellesley College and at the Harvard Fatigue Laboratory (1940–1942)
Taught at the University of Southern California (1942–1971)
Led in the study of meaningful movement experiences
Influenced by Charles McCloy

As supervisor of physical culture in the Detroit public schools for 14 years, Ethel Perrin stressed informal, coeducational classes that emphasized play rather than formalized gymnastics. Under her leadership, Detroit led the nation in the provision of specially trained physical educators at all levels of instruction.

The play movement also influenced nonschool programs. Following the passage of child labor laws, children were taken out of the sweat shops and returned to their neighborhoods, where playgrounds and parks were provided for them. Children of immigrants were assimilated into the American culture, made friends, learned social skills, and learned how to win and lose as they perfected their baseball, basketball, football, softball, and ice hockey skills. Cities and towns prioritized offering sports competitions and recreational activities, first for children and later for adults, to meet this inherent need to play.

Women's Physical Education

Not until the 1970s did most college physical education programs end their practice of separation by gender. Throughout most of the 1900s, women's physical education focused on preparing teachers, with strict disassociation from competitive athletics. Curricula remained somewhat formalized, were centered on minimal skill development for all rather than on enhancement of the abilities of the highly skilled, and focused on value development through sport, rather than winning.

Only gradually did women gain acceptance as equals within the physical education profession, possibly because most early male leaders were physicians and few females had the opportunity to pursue medical degrees in the early years. Two exceptions were Eliza Mosher and Helen Putnam, who served as vice presidents in the national organization. Mabel Lee was elected the first woman president of the American Physical Education Association (APEA) 46 years after it was established. Within the APEA, Lee, Burchenal, and other women worked to preserve an educational model for women's participation in sport.

Education of the Physical

Charles McCloy led the campaign against a primary emphasis on educational outcomes as advocated by Wood, Cassidy, and Williams. Instead of supporting Williams's claim that physical education merited inclusion in the schools because

it helped attain social, emotional, and intellectual goals, McCloy affirmed his commitment to **education of the physical**, a belief that physical education's unique contribution within education should be to develop individuals' physical fitness and sport skills. During his more than 20 years with the YMCA, and especially during his tenure at the University of Iowa, McCloy stressed organic and psychomotor development as the most important objectives for physical education. He stated that the uniqueness of physical education depended on the development of physical skills. He also encouraged the teaching of sport skills and the measurement of progress through standardized assessments.

An extension of this philosophical approach to physical education was the growth in the use of tests and measurements, which paralleled the scientific movement in education. Built on the importance of anthropometric measurements in the late 1800s, early twentieth-century physical educators developed numerous physical tests. The Public Schools Athletic League initiated achievement tests to reward boys' successful performances. College achievement tests measured cognitive knowledge, motor ability, endurance, and sports skills. David Brace's Motor Ability Test, Frederick Cozens's test of general athletic ability, Frederick Rogers's Strength Index and Physical Fitness Index, and Charles McCloy's Motor Quotient were among the most notable measures developed and used in school and college physical education programs.

Exercise Science

Dudley Sargent, a leader in anthropometrics (discussed in the previous chapter), included measurements of the strength and power of his students at Harvard in his prescriptions for individualized programs. His use of dynamometers and the various exercise machines that he designed made him a pioneer in combining data of physical performance with exercise prescription and sport involvement. Through the Harvard Summer School and Sargent School for Physical Education, his influence was pervasive. In 1892 George Fitz, who, like Sargent, held an M.D., established the Physiology Laboratory as a part of the Lawrence Scientific School at Harvard. Advanced students completed physiological research, some of the first conducted in this country. The Harvard Fatigue Laboratory (interestingly, located within the School of Business) was directed by David Dill during its operation from 1927 to 1947. The breadth of the exercise and environmental research included clinical studies in physiology as well as investigations involving nutrition, physical fitness, and heart and lung function. Researchers in this laboratory, as well as the Institute for Environmental Stress at the University of California at Santa Barbara, the Laboratory for Physiological Hygiene at the University of Minnesota, and the Human Physiology Laboratory at Indiana University, became prolific publishers of their research findings, providing the foundation for today's exercise science programs.

During the 1900s, four researchers were particularly noteworthy for translating exercise physiology research into practice for the enhancement of physical fitness. At George Williams College in Chicago, Arthur Steinhaus trained students for laboratory-based research and was a prolific author. Peter Karpovich at Springfield College helped link physical education with exercise physiology.



Fitness activities, such as exercising in water, are offered by recreation departments, YMCAs and YWCAs, and health clubs.

Thomas Cureton at Springfield and the University of Illinois became a leading spokesperson for the importance of physical fitness through his writings and the students he taught. Kenneth Cooper, an Air Force physician, developed the aerobics fitness scoring system that helped spawn the popularity of jogging and other fitness activities in the 1970s. Cooper established a research institute in Dallas that continues to promote scientifically based educational and certification programs.

Human Movement

Rosalind Cassidy and Eleanor Metheny helped revolutionize the conceptual base of physical education. Metheny, a student of Charles McCloy, was acclaimed for her insightful writings and inspirational speeches on this topic.

Movement education, especially as influenced by Rudolf Laban in England, significantly influenced elementary school curricula. Movement education, a child-centered curriculum, emphasized presenting movement challenges to students and encouraging them to use problem solving through guided discovery to learn fundamental skills. Some educators believed the developmentally appropriate

subject matter for children should focus on their free expression of movements in response to challenges or problems. Advocates favored individualized learning of locomotor, nonlocomotor, and perceptual-motor skills.

Other Influencing Factors

In the 1900s, public school physical education was directly influenced by the scientific movement, educational developmentalism, and social education. Athletic and motor ability achievement tests, measurements of posture, and the use of statistical analyses are three examples of techniques resulting from the scientific movement. The justification of play for children led the way for the playground and recreation movement that carried over into the schools. Educational developmentalism influenced the passage of state laws requiring physical education as an integral part of each child's school experiences. The popularity of sports within physical education curricula contributed to achievement of social education outcomes, including the development of cooperation, good citizenship, and ethical conduct. The YMCA helped promote physical development and sports (see Table 9-1).

In more recent years, however, school physical education programs have experienced numerous attacks, partially as a result of administrators, faced with limited resources, cutting any program viewed as nonessential. Such attacks increased when physical educators were unable to demonstrate the achievement

TABLE 9-1		
BRIEF HISTORY O	THE YOUNG MEN'S CHRISTIAN ASSOCIATION (YMCA)	
1844	Founded in England by George Williams to help address the unhealthy social conditions in cities during the Industrial Revolution	
1851	Began initially in the United States in Boston for a similar reason	
1866	New York YMCA began its advocacy for the improvement of the spiritual, mental, social, and physical conditions of young men	
1885	YMCA Training School established in Springfield, Massachusetts, to train directors who could develop the all-around man in YMCAs that served all social classes	
Late 1800s	YMCAs built gymnasiums and swimming pools, organized summer camps for boys, and conducted exercise programs for males; they also promoted the new games of basketball (1891) and volleyball (1895)	
1890s	Luther Gulick's equilateral triangle of spirit, mind, and body depicted the YMCA's purpose	
Mid-1800s to mid-1900s	Dwight L. Moody and John Mott guided the American YMCA movement as thousands of foreign work secretaries carried out an evangelical missionary outreach	
Since 1950s	YMCAs admitted females and expanded to offer programs for family members of all ages	

Source: See http://www.ymca.net/about_the_ymca/history_of_the_ymca.html for a comprehensive history of the YMCA.

of educational standards. Another causal factor was the national call to reform education in response to the belief that the economic predominance of this country was threatened. An examination of *AMERICA 2000: An Education Strategy*, released in 1991, verified the lack of centrality of physical education. The health and physical well-being of children was not valued enough to receive mention.

Beginning in the 1990s and continuing through today, politicians and parents have advocated for raising academic standards for all students and demanded that educators be held accountable for improved student learning. Despite significant increases in the diversity of student populations and guaranteeing of the educational rights of children with special needs, educators are increasingly being judged on how their students perform on norm-referenced, high-stakes tests. In the 1990s, the National Standards for Physical Education were developed to articulate what students should know and be able to do in physical education classes. The challenge, however, was how to achieve the national standards in physical education in the wake of decreased funding, reduced programs and personnel, and renewed emphasis on so-called academic subjects. Physical education is not one of the core content areas tested in most schools.

Understanding the history of physical education, exercise science, and sport as a field can help professionals respond to such difficulties. Certainly these major developments in school physical education have shaped today's programs.

AMATEUR AND COLLEGIATE SPORTS

The popularization and commercialization of sports in the twentieth and twenty-first centuries have been phenomenal. In addition to becoming the nucleus of physical education programs, sports are organized for competition inside and outside schools and colleges.

Youth Sport Programs

In the 1920s, the popularity of sports in the United States led many people to expect the schools to provide competitive sports for children. Some junior and most senior high schools assumed this responsibility because physical educators believed that students in these age groups were physiologically and psychologically prepared for competition. For elementary-age children, educators widely believed that the negative outcomes from competitive sports outweighed the benefits. This belief did not prevent the development of youth sports programs, however. Communities, private associations, and civic organizations stepped in to fill the void, seeing sports as a deterrent to delinquency, a tool for social control, a means of developing self-discipline and cooperation, and an outlet for exercise and fun. Local as well as national programs, such as Little League Baseball and Pop Warner football, expanded to the point that today they involve millions of young athletes and adult organizers and billions of dollars



WEB CONNECTIONS

- www.aahperd.org/naspe/template.cfm
 Students can visit the home page of the National Association for Sport and Physical Education to learn about services, publications, standards, and position statements, with links to other professional organizations and sport and physical activity sites.
- www.ncaa.org/wps/ncaa?ContentID=1354
 This brief history of the National Collegiate Athletic Association includes links to an NCAA Century Series, which provides greater detail about the chronological history of this organization in the twentieth century.
- 3. www.active.com/
 This site can help individuals of all ages live actively by using its resources about endurance activities, team sports, golf and tennis, outdoor activities, and making healthy lifestyle choices.
- 4. http://naia.cstv.com/index.html
 Check out this site to find out more about the National Association
 of Intercollegiate Athletics, which governs intercollegiate competition
 for nearly 300 small colleges in 13 sports.
- www.njcaa.org/ Learn more about the National Junior College Athletic Association, which governs intercollegiate competition in 17 sports for its over 500 member two-year colleges.
- www.fitnessgram.net/home/
 This site provides information about the Fitnessgram/Activitygram, an activity and fitness assessment and personal physical activity management program for schools.
- www.ed.gov/parents/needs/speced/iepguide/index.html
 A Guide to the Individualized Education Program is designed to
 assist educators, parents, and state and local educational agencies
 in implementing the requirements of Part B of the Individuals with
 Disabilities Education Act.
- 8. http://www.nrpa.org/ Find a wealth of resources at this site of the National Recreation and Park Association, which is dedicated to advancing parks, recreation, and environmental conservation efforts to enhance the quality of life for all people.

Although many physical educators philosophically disagree with highly competitive youth leagues, these sports enterprises are deeply entrenched in American society. Parents have favored youth sports programs for several reasons:

- Their children have fun through participation.
- The programs offer opportunities for learning sport skills.
- These experiences enhance socialization abilities such as cooperation and teamwork and development of values.
- Sports involvement contributes to physical development and fitness.
- Youth sports programs provide children with wholesome alternatives
 for the use of their time, thus lessening misbehavior or unattended
 hours at home watching television, playing video games, or surfing the
 Web. In addition, many value youth sports because the whole family
 can participate together—as players, coaches, and cheerleaders and in
 various other volunteer capacities.

Children have varying reasons for participating in youth sports. Mostly they want to have fun, learn or improve sport skills, stay in shape or get exercise, associate with friends, or merely have something to do. Unfortunately, some youth join a team or participate in sports just to please their parents. After years of success as a young athlete, winning, seeking valued rewards or awards, maintaining popularity, or qualifying for college grants-in-aid or professional careers may become the primary motivations for participating in sports.

When youth sports programs remain focused on children's aspirations, and when parents' attitudes and behaviors are kept in perspective, millions benefit. When winning surpasses all other goals, exploitation of young athletes and an erosion of values reign. For example, exposure to the media, such as the televising of the Little League World Series, has served only to intensify the pressures on young competitors as well as raise the expected levels of performance to adult and even professional levels. As a result, children are no longer allowed to be children or play just for the fun of it. When adults rudely dispute officials' calls and berate their children for not performing well enough, they become part of the problem. These adults rob children of the many benefits of playful participation in sport. Adult domination also prevents children from learning in and through sport the art of negotiation, how to make decisions, communication skills, and how to lead and follow.

Numerous occurrences in youth sports call attention to the prevalence of exploitation. Pressures to win, commercialization, elimination of lesser-skilled players, injuries resulting from excessive play or practice, violence, overspecialization, cheating, and lack of value development are but a few examples. As more and more educators promote and provide coaching education programs, these problems may be reduced. Parent orientation sessions are also important deterrents to adults misbehaving and placing excessive pressures on children.

Intramurals

In the late 1800s and early 1900s, most college athletic teams and some physical education programs evolved out of interclass competitions organized by male students. As athletics and physical education developed separate programs, a

need still existed for recreational activities for students. In 1913, the University of Michigan and The Ohio State University appointed the first intramural directors. At Michigan, beginning in 1919, Elmer Mitchell led in the development of sport opportunities for students who were not varsity athletes but wanted more competition than was available in physical education classes. Originally in the colleges and after the mid-1920s in the schools, intramurals offered league and class (or homeroom) competition in individual and team sports. In the 1940s, coeducational activities were introduced and became popular. The greatest expansion in combined male and female activities occurred in the 1970s.

Today many intramural programs operate as campus recreation programs, having greatly expanded the scope of their activities. In addition to competitive leagues and coeducational recreation, club sports, faculty/staff programs, instructional clinics, fitness classes, special events and tournaments, and free-play opportunities have been offered. Over the years, many of these intramural and recreational sports programs have moved from receiving funds from athletic departments and physical education departments to being supported by students' fees. At the school level, where intramural activities vary from traditional competitions to a variety of leisure-time events and are scheduled throughout the day and night, physical educators normally provide the expertise while school budgets provide the equipment.

Outside the schools, the same concept of intramurals, or sport competitions within the walls, has provided innumerable opportunities for physical activity. Many corporations offer sport leagues and competitions in volleyball, bowling, softball, and many other sports for their employees at all levels of the organization. These leisure-time activities help build camaraderie among employees as well as help them adopt healthier lifestyles.

Collegiate Sports for Men

In the early 1900s, concerns in collegiate sports focused on football, primarily because of the injuries and deaths that occurred with shocking regularity. While President Theodore Roosevelt expressed concern, college presidents threatened to ban intercollegiate football. As a direct result of football injuries and deaths, the National Collegiate Athletic Association (NCAA) was formed in 1906. Although composed of a small group of faculty representatives with power only to make recommendations, the NCAA attempted to control the roughness and brutality of football by revising the rules. Gradually football overcame these problems and emerged as the major collegiate sport. Baseball in colleges, though rivaled by the professional major leagues, retained a degree of popularity secondary to the pros and to football, while intercollegiate competitions in boxing, golf, tennis, track and field, and wrestling have never seriously challenged the supremacy of football. Basketball emerged as the second leading collegiate sport, but not until the 1950s.

The NCAA continued as the sole voice of and controlling organization for college athletes until 1938, when the National Junior College Athletic Association (NJCAA) was founded to provide competitive opportunities for students in

TABLE 9-2

SPORT GOVERNANCE ORGANIZATIONS

Boys and Men

1888	Amateur Athletic Union (AAU)
	*1879—National Association of Amateur Athletes of America
1910	National Collegiate Athletic Association (NCAA)
	$*1906 \\ - \\ Intercollegiate \ Athletic \ Association \ of the \ United \ States$
1922	National Federation of State High School Associations (NFHS)
1938	National Junior College Athletic Association (NJCAA)
1952	National Association of Intercollegiate Athletics (NAIA)
	*1940—National Association of Intercollegiate Basketball

Girls and Women

1974	National Association for	Girls and Women	in Sport (NAGWS)
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*1917—Committee on Women's Athletics

*1927—Women's Athletic Section

*1932—National Section of Women's Athletics

*1953—National Section for Girls and Women in Sport

*1958—Division for Girls and Women in Sport

1971 Association for Intercollegiate Athletics for Women (AIAW) (ceased in 1982)

*1966—Commission on Intercollegiate Athletics for Women

First Championships Offered for Girls and Women

1916	Amateur Athletic Union
1976	National Junior College Athletic Association
1980	National Association of Intercollegiate Athletics
1981	National Collegiate Athletic Association

^{*}Earlier name of the same organization.

two-year institutions. Then, in 1952, the National Association of Intercollegiate Athletics (NAIA) began to sponsor championships for small colleges (it sponsored an annual basketball tournament for men starting in 1940). Table 9-2 lists these and other major sports organizations for men and women.

Today collegiate athletics for men are quite different from what they were in the 1940s. Under faculty control by representative vote, the NCAA remained primarily an advisory organization during its first 40 years. Control rested with each institution, where most frequently athletic councils composed of alumni, faculty, and students exercised authority over athletics. Institutions that held membership in conferences agreed to follow additional regulations and guidelines. Other than standardizing the rules and providing championships, the NCAA had not been



College football in the 1930s.

granted power by the institutions to legislate or to mandate rules. Beginning with the national acceptance of athletic grants-in-aid in the 1950s and throughout the following decade, the role of the NCAA changed dramatically as institutions became willing to relinquish some of their autonomy to the NCAA to ensure that other institutions would comply with the regulations governing grants-in-aid and recruiting. A second development began with the first negotiation of a television contract in 1951, thus providing the NCAA with enforcement leverage. That is, the NCAA could penalize an institution economically by disallowing television appearances. With a budget in the hundreds of millions of dollars, primarily from its television contract for the men's basketball championship, the NCAA has become the most powerful amateur sports organization in the United States and possibly the world.

During the last quarter of the twentieth century, the NCAA once again experienced dramatic change. In its Division III programs, students without grantsin-aid continued to compete for the love of the sport, cheered on by a handful of friends and family and with minimal hope of continuing their athletic careers beyond graduation. While students competing in Division II programs received grants-in-aid, most realized that their talents were limited and therefore focused more on the educational opportunities provided them. It was at the Division I level that highly commercialized sports emerged. Corporate sponsorships, donations from enthusiastic fans (in return for priority seating and other perks), and television contracts became essential to funding the multimillion-dollar budgets needed to support athletic programs at the highest level. Athletic administrators at the approximately 100 "big-time" football and basketball programs finally admitted to being in the entertainment rather the education business. Coaches with multimillion-dollar contracts were hired to win and fired for losing. Athletes received an educational opportunity that was too often not pursued successfully, while universities reaped millions for their performances in the most prestigious bowl games or for making it to the Final Four in basketball.

Over the years several issues have threatened the integrity of intercollegiate athletics for men, primarily at the NCAA Division I level but increasingly at all levels. Scandals in basketball began to occur in the 1950s and have continued sporadically since then whenever gamblers have been able to entice athletes to affect the point spread of games. Today, the biggest gambling concern is the amount of money that is gambled illegally on collegiate sports. The commercialization of intercollegiate athletics is illustrated by athletic administrators who eagerly seek corporate dollars as they sell logos on uniforms and signage in stadiums and arenas. Will corporate sponsorship of teams be next? Despite mandatory testing, drug use and abuse by college athletes threatens to undermine equity between competitors as some athletes seem to be seeking every advantage to win. Another major issue today is the inordinate influence of television, which often determines dates for competitions, starting times, and sometimes even locations for intercollegiate competitions. Disruption to the educational pursuits of the athletes, who play games during the academic week and arrive back on campus shortly before classes begin the next day, seems irrelevant to institutions reaping the financial revenues promised by national and cable networks.

The two persistent blights that have long plagued men's college sports, however, have been academic problems and recruiting issues. In academics, the use of nonstudents in the late 1800s has been replaced today by preferential admissions, athletes not attending classes, athletic personnel writing athletes' papers, athletes receiving grades that have not been earned, changing of grades to maintain the eligibility of athletes, lack of progress toward degrees, and failure of athletes to graduate. Regarding recruiting, the issues include having someone else take the SAT or ACT test, making too many contacts with prospective studentathletes, giving money or other benefits to prospects and/or their families, and providing sex and alcohol during recruiting visits to college campuses. Despite these issues and the scandals that frequently are exposed, many would argue that men's intercollegiate athletics has achieved its highest level of popularity ever and that it will continue to attract more and more fans.

Collegiate Sports for Women

During the early 1900s, sports for women were strictly controlled by women physical educators, who consistently followed the societal expectations for their gender. Caution about a potential overemphasis on competition or on unlady-like behavior led to modified rules in several sports. Mass participation in class exercises, field days, play days, and sports days, rather than competitive athletics, became the norm. Because of its healthful benefits, physical education was stressed for girls in schools and for women who attended colleges. Outfitted in middy blouses and bloomers, the traditional gymnasium costume of the day, women exercised in mass drills, engaged in Swedish gymnastics, and enjoyed sports such as archery, basketball, field hockey, rowing, and tennis. Some girls and women competed on teams, especially in basketball, until these teams were eliminated by physical educators who believed competitive sports were harmful to females physically, emotionally, and mentally.



Basketball, played in bloomers, was the most popular college sport for women in the 1890s and early 1900s.

In women's colleges, **field days** were normally conducted once or twice a year on campus, and all students were urged to participate. **Play days**, beginning in the 1920s, provided for social interaction as female students met and formed teams composed of representatives from several institutions. These teams played one or more sports before reassembling for a picnic or other social event. Evolving from these play days were **sports days**, during which college teams competed, frequently in only one sport, but still with the emphasis on social interaction and fun. **Telegraphic meets** enabled females to compete in sports such as swimming, bowling, and archery and compare their times or scores with females from other institutions.

In 1917, the Committee on Women's Athletics (today's NAGWS—www.aahperd.org/nagws/) was established by the American Physical Education Association to implement standards and policies that advocated mass participation while vigorously opposing varsity competition. Between 1923 and 1942, the Women's Division of the National Amateur Athletic Federation also opposed highly competitive sports, including those in the Olympic Games, claiming they were inappropriate for women.

In the late 1960s, a gradual change in societal attitudes regarding girls and women in sports paralleled a liberalized philosophy displayed by female leaders in physical education. As long as the athletes' welfare was guaranteed and high standards were maintained, competitions were permitted and even encouraged, especially beginning in 1969, when the Commission on Intercollegiate Athletics for Women began sponsoring national tournaments. Two years later, the Association for Intercollegiate Athletics for Women (AIAW), an institutional membership organization, assumed this responsibility. During the next 11 years, the

AIAW sponsored championships and established standards and policies governing women's intercollegiate athletics. With equal opportunity mandated by Title IX of the 1972 Education Amendments, colleges and schools financed increased sport competitions for girls and women. In 1976 the NJCAA and in 1980 the NAIA began offering national championships for college women; smaller institutions benefited financially from having one membership fee, one governance structure and set of rules, and similar sport schedules for all athletes.

The NCAA initially opposed Title IX of the 1972 Education Amendments, claiming that its requirement for equal opportunity in all educational programs would adversely affect men's intercollegiate athletics. The NCAA lobbied the Department of Health, Education and Welfare for exclusion of athletics from Title IX; they campaigned in support of the Tower Amendment in the U.S. Senate to exclude revenue sports from Title IX jurisdiction; and they turned to the courts, arguing the inapplicability of Title IX to athletics on constitutional grounds. Each of these approaches was unsuccessful (see A Brief History of Title IX in Table 9-3).

TABLE 9-3		
	A BRIEF	HISTORY OF TITLE IX
1972	Congress enacts Title IX of the Education Amendments of 1972	Prohibits sex discrimination in any educational program or activity in an institution receiving federal financial assistance
1974	Attempt to exclude revenue- producing sports from Title IX	Senator John Tower introduces an amendment (which was not adopted) to exempt revenue-producing sports from inclusion in determining whether an institution was in compliance with Title IX; other, similar attempts fail in 1975 and 1977
1974	Javits Amendment	Senator Jacob Javits's amendment (which was adopted) requires the Department of Health, Education, and Welfare (HEW) to issue Title IX regulations that include specific reference to particular sports
1975	HEW issues final Title IX regulations	Higher education institutions and secondary schools have three years to comply with Title IX
1979	HEW issues final policy interpreta- tion on Title IX and intercollegiate athletics	This policy interpretation requires institutions to provide equal opportunity and specifies three areas required for compliance: financial assistance (athletic grants-in-aid); program areas such as coaching, facilities, travel and per diem, and tutoring; meeting the interests and abilities of male and female students
1980	Department of Education (DOE) is established	DOE is given oversight of Title IX through the Office for Civil Rights (OCR) $$
1984	Grove City vs. Bell	The Supreme Court rules that the applicability of Title IX in athletics programs is limited to only those programs or activities that receive direct federal financial assistance
1988	Civil Rights Restoration Act	This congressional act overrides <i>Grove City vs. Bell</i> and mandates that all educational institutions receiving federal financial assistance, whether direct or indirect, must comply with Title IX

TABLE 9-3 (continued)

A BRIEF HISTORY OF TITLE IX

	* * = * * * = *	
1992	Franklin vs. Gwinnett County Public Schools	The Supreme Court rules that under Title IX, plaintiffs may receive punitive damages when noncompliance with Title IX is intentional
1993	Gender Equity Study	The National Collegiate Athletic Association publishes its first Gender Equity Study
1996	Policy clarification	OCR issues clarification about how institutions can provide effective accommodations in intercollegiate athletics
1996	First EADA report due	The Equity in Athletics Disclosure Act requires all institutions to make available specific information about their intercollegiate athletic programs
1998	Further clarification about financial aid to athletes	OCR issues clarification about the meaning of substantially equal relative to providing financial aid to male and female athletes
2003	Commission examines how Title IX applies to athletics	In 2002, the Secretary of Education appoints The Commission on Opportunities in Athletics. Its report recommends weakening the application of Title IX to athletics. No changes are made, however, due to a minority report and public criticism of the recommendations
2003	Further clarification of intercollegiate athletics policy	OCR reaffirms the regulations and policies of Title IX
2005	Further clarification on the three- part test	OCR issues clarification that permits the use of a Web survey to determine whether there is sufficient interest to support an additional varsity team for the underrepresented sex; creates a presumption of compliance with part three of the three-part test
2008	Further clarification on participation opportunities	OCR issues clarification about how to ensure that male and female students are provided equal participation opportunities in intercollegiate athletics programs

Claiming Title IX mandated that the NCAA govern both men's and women's athletics, the NCAA began in 1981 to offer national championships for women in what amounted to a takeover of women's intercollegiate athletics. Even though in the previous decade the AIAW had grown to 960 members and sponsored 42 championships in three competitive divisions in 19 sports, it could not match the NCAA's large financial base, out of which it covered the expenses for women's teams participating in NCAA championships. The NCAA also waived its membership dues for women's athletic teams if its institution was already a member for its men's programs, and it contracted to televise the women's basketball finals (directly opposite the AIAW's title game). Despite the AIAW's espoused educational model for athletics, which was specifically designed to avoid the problems associated with the commercialized male sports model, the AIAW ceased to exist in June 1982. Although a few women have gained some status in the NCAA, such as Judith Sweet, the first female to serve as president, the NCAA is governed predominantly by men. Men hold most coaching and administrative positions in women's athletics within the NCAA as well as in the NAIA and NICAA.



Jim Thorpe, a Native American, won gold medals in the 1912 Stockholm Olympic Games in the pentathlon and decathlon.

Amateur Sports

The amateur sports scene in the United States outside the colleges remained largely under the direction of the AAU through the 1970s, since this organization sponsored diverse sports competitions for people of all ages. Basketball, boxing, swimming, and track and field especially attracted thousands of participants. Because championships in these sports were offered by NCAA institutions, the two organizations frequently clashed. Repeatedly, when the time arrived for the selection of Olympic teams, controversies raged. In 1922, the National Amateur Athletic Federation was formed to mediate this dispute, with few positive results. The conflicts inevitably affected the athletes because the two associations often refused to sanction events, certify records, or permit athletes to participate in each other's events. The Amateur Sports Act, passed in 1978, resolved some of these problems by requiring that each Olympic sport have its own governing body and establishing guidelines governing the selection of these organizations.

For the most part, the spirit of the Olympics promoted by Pierre de Coubertin, founder of the modern games, and perpetuated by the governing International Olympic Committee prevailed during the first half of the twentieth century. The five interlocking rings symbolized friendship among the athletes of the world. Competitive superiority remained the ideal until the Olympic Games became the stage for displaying the supremacy of one's national ideology. The boycotts of 1980 and 1984 confirmed the power of politics in international sports competition.

Commercialism, with its product displays and lucrative television contracts, forever changed the image of these competitions. Media attention and the potential for leveraging medals into endorsements also played significant roles in the

commercialization of the Olympics. The 1984 Los Angeles Olympic Games were the first to be commercially successful. Scandals associated with site selection and perks for International Olympic Committee members substantiated the influence of money on these games.

The Olympic Games dramatically changed when Israeli athletes and coaches were captured by Arab terrorists and subsequently killed at the Munich Games in 1972. Security measures costing millions of dollars in each Olympic Games thereafter disrupted the friendly interactions among athletes of the world as well as ease of attendance for spectators, especially following the explosion of a bomb in Centennial Park during the Atlanta Olympic Games in 1996.

The original events of the modern Olympic Games paralleled the popular activities of the turn of the century, such as track and field, gymnastics, fencing, and tennis. While many Olympic sports were associated with elitist clubs for men, including shooting, rowing, yachting, and equestrian clubs, the entry of college males in track and field, swimming, and wrestling broadened the composition of the teams from the United States and thus attracted participants from throughout society. Few women, primarily in swimming (starting in 1912) and track and field (starting in 1928), competed in the Olympics, until the number of sports opened to them increased. The popularity of gymnastics and figure skating, especially for women, has been enhanced through the showcasing of Olympic competitions.

The Olympic Games have been held each four years since 1896, except for three times during World Wars I and II, and have continued to increase in the number of events offered for males and for females. For example, in the centennial Olympic Games in Atlanta in 1996, 10,318 athletes (including 3,512 females) competed in 271 events, quite an increase from the 241 male athletes who competed in 43 events in the first modern Olympic Games in Athens.



Mildred (Babe) Didrikson won gold medals in the 800-meter hurdles and the javelin throw and a silver medal in the high jump in the 1932 Los Angeles Olympic Games.

Beginning in 1924 in Chamonix, France, the Winter Games provided nations where sports on snow and ice were more popular the opportunity to demonstrate the superiority of their athletes. At the first Winter Games in 1924, 258 athletes (including 11 females) competed in 16 events; in the 2006 Turin Games, 2,508 athletes (including 960 females) competed in 84 events. While the Winter Games initially were held in the same year as the summer Olympic Games, in 1994 they were offset by two years so that they would have more of an independent identity.

PLAY TO RECREATION TO FITNESS

Play

The playground movement spread in the early 1900s as the Playground Association of America (PAA), founded in 1906 by Luther Gulick and Henry Curtis, provided the necessary leadership. Gulick was instrumental in the publication of its monthly magazine, *The Playground*. The provision of adequate playgrounds throughout the country was also enhanced by the support of President Theodore Roosevelt. Clark Hetherington supervised the writing of *The Normal Course in Play* in 1910, which was used to prepare recreation leaders. Joseph Lee, as president of the PAA, helped expand the play concept to include the value of play and recreation for all ages, leading to the reorganization of the PAA in 1911 and its new name, the Playground and Recreation Association of America (PRAA).

Recreation

In 1930, the PRAA became the National Recreation Association (which became the National Recreation and Park Association in 1965), verifying the importance and worth of leisure time for people of all ages. The Depression years suddenly

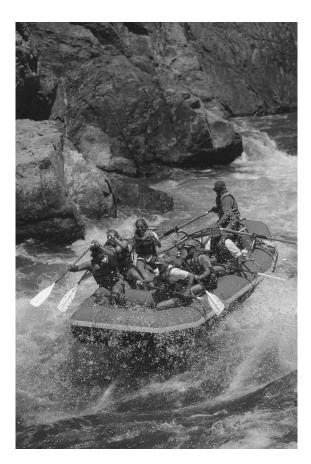


Backpacking is one of several popular outdoor activities.

gave people large amounts of free time, but many had limited financial resources. The federal government helped in two ways. Federal agencies, such as the Works Progress Administration, provided jobs by funding construction of camping sites, golf courses, gymnasiums, playing fields, and swimming pools. Once completed, these were opened for mass recreational use. Especially popular sports during the 1930s were bowling and softball.

Wartime production brought the United States out of the Depression. At the same time, sport competitions and recreational programs were initiated to revive the spirits and bodies of soldiers and factory workers. While the armed services used sports for training and conditioning soldiers, industries began to provide sports teams and competitive opportunities for employees, realizing that such activities positively affected productivity and morale. Industrial recreation continued to expand, even after the war ended.

Outdoor education emerged as the recreational thrust of the 1950s. As the country became more mechanized and technological, the appeal of camping, hiking, and similar back-to-nature activities provided people with the chance to get away from daily routines and stress. Some schools and colleges began to



High-adventure activities like white water rafting are exciting pursuits during leisure hours.

offer backpacking, rock climbing, spelunking, winter survival, ropes courses, and orienteering, all of which have maintained their popularity.

As early as the 1930s, Jay Nash promoted carryover, or lifetime, sports within the curriculum. By the 1960s, this philosophy had gained numerous supporters and affected programs. Led by the Lifetime Sports Foundation with joint sponsorship of AAHPER, archery, badminton, bowling, golf, and tennis were introduced into many schools. Slowly programs expanded from offering only team sports to the inclusion of these and other lifetime sports.

Fitness

Historically, fitness as a curricular emphasis surfaced during wartime or times when peace was threatened. Certainly this characterized physical education during the years surrounding World Wars I and II. One of the greatest advocates for physical training for the war effort was Tait McKenzie. Although recognized more for his outstanding sport sculptures, McKenzie used his training as a physical educator and physician in England, his native Canada, and the United States to rehabilitate soldiers injured during World War I. Many other male and female physical educators also served as physical training instructors or consultants to the armed forces.

During World Wars I and II in schools and colleges, mass calisthenics and the development of fitness formed the basis of the curricula. In peacetime, fitness was seldom emphasized in the educational curriculum. However, during the Cold War years of the late 1950s, all that changed, as many people felt threatened by the rising prominence of the Union of Soviet Socialist Republics (USSR).

The fitness mania began in the 1970s, with joggers leading the craze. In 1970, the lonely runner was suddenly joined by thousands of marathoners and road racers of all ages and both genders, while tennis participants multiplied and swimming became more popular. The pervasiveness of this fitness mania was evident not only by the sport paraphernalia that enthusiasts used and wore but also by the popularity of sporting attire for everyone. This fitness phenomenon has continued as verified by health club memberships. However, the people most involved in getting and keeping in shape have come from the middle and upper classes rather than being drawn equally from all economic levels. Also, many school-age children, rather than becoming fitness advocates, have preferred to watch television, play video and computer games, surf the Web, or become sport spectators.

Fitness for Children The United States was embarrassed by the 1954 results of the Kraus-Weber Minimal Muscular Fitness Test, which indicated that European children demonstrated greater fitness (only 9 percent failed) than children in the United States (57.8 percent failed).

As an immediate response to this report and following a national conference on the topic, President Eisenhower established the President's Council on Youth Fitness. This council promoted a minimum of 15 minutes a day of vigorous activity for all children and distributed thousands of copies of *Youth Physical Fitness: Suggested Elements of a School-Centered Program*.



Muscular strength and endurance can be measured using sit-ups.

Since the Kraus-Weber Minimal Musular Fitness Test measured primarily flexibility and abdominal strength (and thus received criticism that it inaccurately assessed overall fitness), the physical education profession developed the AAH-PER Youth Fitness Test. To the dismay of professionals, the 1958 results of this eight-item test battery showed that children in the United States had low levels of fitness. Between 1958 and the second national administration of this test in 1965, teachers promoted fitness through daily physical education classes, periodic testing, and an increased emphasis on the importance of fitness. These efforts were rewarded with improvement by all age groups in all skills, except on one item for one gender and age. Unfortunately, these vigorous efforts lapsed, so poor fitness levels among school-age children were reported in the 1980s.

In response to widespread criticism that the AAHPER Youth Fitness Test failed to measure the major components of fitness, the AAHPERD introduced the Health-Related Lifetime Physical Fitness Test in 1981. While more accurately measuring the recognized components of fitness, these test norms only reconfirmed the lack of fitness among school-age children in the 1980s.

In 1994, the AAHPERD joined the Cooper Institute in a collaborative and comprehensive physical fitness education and assessment program. Physical Best, the educational component of the program, helps students develop the knowledge, skills, and attitudes for a healthy and fit life, and tries to motivate them to engage in regular, enjoyable physical activity. Physical Best seeks to educate all children about health-related fitness concepts, regardless of their athletic talent and physical and mental abilities. FITNESSGRAM/ACTIVITYGRAM provides fitness and activity assessments for children and youth. FITNESSGRAM allows physical education teachers to easily report their students' fitness levels to parents. This three-part assessment compares each student's fitness to age and gender standards, not to other children. (See Table 9-4 for a timeline for Youth Fitness Testing and Programs).

Available data show that the youth fitness goals in *Healthy People 2010* have not been achieved. In the wake of the 1996 publication of the Surgeon General's report on *Physical Activity and Health* and the identification of physical inactivity as a primary risk factor contributing to coronary heart disease, the nation's

TABLE 9-4	
	TIMELINE FOR YOUTH FITNESS TESTING AND PROGRAMS
1954	Publication of the minimum muscular fitness test in school children
1956	President Eisenhower creates the President's Council on Youth Fitness
1958	American Alliance for Health, Physical Education and Recreation (AAHPER) Youth Fitness Test published
1965	Update of AAHPER Youth Fitness Test
1976	Update of AAHPERD Youth Fitness Test
1980	AAHPERD Health-Related Physical Fitness Test released
1985	National Children and Youth Fitness Study I results published
1987	National Children and Youth Fitness Study II results published
1987	National FITNESSGRAM developed
1988	Publication of AAHPERD Physical Best
1994	Combination of FITNESSGRAM and AAHPERD Physical Best programs

interest in the physical well-being of parents and children alike has never been stronger. Increased concern has been expressed about the rising incidence of obesity in children. Schools, public recreation programs, and private businesses need to combine their efforts to provide greater opportunities for physical education and sport activities for children. Increased funding is needed to provide daily physical education classes for all children, as well as to purchase equipment such as aerobic machines and heart rate monitors. (See the Research View Dispelling Myths Through the Exercise Sciences, which lists a few misconceptions about fitness that have been dispelled through the years.)

Fitness for All Ages The emphasis on aerobic fitness for individuals of all ages was aided by the 1968 publication of Kenneth Cooper's Aerobics. This book outlined a program for helping every individual attain and maintain physical fitness by compiling a certain number of points each week while participating in favorite activities. Since the 1970s, many Americans have renewed regular physical activity by playing tennis, racquetball, and golf; running roadraces and marathons; engaging in skating, wind surfing, and skiing; and purchasing millions of dollars' worth of home exercise equipment. Women, many for the first time, have joined classes in aerobic dance, step aerobics, water aerobics, Pilates, and other variations of exercise combined with music. Health and fitness clubs now offer aerobics classes; individualized weight-training programs; aerobic machines such as elliptical machines, stair climbers, treadmills, stationary bikes, and rowing machines; and instruction in tennis, racquetball, and golf. Many clubs also offer various sport leagues and tournaments, massage, sports medicine consultation, and nutritional counseling. Some people have suggested that such clubs have replaced social events and bars as the preferred places for meeting and interacting with others. The appearance of fitness is certainly apparent in fashions; many Americans are



Dispelling Myths Through the Exercise Sciences

Date	Misconception	What the Research Has Shown
1900s-1950s	Endurance exercise is harmful to females.	Activities that increase cardiorespiratory endurance are important for females' health.
1900s	American children are physically fit.	American children are increasingly obese, and many participate in no regular physical activity.
1930s–1940s	Weight training will slow an athlete and should be banned.	Strength training is highly effective in enhancing performance as well as helping to prevent injuries.
1930s-1940s	Endurance training is bad for the heart.	Cardiorespiratory training strengthens the heart and increases its capacity.
1950s	Diseases are not related to inactivity.	Heart disease, high blood pressure, obesity, and some types of cancer are directly related to a lack of regular physical activity.
1950s	Exercise is not useful for older individuals.	Older individuals can greatly enhance the quality of their lives through cardiorespiratory, muscular, and flexibility activities.
1970s	Water should not be consumed during vigorous physical activity.	Fluid replacement is essential to prevent heat-related illness.
1980s	Anabolic steroids are harmless and will have only a minimal effect on the development of strength.	Anabolic steroids have many harmful and irreversible health risks even though they significantly contribute to strength development.
1990s	Children and adolescents are getting enough physical activity through non-school-based sports programs.	Over nine million (17%) children and adolescents ages 6 to 19 are overweight and another 31% are at risk for becoming overweight resulting in increased risks for serious and long-term health problems.
2000s	Sports teach character.	The higher the level and number of years of competition, the greater the likelihood that athletes will act in unethical ways and rationalize their behaviors as the way the game must be played to win.

trying to achieve a level of fitness that both looks and feels good. Unfortunately, this glamorizing of ideal body images may be pushing females into unhealthy exercise and diet habits that can lead to amenorrhea, anorexia, and osteoporosis.

FEDERAL LEGISLATION

Although early leaders of this country, such as Benjamin Franklin and Thomas Jefferson, were promoters of physical education, the federal government did not become involved in physical education issues until recent years. Legislation that directly influences physical education includes mandates for equal opportunity for both genders and for students with special needs.

Coeducational Physical Education

Title IX of the 1972 Education Amendments required equal opportunity in all educational programs and stated as its basic principle that "no person in the United States shall, on the basis of sex, be excluded from participation in, be



Females who learn to lift weights in physical education classes are more likely to continue this strength-development activity outside of school.

denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance." In relation to physical education, this statement meant it was illegal to discriminate against either gender in curricular content, equipment and facility usage, teacher quality, or other program areas. One specific impact of this legislation was to make school physical education classes coeducational. Boys and girls could be separated by gender for contact sports (like wrestling). They could also be taught separately in sex education units within health education classes.

Although physical education classes comprised of both genders, except in contact sports, was the law, some physical educators and adolescents resisted change. For example, some teachers maintained class rolls that included students of both genders but refused to teach the opposite gender. When classes were comprised of both genders, some teachers favored boys with their instruction or time because they were perceived to be more highly skilled, while they ignored or provided limited instruction to girls. Also, many adolescent boys resisted, such as by not passing the ball to girls, having to learn and compete in classes that included both genders.

Despite resistance or personal preferences Title IX has led to substantial changes. Elementary school children accept classes composed of both girls and boys as the norm. As they participate with and against each other during the developmental years, the differences in their levels of performance lessen. Teachers assess abilities and evaluate performances to ensure fair standards and groupings. Increasingly, students in the secondary schools are accepting of combined classes, learning respect for the capabilities of members of the opposite gender. Gradually acceptance and appreciation of girls and women actively participating in sports have led to recreation and fitness programs that welcome all who seek to enjoy activity and develop their physical capabilities.

Adapted Physical Education Programs

Historically, students with special needs were not given opportunities to participate in activity classes or were assigned to corrective or remedial classes, with a resulting social stigma. The development of adapted programs led to a more individualized approach. Adapted physical education is intended for exceptional students who are so different in mental, physical, emotional, or behavioral characteristics that, in the interest of quality of educational opportunity, special provisions must be made for their proper education. Yet not all schools made such provisions for students' special needs; therefore, the federal government became involved.

Section 504 of the Rehabilitation Act of 1973 specified that "no otherwise qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program which receives or benefits from Federal financial assistance." Thus, every student was guaranteed access to the entire school program, including physical education. The Education Amendment Act of 1974 mandated that all children must be placed in the least restrictive environment, or the setting in which their optimal learning and development could occur.



Children with special needs deserve opportunities to enjoy physical activity.

The Education for All Handicapped Children Act of 1975 (Public Law 94-142) was the first law to specifically mandate physical education in its guidelines. Generally, it required that physical education, specially designed if necessary, be provided for every child with special needs in the public schools within regular physical education classes, unless the student has unusual restrictions; any unusual restrictions are to be provided for through the development of an Individualized Education Program (IEP).

The basic tenets of the Individuals with Disabilities Education Act (IDEA) have remained intact since the original passage of the law in 1975, even though each set of amendments has strengthened the original law. This legislation has fostered significant changes in the lives of children with special needs and their families, and in the roles of schools and teachers who educate children with special needs. The six principles of IDEA include free, appropriate public education; appropriate evaluation; an Individualized Education Program; the least restrictive environment for each child; parent and student participation in decision making; and procedural safeguards. Special education and related services, including the initial evaluation, must be provided at public expense, under public supervision and direction, and be delivered by appropriately trained personnel. (In addition, the Americans with Disabilities Act [passed in 1990] sought to eliminate barriers that have prevented individuals with special needs from fully participating in society.)

The IEP must be a written plan designed by a representative of the public agency (school) who is qualified to provide or supervise special education and may include the input of the child's teacher, one or both of the child's parents, the child (when appropriate), and other individuals selected at the discretion of the parent or school. One problem in the development of IEPs has been the frequent failure to involve physical educators, even though IDEA specifies that the child's physical needs must be met.

An Individualized Education Program for a student with special needs must include:

- Current performance levels
- Annual goals
- Special education and related services to be provided
- Participation with non-disabled children
- Participation in state and district-wide tests
- Dates and places for services (when, how often, where, how long)
- Transition service needs
- Measures of progress

Inclusion refers to the integration of children with special needs into classes with other students. Full inclusion means that even though there may be individual adaptations in class assignments, a child with special needs is placed in a regular educational setting if this is believed to be the best placement. Advocates of full inclusion emphasize that being near and interacting with peers, primarily to foster social skills and build self-esteem or self-image, far outweigh any liabilities. The principles of full inclusion rest on the rights of children to attend their local schools instead of being isolated in special programs. Critical to the success of inclusion classrooms are well-prepared teachers, supplementary aids and services, and support personnel.

Another approach that complies with federal legislation is the use of the least restrictive environment. Each child is placed into the educational setting most appropriate for his or her learning and development. Placement and curricular decisions are based on individuals' abilities and needs, with a continuum of alternatives available from full inclusion to one-on-one instruction. Special classes, such as adapted physical education, should be provided, if needed, to enhance the learning of each child. Although students may learn from one another, students with special needs may also negatively affect the academic environment of other students by increasing class sizes or making the teacher's job more difficult. Rather than automatically including all children with special needs in a regular classroom, each child should be placed in the setting where optimal learning can occur. This least restrictive environment varies from child to child. Whether mentally challenged, learning disabled, emotionally disturbed, or physically limited, all children can benefit from programs that are appropriate for their developmental levels.

SUMMARY

Today's curricula in physical education provide a blend of gymnastics, play, fitness, health, intramurals, recreation, and sports. The new physical education, beginning in the 1920s, led in this transition, demonstrating that physical education contributes to the complete education of students. Table 9-5 and Box 9.2 highlight many of the significant occurrences in physical education and sport, including the play movement; the growth of women's physical education; the education of the physical movement; the focus on human movement; and the influence of the scientific movement, educational developmentalism, and social education, as well as the establishment of standards and accountability. Leadership from the national association, such as through professional journals or at conferences, and standards for teacher preparation helped solidify physical education into a recognized profession.

TABLE 9-5 SIGNIFICANT EVENTS IN PHYSICAL EDUCATION, **EXERCISE SCIENCE, AND SPORT** 1900 Grammar School Athletic League of Philadelphia created 1903 Public Schools Athletic League formed in New York by Luther Gulick (Girls' Branch began in 1905) Playground Association of America founded 1906 1910 Teachers College of Columbia University offered the first master's degree with a specialization in physical education 1913 First departments of intramural sports started at the University of Michigan and The Ohio State University New York became the first state to appoint a Director of Physical Education, Thomas Storey 1916 1994 Teachers College of Columbia University conferred the first Ph.D. with a specialization in physical education 1927 Harvard Fatigue Laboratory established 1930 First publication of the Journal of Health and Physical Education and the Research Quarterly 1931 Mabel Lee elected first woman president of the American Physical Education Association 1937 The American Physical Education Association merged with the Department of School Health and Physical Education of the National Education Association to form the American Association for Health and Physical Education 1950 National Intramural-Recreational Sports Association established Results of the Kraus-Weber Minimal Muscular Fitness Test published 1954 1956 President's Council on Youth Fitness established 1958 Administration of the AAHPER Youth Fitness Test began 1965 Lifetime Sports Foundation established 1971 Association for Intercollegiate Athletics for Women established 1972 Title IX of the Education Amendments passed 1975 The Education of All Handicapped Children Act passed

TABLE 9-5 (continued)

SIGNIFICANT EVENTS IN PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

1978	Amateur Sports Act passed
1985	$\label{thm:linear} American Alliance for Health, Physical Education, Recreation and Dance celebrated its 100th anniversary$
1990	Healthy People 2000 released by the U.S. Department of Health and Human Services
1991	Keeping Faith with the Student Athlete: A New Model for Intercollegiate Athletics issued by The Knight Commission on Intercollegiate Athletics
1996	The Surgeon General's Report on Physical Activity and Health published
1996	The centennial Olympic Games held in Atlanta
2000	Healthy People 2010 released by the U.S. Department of Health and Human Services
2001	A Call to Action: Reconnecting College Sports and Higher Education issued by the Knight Commission on Intercollegiate Athletics
2004	Challenging the Myth issued by the Knight Commission on Intercollegiate Athletics
2006	The Centers for Disease Control and Prevention issued the School Health Policies and Programs Study, a comprehensive assessment of school health policies and programs in the United States.
2006	The National Association for Sport and Physical Education and American Heart Association issued the Shape of the Nation Report: Status of Physical Education in the USA
2006	National Collegiate Athletic Association celebrated its 100th anniversary
2008	The U.S. Department of Health and Human Services issued the 2008 Physical Activity Guidelines for Americans

Youth sports were organized, yet desirable outcomes were threatened by the emphasis placed on winning. Intramural programs were developed to meet the needs of students desiring sports competition outside of physical education classes but at a lower level than varsity athletics. Collegiate sports for men expanded from their student-organized status into multimillion-dollar business enterprises with extensive regulations and media exposure. Women's sports in the colleges focused on a philosophy of mass participation until the 1970s, when the AIAW encouraged competition and Title IX mandated equality of opportunity. The most visible amateur sports competitions were the Olympic Games.

The play movement for children expanded into recreational activities and then fitness for workers and families. Despite sporadic emphasis on fitness, throughout the twentieth century, many American children did not achieve optimal fitness. Nevertheless, instilling in children a commitment to health-related fitness should be a primary goal of education in the twenty-first century. The federal government has attempted to ensure that all Americans have equal educational opportunities by legislating that all schoolchildren, including those with special needs, have the right to physical education.

BOX 9.2 TIMELINE FOR KEY THEMES IN PHYSICAL EDUCATION AND SPORT

To help you frame this century more clearly, a few key events in each decade in the categories of physical education, sports, and physical activity are highlighted in this chart.

1900–1909 Physical education—normal schools prepare most teachers

Sports—increased sports competitions for males between colleges; founding of the National Collegiate Athletic Association (NCAA)

Physical activity for all—founding of the Playground Association of America (PAA)

1910–1919 Physical education—colleges and schools emphasize fitness in response to

Sports—first intramural programs established in colleges

Physical activity for all—PAA expands to include recreation programs for all ages

1920–1929 Physical education—colleges increasingly prepare teachers, who now earn degrees; *The New Physical Education* helps broaden school and college curricula in physical education

Sports—numerous college football stadiums built or expanded; publication of *American College Athletics*, which exposes problems of commercialization and loss of educational values

Physical activity for all—the Golden Age of Sports attracts new fans; increased interest in recreational activities

1930–1939 Physical education—popularity of "education through the physical"; numerous physical education programs cut due to the Depression

Sports—founding of the National Junior College Athletic Association; founding of Pop Warner Football and Little League Baseball for boys

Physical activity for all—President Roosevelt's plan for recovery from the Depression results in the construction of numerous playing fields, parks, gymnasiums, and other recreational areas; the inexpensive sports of softball and bowling become popular

1940–1949 Physical education—colleges and schools emphasize fitness in response to the war

Sports—return of veterans leads to growth in the popularity of college football, including extensive recruiting and the widespread awarding of athletic grants-in-aid

Physical activity for all—industrial recreation programs become popular

1950–1959 Physical education—youth fitness testing and programs to develop fitness are initiated

Sports—founding of the National Association of Intercollegiate Athletics (NAIA); founding of the American College of Sports Medicine

(continued)

BOX 9.2 TIMELINE FOR KEY THEMES IN PHYSICAL **EDUCATION AND SPORT (continued)**

Physical activity for all—the Kraus-Weber Minimal Muscular Fitness Test reports that European children are more fit than children in the United States: outdoor education activities like hiking and backpacking gain in popularity

1960-1969 **Physical education**—the Lifetime Sports Foundation promotes lifetime sports in school curricula

> **Sports**—first Super Bowl; increase in popularity of college basketball for men **Physical activity for all**—Kenneth Cooper's *Aerobics* launches the popularity of jogging and other aerobic activities for adults

1970-1979 **Physical education**—federal legislation mandates that persons with special needs must have access to physical education

> **Sports**—Congress passes the 1972 Education Amendments, which include Title IX; founding of the Association for Intercollegiate Athletics for Women (AIAW); Congress passes the Amateur Sports Act

Physical activity for all—participation in racquetball, tennis, swimming, and golf increases

1980-1989 **Physical education**—the National Standards for Physical Education influence quality of school programs

> **Sports**—NCAA and NAIA offer championships for women; AIAW ceases to exist; National Senior Games begin

Physical activity for all—recreation programs for senior citizens begin to increase dramatically as the population in the United States ages

1990-1999 **Physical education**—school programs, which are threatened by program elimination, reductions in class time, and erosion in financial support, emphasize fitness activities to attempt to address the rise in obesity in youth

> **Sports**—extreme sports, such as rollerblading and snowboarding, become popular

Physical activity for all—Surgeon General's report on *Physical Activity and* Health urges everyone to engage in moderate activity on a regular basis

Physical education—programs include challenge activities, use of technologies like heart rate monitors and exergaming, and traditional and nontraditional games, movements, and sports to encourage students to become more physically active to combat the increased prevalence of youth who are obese and overweight

Sports—independent sport organizations offer increased number and levels of competitions for highly skilled young athletes, while professional athletes earn millions of dollars as their popularity grows

Physical activity for all—The 2008 Physical Activity Guidelines for Americans urges children and adolescents to daily engage in at least 60 minutes of aerobic or strengthening physical activity and adults to engage each week in at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic physical activity

2000-2010

CAREER PERSPECTIVE



KATHIE DAVIS

Co-Owner and Executive Director IDEA Health and Fitness Association San Diego, California

EDUCATION

B.S., physical education, San Diego State University

JOB RESPONSIBILITIES AND HOURS

Kathie and her husband oversee the operations of the IDEA Health and Fitness Association, which provides information and educational products, services, and opportunities to 20,000 fitness professionals in over 80 countries. In her leadership role, she ensures that all external communications are consistent with company values and acts as the IDEA spokesperson to the media. She oversees four annual conventions, three publications, two Web sites, an educational product catalog, IDEA's awards processes and ceremonies, and all committees. She helps ensure that the 35 staff members are productive and enjoy rewarding experiences while serving in their various roles. In addition to a 9 A.M. to 5 P.M. workday at the office on Mondays through Fridays, Kathie keeps current through reading industry publications at home. She also completes other job-related functions, such as responding to e-mail messages, in the evening hours. During the four conventions, her days start early and end late due to the intensity of these special events.

SPECIALIZED COURSE WORK, DEGREES, AND EXPERIENCES NEEDED FOR THIS CAREER

An undergraduate degree in physical education helped prepare Kathie to establish her company. While no certifications or advanced degrees are required in her role, she has found that basic nutrition courses and public speaking courses and experiences have been especially helpful to her. She also benefited from the anatomy, kinesiology, and adult fitness courses she completed. As an entrepreneur, she has continuously expanded her knowledge, skills, and abilities through the years as she managed the operations of her company. Her husband oversees many of the business aspects of the organization, including marketing, advertising, exhibiting, hiring, and strategic planning.

SATISFYING ASPECTS

Ever since Kathie and her husband started IDEA Health and Fitness Association in 1982, the most satisfying aspect of her career has been helping fitness professionals grow to their full potential. To reemphasize this point, she and Peter are committed to this premise: "that by fostering professionalism in the health and fitness industry, we could help millions of people around the world live healthier, happier lives." Kathie enjoys what she does so much that there is nothing she dislikes about her professional position.

JOB POTENTIAL

As an owner and executive director, there are no opportunities for advancement, but none are desired. Broadly within the health and fitness industry, though, interested individuals can become personal trainers, work with special populations, such as senior citizens, cardiac rehabilitation patients, or people with special needs, or work in public or private clubs. Like Kathie, you could choose to start your own business to help others get and maintain fit lifestyles.

SUGGESTIONS FOR STUDENTS

If you would like a career working in, managing, or owning a health or fitness organization, an undergraduate degree in the field of physical education or exercise science is a must. Kathie also recommends considering a double major in business or a minor in business because what you would learn in these courses would greatly supplement your knowledge about the human body and how it functions optimally. A master's degree in the field of health and fitness also would be beneficial. Kathie strongly encourages you to join a professional association in the health and fitness area. What you learn through reading professional publications and attending conferences will give you an advantage when entering the workplace.

KEY POINTS FOR CHAPTER 9

Luther Gulick Directed physical training for the New York City Public

Schools and established the Public Schools Athletic

League (i.e., interscholastic sports)

Thomas Wood Established physical education and health undergraduate

> programs at Stanford University and Teachers College of Columbia University and emphasized educational goals

achieved through natural activities

Clark Hetherington Established the four phases of the educational process—

> organic education, psychomotor education, character education, and intellectual education; emphasized play

for children

Advocated for recreation and lifetime sports as a part of Jay Nash

total life experiences for all ages

Jesse Williams Emphasized education through the physical and the

use of physical development as a means to achieving

educational objectives

Charles McCloy Advocated for education of the physical and organic or

physical development

Playground Provided public playgrounds for children as a means of movement

social control and assimilation and socialization of

immigrant youth into American culture

Recreation Expanded leisure-time pursuits to all ages with decadelong popularity of industrial recreation, outdoor activities, movement

lifetime sports, and fitness activities

Physical fitness

Because of poor results on the Kraus-Weber Minimal Muscular Fitness Test in the mid-1950s, the national association developed a series of fitness tests for school-aged children, with each successive test more representative of the important components of physical fitness

Adapted physical education

From a history of exclusion and few opportunities, federal law mandated that a student with any special learning need must be integrated into regular classes, provided with the least restrictive learning environment, and given appropriate accommodations as specified in an Individualized Education Program

Men's intercollegiate athletics

Students promoted, financed, and controlled rowing, baseball, football, and other sports until abuses such as injuries, property damage, class absences, rule confusion, gambling, drunkenness, professionalism, commercialism, and loss of values resulted in faculty and administrative control; the NCAA was formed to 1906 to reform football to address rampant injuries and deaths

Intramurals

Leisure-time activities among students, funded by students, within an institution; have expanded to include all types of campus recreation activities

Women's sports

Basketball players restricted to thirds or halves of courts were representative of the perceptions of females as physically and emotionally too fragile for competition; play days and sports days precluded varsity teams; the Association for Intercollegiate Athletics for Women (and its predecessor) offered national championships for female students

Title IX

Prohibited discrimination by gender in any educational program, including athletics

STUDENT ACTIVITIES

- 1. Interview someone in the sports information office, athletic department, library, or news bureau who can help you learn about the earliest intercollegiate men's and women's sports programs at your institution. Based on this and on information you can obtain from other sources, write a two-page description of each program.
- **2.** Write a three-page comparison of the philosophies and major contributions of the "new physical educators."
- **3.** Learn about the test items of the FITNESSGRAM. Divide into groups and administer these test items to classmates.
- 4. Select one person discussed in this chapter. Write a three-page description of his or her contributions to physical education, exercise science, and sport.

- 5. Conduct a class debate about whether the most appropriate theme for physical education should be "education through the physical" or "education of the physical."
- **6.** Write a five-page paper comparing the major developments in men's and women's intercollegiate sports in the twentieth century.

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UNIT

IMPORTANCE OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT FOR EVERYONE

3



10

OPPORTUNITIES AND CHALLENGES IN PHYSICAL EDUCATION AND EXERCISE SCIENCE

KEY CONCEPTS

- A major health need Americans of all ages face is to attain and maintain a level of fitness that contributes to a positive quality of life.
- The expansion of interdisciplinary research by specialists in physical education and exercise science, along with technological advances in research methods and measurements, has contributed to a broader and deeper knowledge base.
- School programs include the importance of learning fundamental movement skills, a renewed emphasis on fitness, and a focus on the development of lifelong fitness behaviors.
- Physical educators face several instructional challenges, but these can be overcome through a comprehensive and relevant curriculum, excellent instruction, varied assessments, lifelong learning, and leadership.
- Increasingly, professionals are being held accountable for their students' and clients' learning as measured through a variety of assessments.
- Greater competencies expected of professionals have led to significant changes in certification requirements and accreditation standards.
- Career burnout can be alleviated by recognizing signs, counteracting causes, and providing appropriate rewards for excellent performance.

Being physically active is an important key to an enhanced quality of life for individuals of all ages. Providers of recreational and leisure services must adapt to changing demographics, family structures and schedules, work patterns, and economic realities while enhancing the quality of their programs. Fitness specialists and exercise scientists in various settings work with adults to help them establish and maintain lifelong activity programs. Specialization, research, technology, and the scholarly pursuit of knowledge are significant factors in the expansion and recognition of careers associated with physical activity. Changes in school

programs should guarantee opportunities for all people to meet their unique needs while engaged in progressively challenging experiences. Daily physical education for students, changes in certification requirements, increased teacher competencies, and accreditation standards are related efforts to improve the quality of education for students. Challenges confronting school physical educators include limited equipment and facilities, lack of parental support for education, and discipline problems.

VALUE OF PHYSICAL ACTIVITY FOR EVERYONE

Physical activity is for everyone. But convincing people of this fact remains a major challenge. However, as listed in Box 10.1, significant and lasting values result from participating regularly in physical activity.

From students' perspectives, the intrinsic rewards of physical activity and sport are having fun and the pure excitement and pleasure of moving. Added to these, the objectives of physical education in the schools include learning and applying fitness concepts, learning motor and fundamental sport skills, encouraging lifetime fitness, gaining knowledge about sports rules and strategies, and

BOX 10.1 VALUE OF PHYSICAL ACTIVITY

According to the American Heart Association (AHA), physical inactivity is a major risk factor for coronary artery disease and contributes to obesity, high blood pressure, high triglycerides, a low level of HDL ("good") cholesterol, and diabetes. The AHA recommends moderately intense aerobic activity, such as brisk walking, for at least 30 minutes five days each week or vigorously intense aerobic activity for at least 20 minutes three days each week.

The AHA stresses the importance of physical activity because it

- Boosts energy levels
- Helps manage stress and release tension
- Improves ability to sleep
- Improves self-image
- Plays a role in both primary and secondary prevention of cardiovascular disease
- Prevents and manages high blood pressure
- Improves blood cholesterol levels
- Increases cardiorespiratory endurance
- Builds muscular strength and endurance
- Improves flexibility
- Builds healthy bones, muscles, and joints
- Reduces some of the risk factors associated with obesity
- Reduces some of the risk factors associated with diabetes
- Reduces the risk of colon cancer

enhancing social and emotional development. As discussed in Chapter 1, teachers can meet these objectives only by making them a central focus of their work and teaching them consistently to ensure their achievement. Teachers must provide quality programs and promote their value to school administrators, policy makers, and parents.

Children and youth must learn healthful living habits while in school because many will not attend college or be able to afford fitness club memberships or personal exercise equipment. During the critical elementary years, students need to learn how to develop cardiorespiratory endurance, with a focus on frequency, intensity, and duration of exercise. They need to learn to walk, jog, swim, cycle, and jump rope as alternative ways to develop aerobic endurance. They need to learn how to attain and maintain muscular strength, endurance, and flexibility because these health-related fitness components will enhance not only how they feel but also their ability to study, work, and play more easily and productively. Closely aligned with these needs is the importance of teaching children how to enhance their basic motor skill development, which will be beneficial throughout life. Basic throwing, catching, striking, and locomotor movements are easily transferable to tennis, golf, bowling, dance, and other lifetime activities. Teachers should demonstrate and positively reinforce development of cooperative behaviors, teamwork, fair play, and the ability to be a follower and a leader. Individually, students will nurture self-confidence and self-worth by successfully achieving personal goals. Concurrent with these psychomotor and affective outcomes, teachers should ensure that children are provided information about nutrition, diseases, environmental concerns, and the harmful effects of drugs.

Since quality experiences are offered to their students, teachers should invite school administrators, policy makers, and parents to observe what physical education really is. Hosting Parent-Teacher Association or Organization (PTA/PTO) programs, parents' nights, mall demonstrations, and other special events shows that physical education is vital to the health and well-being of students.

At the high school level, the emphasis on fitness development, lifetime sports, and health issues such as not smoking or using drugs, sex education, and nutrition should continue. At this level, it is especially important to give students some options for what sports and activities they want to learn. Although some consumer information may be relevant at an earlier age, the teen years lend themselves well to consumer education. Adolescents need to learn how to differentiate between the facts and fallacies of fitness ads. Although some home exercise equipment, such as elliptical trainers or exercise bicycles, can improve one's fitness if used properly, machines that supposedly help a person lose weight without effort blatantly misrepresent the truth. What are the caloric and nutritional components of the average fast-food meal? Are any diet centers or diet programs safe or worth the money? Should a person smoke cigarettes or marijuana? What are the effects of alcohol on the body and its fitness? Given the need for answers to these questions and the potential benefits of school physical education, it is imperative that schools fund physical education and health curricula.



Cross-country skiing is a great fitness and recreational activity.

Opponents of such funding claim that physical education is nonessential. But the poor fitness levels of American school-age children, indicate otherwise. According to the Centers for Disease Control and Prevention, for the combined years of 2005–2006, 17.6% of children and adolescents aged 2–19 were obese. Others argue that community programs and interscholastic athletics can provide students with adequate sports and fitness opportunities. However, due to the cost and additional time, many students (especially those who drop out of school) will never participate in these programs. In addition, most community-sponsored programs stress competition rather than instruction.

The American Academy of Child and Adolescent Psychiatry reports that children in the United States watch an average of three to four hours of television each day. This professional organization states that children who watch a lot of television are more likely to have lower grades, read fewer books, exercise less, and be overweight. Given the negative outcomes associated with television and inactivity, parents need to realize the importance of stressing an activity-filled life for their children, as well as begin to model this for them. Parents also need to work with schools to ensure that children and adolescents are learning movement, fitness, and sports skills, so they will be more likely to continue to engage in a variety of physical activities outside of school.

Many colleges and universities in the United States have eliminated their required physical education programs. Other colleges and universities have reduced their requirements because of budget limitations and an increasing emphasis on general education and requirements of specialized majors. In many of the programs at institutions where physical education is an elective, these programs have had to become entirely self-supporting. Students may elect any activity course available, but they must pay instructional, facility usage, and equipment rental fees. On other campuses, this pay-as-you-participate approach applies only



Exercise and sport scientists may prescribe walking as part of an aerobic conditioning program for clients.

to certain off-campus or nontraditional courses. This type of program is limited to those who are genuinely interested in a particular activity or sport and who can afford to enroll in it. Unfortunately, at universities with elective programs, those who need physical education the most may not choose to enroll.

In 1992, the American Heart Association added physical inactivity to high blood pressure, smoking, and high blood cholesterol as a significant contributor to heart disease. Despite this focus, the majority of adults in the United States do not participate in a regular physical activity program. As a result, over 30% of adults are obese. Some inactive, overweight adults, however, are changing their habits. As middle-aged and senior citizens join the millions of others who are walking to stay fit, these segments of the population reinforce the importance of being physically active. To help avoid becoming the next coronary statistics, many older Americans are quitting smoking, reducing alcohol consumption, ridding their diets of many sources of cholesterol, and exercising. Popular exercise and recreational activities include walking, swimming, fishing, camping, aerobics, and bowling. For those with physical limitations, many retirement homes, recreation departments, churches, and hospitals are providing appropriate opportunities for

BOX 10.2 PROGRAM ADHERENCE FACTORS

The transtheoretical model describes how individuals acquire positive behaviors; it is based on the premise that behavioral changes occur over time and progress sequentially through five stages. In stage one, people are unmotivated or resistant to engaging in regular physical activity. In stage two, while people are thinking about the costs and benefits of engaging in some type of physical activity, they also may continue to be ambivalent or procrastinate. In stage three, people are beginning to make preparations for changing their inactive lifestyles, such as by joining a fitness class, getting a physical examination, or buying a self-help book. In stage four, people begin to engage in regular physical activity, yet they must be vigilant against relapse into inactivity by using one or more of the program adherence factors listed below. In stage five, people are maintaining their regular physical activity program as they become more committed to making it a permanent part of their lives.

- Set realistic exercise goals and commit to achieving them.
- Tailor your exercise program to fit your current fitness level and lifestyle.
- Meet your physician's expectations for addressing a health concern through exercise.
- Implement a safe, individualized, and progressive program.
- Participate in fun and satisfying activities.
- Ensure access to facilities at convenient times.
- Ensure proper supervision that includes education about exercise and helps with motivation.
- Develop a positive feeling about exercise and how it can affect your health.
- Keep records of your exercise program and periodically reward yourself for making progress.
- Get periodic assessments and associated feedback about your fitness level.
- Receive support and encouragement from family, especially a spouse, friends, and peers.
- Build your self-efficacy, or the optimistic assessment that you can cope with the demands
 of life by continuing your exercise program.
- Develop a strong belief that you can overcome barriers and succeed with your exercise program.
- Include periodic social functions with others in your exercise group.
- Be patient because developing fitness takes time.
- Ensure that your exercise program has meaning by connecting with a personal need.

See also the special issue, Adherence to Exercise and Physical Activity (2001). Quest 53(3), 277-387.

movement, sports, and recreational pastimes. Providing for the leisure needs of older Americans may become the largest segment of new physical activity-related jobs in this century.

Once people are convinced that regular exercise is not only important but essential for an enhanced quality of life, the next challenge is how to get those who have begun exercise programs to continue them. Adherence is a pervasive problem for everyone who prescribes exercises and activities. Whether a corporation or an individual is paying for the exercise program, the goal is positive, lasting outcomes. Box 10.2 lists several factors that contribute to activity adherence.

BOX 10.3 PHYSICAL ACTIVITY TIPS

General Suggestions

- Schedule a time for daily physical activity of at least 30 minutes.
- Vary your physical activities to maintain enthusiasm and interest.
- Find a partner to join you so you can help each other adhere to your physical activity programs.
- Set realistic goals, measure your progress, and reward yourself when you are successful.
- Include physical activities that contribute to all-around physical fitness, such as cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition.
- Use time while engaged in physical activity to socialize with others.
- Make sure your equipment and exercise area are safe.
- Combine physical activity with healthier eating patterns.
- Have fun and enjoy being physically active.

Building Exercise Into Your Daily Life

- Walk to work or school and walk when doing errands.
- Park your car farther away from your destination so you will walk more.
- Take the stairs instead of the elevator or escalator.
- Take short fitness breaks during the day to walk around or execute a few exercises at
 or beside your desk.
- Schedule times to play with your children or pets.
- Exercise while watching television, such as by lifting hand weights, riding a stationary bicycle, walking on a treadmill, or stretching.
- Exercise while listening to music or work out with an exercise DVD.

Most adult exercise programs emphasize similar strategies to enhance lasting and positive lifestyle changes. Most important, all people need appropriately designed programs that they can understand; goals that are feasible, measurable, and monitored; and positive experiences that will encourage them to adhere to the programs.

Physical activity should be a part of everyone's life regardless of age or capability as stated in the 2008 Physical Activity Guidelines for Americans. Some physical activity suggestions are provided in Box 10.3. The earlier people learn the value of being physically fit and begin exercising regularly, the greater the quality of their lives.

RECREATION AND LEISURE SERVICES

Demographic changes, altered family and work patterns, environmental concerns, and shifts in the economy have transformed contemporary recreation and leisure services. An increasingly diverse ethnic mix in the population of the

United States makes business as usual no longer acceptable. African Americans, Native Americans, Asian Americans, Hispanics, and other ethnic groups are demanding recreational and artistic programs that appeal to their unique cultural backgrounds. The former melting pot concept has given way to an appreciation and promotion of diversity throughout society, which means these changes must be reflected in leisure programming.

Demographics indicate a graying of America. The older segment of the population possesses considerable political clout and financial resources. As life expectancies increase, older adults want to have their recreational needs met along with those of younger groups. Senior citizens are often physically vigorous. While some may require only passive activities in a retirement center, other retirees robustly play golf and tennis, walk and hike, travel and tour, and swim and cycle. In this century, serving the recreational and leisure needs of this population will become more widespread and demanding. Seniors want more opportunities for:

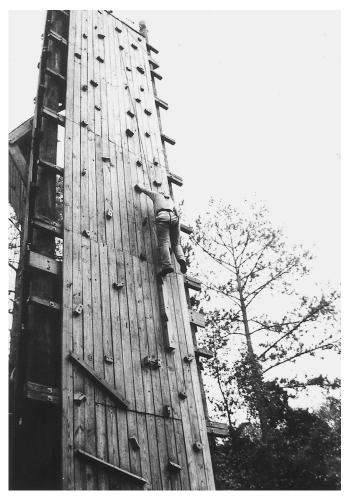
- Masters competitions in sports like tennis, swimming, golf, and running
- Senior Games in numerous sports
- Age- and ability-appropriate activity classes at health and fitness clubs
- Age- and ability-appropriate activity programs sponsored by recreation departments
- Walking clubs
- Sport leagues, such as in bowling, golf, and softball
- Therapeutic programs sponsored by senior citizen programs, retirement centers, and hospitals
- Intergenerational after-school activity programs for children and senior citizens

The traditional 1950s family of a working father, a homemaking mother, and two or three children characterizes fewer than half of today's families with school-age children. Divorced parents, broken homes, and absent fathers leave approximately one out of every two children in single-parent homes before they reach adulthood. The cost and quality of child care have become major issues for these parents. Meeting the developmental play needs of preschool children challenges those who offer in-house or commercialized child care services. Currently schools, places of worship, and public centers offer after-school care for children, which may or may not include developmentally appropriate play opportunities.

Many adolescents (and some preadolescents) have become latchkey kids—children who come home from school to empty houses. These unattended children are told to lock themselves in their houses because playing outside is considered unsafe. This setting seems to foster unending hours of watching television and eating junk food. Lack of supervision may also permit youthful experimentation with alcohol, tobacco, illegal drugs, sex, and law-breaking activities.

In most cities and towns, the schools, recreation departments, and private clubs provide numerous alternatives to unsafe, inactive, and delinquent behaviors. Competitive youth sports teams, children's fitness clubs and programs, adventure activities, cooperative games, and creative playground opportunities are just a few of the options available. While some parents can afford to enroll their children in private dance, gymnastics, swimming, or tennis lessons, many rely on public programs for facilities, equipment, and instruction.

Threats to the environment also jeopardize the resources available for recreation and leisure. Outdoor enthusiasts are increasing their efforts to protect natural resources and open spaces from abusive individuals and encroaching real estate developers. Rock climbers, hikers, and campers are expected to leave nature exactly as they found it. Industries are expected to stop polluting



Outdoor education activities, such as rock climbing, can be practiced in safe situations.

the air, water, and land. Despite limited resources, cities and states continue to dedicate land to meeting the recreational needs of present and future generations.

Like many public programs, recreation and leisure services have experienced increased budgetary constraints. Although people are taxed for municipal services, including recreation, there never seems to be enough money, space, or programs. To meet their budgets, many recreation departments must charge entry or participation fees, which excludes those unable to pay. In addition to the rising cost of programming, these agencies have increased expenses due to vandalism, lawsuits, and security. In addition, bringing programs and facilities into compliance with the Americans with Disabilities Act is costly. To adequately serve individuals with limitations, facilities must be accessible, have specialized recreational equipment, and have qualified, trained personnel.

Recreation and leisure services are among the human services industries that have proliferated in recent decades. Individuals pursuing careers in national and state parks, boys' and girls' clubs, commercial and corporate fitness, sports clubs, and recreation must focus on customer or client satisfaction. To accomplish this, they must determine the personal goals of those they serve. For example, those who choose careers offering backpacking, rock climbing, and canoeing may have the following goals in mind for program participants:

- To learn outdoor skills
- To challenge the limits of one's ability
- To enjoy risk-taking achievements
- To develop cooperative or self-reliant behavior
- To appreciate nature

Knowing these goals, professionals can propose suitable programs to meet participants' goals or help them design an individualized or a group program.

Recreation and leisure services professionals may choose to seek national certification through the National Recreation and Park Association. To be certified, applicants must meet educational and experience requirements as well as demonstrate a high level of professionalism in their work. As with other certifications, the Certified Park and Recreational Professional has enhanced credibility and contributes to the status of the field. The challenge for recreation and leisure services specialists is to create programs with activities that match each person's interests and needs.

EXERCISE SCIENCE

More and more students are pursuing careers related to physical activity that are outside educational settings. Many prepare for these careers by studying exercise science, where one studies human movement along with the body's adaptations to movement. The exercise scientist seeks to understand the scientific foundations of physiological responses to exercise. This field has grown more specialized as the quantity and quality of knowledge have expanded.

In the 1970s and 1980s, colleges and universities responded to the decrease in physical education majors preparing to teach by offering specializations. Students were attracted to these majors because they sought careers in the emerging fields of athletic training, corporate and commercial fitness, exercise physiology, and sport psychology. Most of these graduates sought positions that allowed them to work with adults participating in fitness and sports programs. The diversity of career options and opportunities for advancement, travel, economic security, research, and management also appealed to many.

In recent years, career options in exercise science have increased due to the media-reinforced appeal of cosmetic fitness; concern about health conditions related to lifestyle, such as coronary heart disease and obesity; and skyrocketing health care costs. Those most likely to participate in fitness programs are upperincome individuals, young adults, males, Caucasians, suburban residents, and the more highly educated, although fitness enthusiasts occupy every demographic stratum. Fitness specialists find their greatest challenge is trying to motivate individuals to initiate and maintain activity programs through self-discipline. The two most frequent explanations for not exercising are lack of time and poor motivation or self-discipline.

Fitness programs have expanded in private and public health and sports clubs, recreation departments, retirement homes, work sites, rehabilitation clinics, hotels, and resorts. Many people have joined clubs specifically to receive



Exercise scientists can help athletic teams improve their flexibility, strength, and endurance, which in turn can help improve performance.

instruction and encouragement from fitness leaders in aerobics and weight training. Besides teaching, individuals in these careers are expected to prescribe safe exercise programs, monitor members' progress, provide nutritional guidance, manage the facility, and sometimes supervise other personnel. Fitness specialists and exercise scientists are expected to conduct smoking cessation classes, provide information about injury prevention and care, teach exercises to reduce low back pain, conduct assessments of various fitness parameters, prescribe exercise programs for rehabilitation, and conduct clinical research. Undergraduate students need to be prepared to handle these diverse responsibilities. Increasingly, graduates of exercise science curricula are working with adults (and sometimes children) in health and fitness programs. As described in previous chapters, these professionals are challenged to direct and manage programs that help unfit Americans develop and maintain personal fitness, provide recreational opportunities in a wide variety of sports and games, and offer leisure-time activities that may include spectator events, cruises, and trips to theme parks.

College graduates may need to obtain certifications to work in exercise science positions. More and more health and fitness clubs are expecting their employees to hold certifications as personal trainers, aerobics leaders, and fitness program directors. Almost all individuals responsible for providing emergency care to athletes in sports competitions are expected to have training in basic first aid and cardiopulmonary resuscitation. Athletic trainers in colleges, in clinics, and with professional teams must be certified. States and employers are increasingly requiring higher levels of expertise to ensure that only qualified individuals work in physical activity situations. Exercise scientists working in clinical settings, such as hospitals, research laboratories, and rehabilitation clinics, need to demonstrate competencies in areas such as the following:

- The structure and function of the human body and its systems
- The operation of muscles and joints through various movements, such as supination, pronation, flexion, extension, adduction, and rotation
- The major components of skill-related physical fitness, including agility, balance, coordination, power, reaction time, and speed, and the biomechanical principles underlying these components
- The biomechanical principles associated with striking, throwing, catching, running, walking, and jumping
- The ability to accurately measure body fat, blood pressure, heart rate, and oxygen consumption during exercise
- The ability to explain, demonstrate, and prescribe the physiological principles associated with warm-ups and cool-downs
- The ability to explain, demonstrate, and prescribe appropriate cardiorespiratory endurance activities
- The ability to explain, demonstrate, and prescribe exercises designed to increase muscular strength and endurance

- The ability to explain, demonstrate, and prescribe appropriate flexibility exercises
- The care and prevention of common exercise injuries
- The genetic and cellular basis of disease
- The prevention and treatment of chronic illnesses
- The determinants of oxygen consumption under differing conditions of exercise

Most people who seek the services of an exercise scientist want to develop all-around wellness. Physical activity is only one component of all-around wellness; increasingly, people are also seeking emotional, spiritual, intellectual, and social benefits. Many want to find balance through their workouts, leading to the management of stress reduction, increased self-esteem, friendships, and peace of mind. This means that program and exercise leaders must prepare themselves to address the whole person, not just the body. The expansion in program offerings in health and fitness clubs to include massage, yoga, Pilates, nutrition counseling, stress management workshops, and musical and artistic outings along with personal fitness programs reflects this broadening focus.

SPECIALISTS AND INTERDISCIPLINARY RESEARCH

The knowledge explosion in recent years has influenced research in the exercise and sport sciences. Expanded research efforts, technological advances, and computer-assisted data analyses have aided this proliferation. The quality and quantity of information have led to increasing specializations for two primary reasons. First, the sheer volume of books, research, reports, resources on the Internet, and scholarly papers makes it difficult for individuals to gain exhaustive knowledge in any one discipline, let alone several. Second, a greater understanding of a subdiscipline encourages people to specialize in an area of particular interest in order to create and disseminate new knowledge. In turn, this greater understanding may lead to enhanced sport performances or strategies to improve health.

The quantity of scholarly publications and presentations in physical education and the exercise and sport sciences continues to increase. Responding to university mandates, specialists with Ph.D.s are dedicating themselves to expanding knowledge in their areas of specialization. They pursue research questions such as how to improve athletic performance, how to enhance the process of teaching and learning movement skills, and how to maximize muscle mass and flexibility using certain types of exercise equipment. Physical education and exercise and sport science professionals in clinical settings, corporate fitness centers, recreation programs, and fitness and health clubs conduct research on various fitness programs, training regimens, and success rates among their clientele.

A growing area of research in physical education focuses on pedagogy. Pedagogical studies include teaching observations such as analyses of time-on-task and academic learning time, student performance, and teacher expectations, and how these factors are interrelated. Research in this specialization has the potential to dramatically affect the quality of instruction in all settings.

Technology has also contributed to the proliferation of research in physical education and the exercise and sport sciences. Athletes can now recover from injuries faster through advanced surgical techniques and computer-monitored rehabilitation programs. Data collection on the incidence and causes of injuries has been used to redesign conditioning and practice drills to both reduce injury and enhance rehabilitation. Sport psychologists use biofeedback and relaxation techniques to positively affect performance. Biomechanists apply computer technology to skill execution to both improve technique and reduce the risk of injury. Computer analyses of blood lactates, oxygen exchange, workloads, and drug effects are invaluable to the exercise physiologist's understanding of how the body functions under the stress of exercise. Sport sociologists and sport historians collaboratively examine the role of sport in society relative to race, gender, and other pivotal factors.

Library retrieval systems and Web search engines help researchers in all disciplines keep abreast of current research, trends, and experimental data. Access to information available electronically allows researchers to replicate studies or build on the findings of their colleagues. Electronic mail also helps researchers collaborate in a timely manner. The use of personal computers for word processing, data analyses, and information retrieval through the Internet, and the productivity of today's university, corporate, and community researchers facilitate greater collaboration and interdisciplinary research. Physicians, sport psychologists, sport biomechanists, exercise physiologists, and athletic trainers share their expertise and research electronically to the benefit of students, world-class athletes, and the general public. The federal government provides funding for interdisciplinary research because of its far-reaching applications and potential benefits.

Physical educators and exercise and sport scientists are frequently criticized for failure to apply their findings. Technology can partly alleviate this problem by emphasizing practical as well as theoretical studies, disseminating new information more widely, and focusing on specific situations in need of change. For example, those participating in various weight loss programs could be outfitted with heart rate monitors to ensure they are exercising within their target heart rate zones. By careful recordkeeping with regard to heart rates, diets, frequency and duration of exercise, and types of activities, exercise and sport scientists, along with athletic trainers, aerobics instructors, and fitness program directors, would not only add to the base of knowledge concerning weight loss but also have one more scientific measure by which to compare various weight loss programs. Physical educators and exercise and sport scientists who could benefit from such findings also have a responsibility to work with researchers in applying new information in a timely fashion.



WEB CONNECTIONS

1. www.ncbi.nlm.nih.gov/PubMed/

This PubMed site of the National Library of Medicine and National Institutes of Health provides access to over 18 million citations in MEDLINE and other related databases with links to full-text articles.

2. http://www.welcoa.org/

This Wellness Council of America site helps organizations develop and sustain successful wellness programs.

3. www.fitwellinc.com/default.html

FitWell provides fitness facility design, installation, management, and programming to help promote health, prevent and rehabilitate injuries, and increase adherence to an active lifestyle.

4. http://www.asep.org/

The American Society of Exercise Physiologists promotes the professional development of exercise physiology, its advancement, and the credibility of exercise physiologists.

 www.acsm-msse.org/pt/re/msse/positionstandards.htm;jsessionid= JXVc82mnZ7KnQ37sM0c1JLX2d5Lx1BdTyKjn3zLKzw4syFSZmB93!-2118404334!181195629!8091!-1

This site provides full-text position stands of the American College of Sports Medicine such as "Nutrition and Athletic Performance," "The Recommended Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory and Muscular Fitness, and Flexibility in Healthy Adults," and "The Female Athlete Triad."

6. www.ncate.org/

This site of the National Council for Accreditation of Teacher Education describes the performance-based standards for teacher education programs.

- 7. www.ets.org/portal/site/ets/menuitem.fab2360b1645a1de9b3a0779f17 51509/?vgnextoid=48c05ee3d74f4010VgnVCM10000022f95190RCRD& WT.ac=Praxis+Brochure+and+Front+Door Most states required the completion of assessments, like the Praxis
 - Most states required the completion of assessments, like the Praxis Series assessments that measure basic academic knowledge, general and subject-specific knowledge, and teaching skills.
- www.nfhs.org/web/2008/11/liability_issues_related_to_tran.aspx Visit this site to learn about the courses and resources provided by the American Sport Education Program to help coaches make sports more enjoyable experiences for young people.



Conducting Research in the Exercise and Sport Sciences

When searching for research-based articles in the exercise and sport sciences, start with an index into which you enter a subject area or a few keywords. The indexes below are recommended:

- Medline Plus (http://medlineplus.gov/), a service of the United States
 National Library of Medicine and National Institutes of Health, is the
 world's most comprehensive source of life sciences and biomedical
 bibliographic information.
- **Academic Search Premier** (www.ohiolink.edu/resources/show_details.php?db=x_ebscoaph) is the world's largest scholarly, multi-discipline, full-text database designed specifically for academic institutions.
- **Web of Science** (http://thomsonreuters.com/products_services/scientific/Web_of_Science) provides seamless access to current and retrospective multidisciplinary information from the most prestigious, high impact research journals in the world.
- Health Source: Consumer Edition (http://www.ohiolink.edu/ resources/show_details.php?db=x_ebscohxh) provides excellent information on nutrition, exercise, drugs, alcohol, and many other health-related subjects.
- SPORTDiscus (www.ebscohost.com/thisTopic.php?marketID= 1&topicID=585) is considered the world's leading sport, fitness, and sports medicine bibliographic database.
- The CSA **Physical Education Index** (http://www.csa.com/factsheets/pei-set-c.php) searches sport law, kinesiology, motor learning, recreation, sports equipment, business and marketing, coaching, training, sport psychology, health education, and physical therapy.

Additional Helpful Information

See this reference from the American Psychological Association (APA) for how to cite electronic documents (http://www.apastyle.org/elecref.html)

It is incumbent on fitness, exercise, and sport professionals to remain current with the latest research. (See the Research View Conducting Research in the Exercise and Sport Sciences, which provides guidance for this process.) Regardless of position held, the knowledge explosion has made the half-life of information learned in college, graduate school, or certification courses short-lived.

That is, the relevancy and even accuracy of information that you acquire while obtaining your physical education or exercise science degree may be wrong, dangerous, or questionable a decade after you graduate. A few examples follow. Once-popular exercises such as squat thrusts are now contraindicated. Withholding fluid replacement from athletes, which was once thought to build stamina or toughness, is very dangerous; such an action today would be the basis for a wrongful-death lawsuit if an athlete died after being denied fluids. Some drugs taken to enhance performance or build muscular strength may be legal today but banned tomorrow if new research determines they are harmful to the body. Thus, lifelong learning is imperative, particularly with regard to research in your specialty.

ELEMENTARY SCHOOL PROGRAMS

Since the early 1900s, elementary school physical education programs have focused on teaching fundamental skills that lead directly to the ability to play sports and games. As curricula evolved, greater stress was placed on a balanced and varied range of activities that progressed from the simple to the complex in keeping with learning developmental skills of the various grade levels. These activities included, simple games and relays, rhythmic activities, basic sport skills, lead-up games, and game play. Professional preparation courses and textbooks suggested the importance of progressions, allotments of time for each major category of activity, and instructional methodology.

In the 1960s, an alternative elementary physical education curriculum, called movement education, was introduced in the United States. It was based on the concepts of spatial and body awareness; movement qualities of flow, force, space, and time; and relationships to others or to objects. Students learned about their own space relative to body size, movement task, and equipment, thereby gaining insights into their own capabilities and becoming more skillful movers. Movement education stressed the following:

- Lessons were activity centered and student centered.
- Specific movement patterns were determined by each child within parameters established by teachers, emphasizing experimentation through movement rather than simply following instructions.
- Children were encouraged to explore and analyze space, their bodies, and various uses for pieces of equipment, with a focus on self-directed or individualized learning.
- Problem solving through guided discovery emphasized learning and fun using open-ended challenges and goals.
- The teacher guided students through movement experiences by imaginatively and creatively involving both their minds and their bodies.



Elementary school students enjoy exploring various movement experiences.

- Independently and at their own rates of development, children were given time to think about the challenges and then move in response.
- Each child was evaluated on an individual basis.
- Informality in class structure allowed children to create freely and learn at their own levels of achievement.

Today, in addition to selecting elementary physical education curricula that match their own philosophies, teachers must be aware of state standards and district curricular requirements. Each elementary school child should develop competency in several movement forms, learn to express and communicate through movement, and be able to demonstrate movement principles while learning motor skills. In addition, children can begin to achieve a high level of health-related physical fitness, gain greater self-understanding and acceptance of themselves and others, and learn how to handle winning and losing.

Each elementary physical education program should be centered on the concept that movement is a child's first expressive opportunity. Since it is through movement experiences and challenges that the world is discovered, these must be developmentally appropriate for the age, size, and maturational level of each child. For example, parallel and cooperative activities are developmentally appropriate for five- to seven-year-olds, whereas team sports are not. Dodgeball, relays, and musical chairs are contraindicated games for this age group because they emphasize hitting classmates with balls, stress speed over technique, involve too little activity, and eliminate rather than include student participation.

MIDDLE SCHOOL PROGRAMS

Middle schools emerged in response to the unique developmental needs of students during this transitional period of physical, social, emotional, and intellectual growth. Students between ages 10 and 14 should have already been taught fundamental movement skills and basic fitness concepts. If they have, they are ready to learn lead-up games, specific sport skills, and cooperative and competitive games and sports. Interest and ability grouping, rather than gender-role stereotyping, are essential during these years.

At the middle school level, time should be spent on developing responsible personal and social behavior, respecting differences among people, and using physical activity for enjoyment, challenge, self-expression, and social interaction. Although seasonal team sports like volleyball, basketball, and softball may form a portion of the curriculum, these young people need instruction in the skills of throwing, catching, striking, and running independently and within lead-up games. Inclusion of various dance forms, tumbling, outdoor adventure activities, and games chosen by students will enrich the curriculum. Despite limited facilities and equipment, skill heterogeneity, and large class sizes, physical educators need to creatively design and implement broad curricula that meet the interests and needs of students.

Vital components of middle school curricula are health-related and skill-related physical fitness. Students in this age group are capable of taking greater responsibility for establishing personal goals to enhance their cardiorespiratory endurance, muscular strength and endurance, and flexibility as well as skill-related fitness. School programs should creatively reinforce the achievement of these goals using honor rolls on bulletin boards, schoolwide announcements, newsletter features, assembly recognitions, "I'm Fit" T-shirts, or opportunities to lead or select class fitness activities.

Psychomotor, affective, and cognitive standards should guide the development of sequential and progressive instruction. Periodic assessments should be made to ensure the attainment of these standards. Whenever possible, the physical education specialist, who is a certified physical education teacher, should integrate instructional material with other subjects. With these standards in place, middle school students, their parents, and school administrators will value physical education programs of quality.

SECONDARY SCHOOL PROGRAMS

In the high school grades, students often prefer to work at achieving and maintaining a health-enhancing level of physical fitness rather than being placed in classes where they are again taught volleyball, basketball, and softball. Most students want to receive instruction in lifetime sports like bowling, golf, and tennis and in fitness activities such as aerobics or weight training. Facility and equipment limitations can be overcome by using community lanes, courses, and courts and getting students to use personal sports equipment. School gymnasiums can be



In secondary school physical education, students can be introduced to activities in which they may participate during their leisure hours and later in life.

used for a variety of activities, including aerobics, badminton, rock climbing and rappelling, dance, one-wall racquetball, martial arts, and target archery. Community recreation centers with weight-training equipment and aerobics machines, such as stationary bicycles and treadmills, may be made available to students during the school day. States and local educational agencies might be more likely to offer a wider range of elective courses to secondary school students if these broadened curricula were available. Learning skills in sports in which students can enjoyably participate throughout their lives should be a primary focus of secondary physical education programs.

Another area of emphasis should be to create opportunities to develop and implement individualized physical fitness programs. While these may be incorporated into aerobic or weight-training classes, students should be encouraged to establish fitness goals using activities they find personally satisfying. Secondary school students are capable of learning how to initiate and sustain fitness programs that they enjoy and will be more likely to continue throughout their adult lives.

At all levels of education, it is essential that teachers help their students achieve high standards. If the programmatic characteristics just described are implemented, school-age children and adolescents will be able to demonstrate proficiency in various movement and motor skills, maintain physically active lifestyles, and interact positively with others in physical activity settings.

CHALLENGES FACING PHYSICAL EDUCATORS

Instructional

School teachers, including those in physical education, face many challenges. Among these are apathetic students, violence, drug abuse, lack of family support, heterogeneous students in large classes, and discipline and behavioral problems.

Despite these factors that negatively affect the instructional environment, teachers are held accountable for student learning.

Apathetic students who do not want to dress out, participate, or behave present a challenge to teachers. Replacing dodgeball or unpopular activities with weight training or non-traditional sports or activities may be an effective starting point. Rewarding appropriate behavior rather than simply punishing misbehavior encourages positive change. Teaching relevant content, ensuring equal opportunity for all students, and making classes enjoyable may not engage every student, but the number of apathetic ones will certainly diminish. Keeping students busy is not education. Teaching must result in learning that engages and interests students.

Sadly, violence in schools is becoming an endemic problem, apparent in increased bullying, fights among students, weapon confiscations, shootings, and gang-related violence. Schools today hire security officers to patrol the halls, install metal detectors at the doors, and enforce lockdowns to ensure that potentially violent situations do not erupt into harmful or deadly occurrences. While abuse of drugs and alcohol is related to some violence in schools, other issues such as poverty, lack of parental guidance (possibly associated with single-parent homes), physical deprivations, emotional disturbances, and mental illnesses are contributing factors as well. Too many middle and secondary students, often influenced by peers, choose to engage in petty violations of the law that often lead into serious criminal acts. When these young people learn that the use of force helps them get what they want and they enjoy this domination, they increasingly lash out against whoever interferes with their wishes. If adolescents develop a blatant disregard for authority, they also may attack teachers and administrators in violent ways. Physical education teachers must be vigilant in understanding the potentially volatile situations that may occur in competitive sports situations so that they can defuse them. They must be sensitive to the needs of their students and work with them individually and collectively to use physical activity to work off pent-up frustrations and channel their energies in positive ways.

When students attend school under the influence of alcohol or purchase and use drugs on school grounds, the learning process is severely hampered. Drug education classes and enforcement of school policies for drug-free campuses are two ways to help reduce the incidence of these problems. Physical educators should use every opportunity to discourage drug use by showing how it adversely affects physical performance and well-being.

Dramatic demographic and socioeconomic changes are partly to blame for the lack of parental and family support for education in this country. Over half of the children in the United States will spend a portion of their school years in single-parent homes. Most children with two parents will find no one at home after school because both parents work. A quarter of today's children live in households with incomes below the poverty level. Teachers must overcome a lack of parental support by helping students learn the value of education. Teachers need to help students take greater responsibility for their own education. Physical educators can help by creating after-school fitness clubs that could help instill self-worth, confidence, discipline, and responsibility in students.

Many states dictate maximum class sizes, but too often these are ignored for physical education. When school administrators believe that physical education is only play, physical educators may be expected to have 50 to 60 students in each class. This is problematic because of the increased chance of injury with inadequate supervision and crowded instructional and activity conditions. Even with a normal-size class, physical educators face students with heterogeneous abilities. Skill grouping, use of lead-up or progressive games, and curricula that include both cooperative and competitive activities contribute to meeting students' diverse needs.

Discipline and behavioral problems may be the most recurring issue facing teachers. Rather than dissipating in an activity setting, these problems are often exacerbated. Some students with histories of misbehavior may seek to use physical education classes as opportunities to dominate others or show off. Physical educators must establish fair and impartial class policies regarding these behaviors and then enforce them consistently. Using timeouts as punishment, rather than exercises or laps, teaches respect for the rules. Rewarding appropriate behaviors with the opportunity to participate in favorite activities is even more effective than punishments for most students.

In overcoming these challenges, physical educators must be prepared to do a lot more than just teach their favorite sports and games. Each challenge can become an opportunity to positively affect the lives of students.

Role Conflicts between Physical Educators and Coaches

Many physical educators in schools and small colleges also coach. In fact, some obtain degrees in physical education to increase the likelihood of obtaining coaching positions. Because of the overlap in instructional knowledge and skill content, this joint career seems most appropriate. When these individuals commit equally to teaching students of heterogeneous ability levels and to coaching the highly skilled, all students benefit.

Conflicts occur, however, because of time and energy constraints, unequal rewards, self-imposed and external pressures, and personal preferences. Most physical educators are expected to teach a full class load and then coach after school. This schedule results in long days. For those coaching multiple sports, these long days continue season after season. One of four patterns then usually develops:

- A tenured teacher-coach decides that the small coaching supplement is not worth the time demands, so she resigns from coaching but continues teaching.
- A teacher-coach concentrates on coaching, putting little effort into teaching because he views it as repetitive and unrewarding.
- A teacher-coach becomes apathetic about both jobs and just goes through the motions instead of being committed.
- A teacher-coach changes careers.



The teacher-coach spends long hours helping students learn and helping athletes achieve their potential.

Pressures to win, whether self-imposed or from external sources, accompany sport competitions. Although most people have no interest in the quality of classroom instruction provided by the teacher-coach, hundreds or even thousands may pass judgment on a coach's ability to develop a successful team. Accompanying these pressures, which in the worst case may cause one to be fired, are the public prestige and status of being a coach.

Resolution of this role conflict is difficult because the conflict usually develops gradually. The teacher-coach needs to continually assess the commitment given each responsibility to ensure that it is equitable. Regardless of the pressures, rewards, constraints, and preferences, the teacher-coach as a professional is ethically expected to serve competently in both roles. Suggested strategies to ameliorate some of the teacher-coach conflict might include:

- Encouraging school administrators to define, evaluate, and reward teaching and coaching roles separately
- Allowing the athletic director to specify team responsibilities and lines of authority to preclude potential conflicts between teaching and coaching duties
- Urging school administrators and athletic directors to work together to relieve the excessive pressures placed on coaches by athletes, parents, and team supporters
- Helping coaches balance the time and energy spent in meeting the responsibilities of both teaching and coaching

CHANGES IN LICENSURE REQUIREMENTS

State control of education has resulted in the establishment of **licensure** standards for public school teachers. Most state departments of education (or the equivalent) specify the standards or competencies that must be met before a person can teach. This requirement often includes specific courses in instructional methodologies and educational and developmental psychology, as well as a period of supervised student teaching or an internship. Physical education programs include disciplinary content, a specialized methodology of teaching, and the application of knowledge to student learning.

More and more states are requiring that students in all disciplines, including physical education, take the *Praxis Series: Professional Assessments for Beginning Teachers* to ensure that they possess both the general and specialized knowledge necessary to teach. Praxis includes assessments of academic skills (general for all teachers), subject matter, and classroom performance. Some states have mandated other competency tests. Many states have reciprocity agreements with other states so that certification or licensure in one is equivalent to licensure in the other. Licensure in a nonreciprocating state requires a teacher to complete one or more courses.

The most common requirement for interscholastic coaches is a teaching license (required for all coaches in about half the states). For those states with no established standards (and for those that commonly grant exceptions to the state regulations), liability is an issue. The trend of hiring non-teachers to coach has developed because a number of coaching jobs do not have corresponding teaching positions.

ACCREDITATION

Although not under the jurisdiction of the federal or state governments, accreditation helps ensure quality in education. Based on established criteria or standards, **accreditation** in teacher education, such as provided by the National Council for Accreditation of Teacher Education (NCATE), makes institutions accountable for program content. Many schools require that prospective teachers graduate from NCATE-accredited programs.

For physical education, NASPE has been given the responsibility by NCATE to ensure that physical education undergraduate and graduate programs meet minimal disciplinary standards. A college or university may submit its curricula (with accompanying explanatory documents) to NASPE on a periodic basis. A national panel of reviewers assesses whether that program is in compliance. If it is not, changes are mandated. (See the articles by Butler, Mitchell, and Hacker in the Suggested Readings for additional information.)

The Teacher Education Accreditation Council (TEAC) also accredits undergraduate and graduate professional education programs. It seeks to support the preparation of competent, caring, and qualified professional educators.

Some public schools and two-year institutions have been approved by their state departments of education to prepare teachers because of the shortage of teachers. These institutions typically are not accredited, since accreditation of teacher education programs is optional.

Today there are alternative routes to obtaining a license to teach. Numerous colleges of education offer collaborative programs with schools that enable career-changing adults, especially in critical-shortage disciplines, to concurrently teach, complete pedagogical studies, and earn master's degrees. The Troops to Teachers program helps military personnel transition into second careers as teachers, especially of students from low-income families. Teach For America recruits college graduates in all academic majors who, after completing a summer introduction to teaching, teach in urban and rural public schools for two years.

Accreditation standards apply in nonschool physical activity settings as well. As described in Chapter 6, certifications are offered by several organizations because employers are requiring that fitness and exercise leaders attain a specified level of competence. Whether leading group exercises, serving as a personal trainer, teaching aquatics activities, providing athletic training services, prescribing an exercise program, or coaching youth sports, certifications are increasingly being mandated. People want to participate in programs that are conducted according to standards so they can be confident that the information they receive is accurate and up-to-date, and the activities they take part in are safe, effective, and appropriate.

ACCOUNTABILITY

Accountability demands that an individual or institution be held responsible for achieving a specified action. For example, schools are held accountable for increasing students' test scores because these scores are believed to be indicators of student learning and, hence, inextricably linked with America's economic competitiveness. Accountability matters significantly when incentives and punishments await those who do or do not achieve the performance levels expected by legislators or special-interest groups. While accountability sounds good, this term may gloss over the political agendas of those who believe public schools are failing to meet national academic standards. Some argue that reliance on high-stakes testing fails to address serious fallacies in psychometrics, especially when many of the tests violate construct validity, consequential validity, and fairness. That is, many tests distort or misrepresent what students have actually learned because they do not accurately reflect the content of the curriculum or the typical context in which the curriculum is taught. Huge pressures to raise test scores, however, have led to inordinate amounts of time devoted to test preparation, instruction being geared to the test, and even cheating.

A **standard** is a uniform criterion or foundational guide used to measure quality. Educational standards determine what children at each grade level should know and be able to do. Schools are increasingly being expected to ensure that every child can achieve these standards of performance. Most states have adopted national tests and/or developed their own tests to measure student progress and achievement. State appropriations often depend on the test scores achieved, regardless of the socioeconomic context, the racial and ethnic composition of the



Just as accountability is important as a member of a smoothly functioning rowing team, it is also essential in instructional programs and the fulfillment of professional responsibilities.

student body, or the transient nature of the population. Sometimes the tests used to measure educational achievement bear little relationship to the state or local mandates regarding curricula.

An **assessment** is a measure of knowledge, skills, and abilities. Assessments are tools used by those considered competent to judge student achievement, such as teachers and specialists. Educators should incorporate a wide range of authentic assessments throughout their programs to deflect an overemphasis on high-stakes test scores. That is, a variety of evaluative measures that reflect the curriculum should be implemented to determine student progress as well as those areas that need more work. Formative assessments are particularly useful for giving students constructive feedback and for determining how to provide individualized remediation.

Every physical education class should be designed and taught by a competent and certified physical education teacher. Like every other school subject, physical education should include sequential learning activities characterized by objectives, instructional strategies, developmental levels, content standards, and assessments. Objectives should be identified by grade level, and specified



Assessments of program quality may include monitoring heart rates to ensure that aerobic activities increase heart rates and maintain these rates within the target heart rate zone.

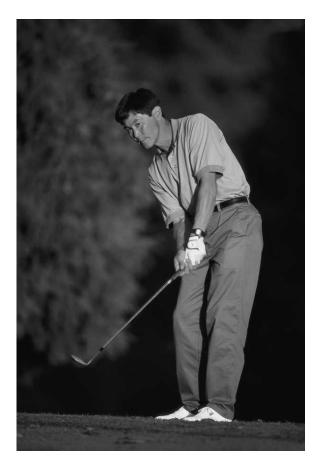
outcomes should be assessed at each level by valid and reliable measurements. Validity describes the strength or accuracy of conclusions, while reliability describes the consistency in or repeatability of what is measured. High-quality physical education programs will help students of all abilities develop physical fitness and motor skills, gain a thorough understanding of fitness, nutritional, and health concepts, enact appropriate social behavior, and value a healthy lifestyle.

Educators cannot achieve these objectives if children and adolescents take part in physical education only one or two days per week. The National Association for Sport and Physical Education recommends that children in elementary grades have instructional periods totaling 150 minutes of physical education per week; students in middle and secondary school should have instructional periods of 225 minutes per week.

Experiences in sport and physical activity programs outside the classroom are also important for children's overall intellectual, social, emotional, and physical development. Whether a recreational youth sport league, individual sport lessons, or a commercial fitness program, appropriate objectives, standards, and assessments will help ensure fun, program adherence, and maintenance of healthy lifestyles.

CAREER BURNOUT

All individuals may experience burnout in their careers if they are faced with unresolved problems or stressful challenges. **Burnout** is a psychological state of apathy about the responsibilities of one's career. This may result in exhibiting the signs and symptoms in Box 10.4. People in physical activity–related careers may



Participation in physical activity, such as golf, can help relieve stress and, therefore, lessen the possibility of career burnout.

BOX 10.4 SIGNS AND SYMPTOMS OF BURNOUT

- Physiological changes associated with stress, such as digestive problems, fatigue, insomnia, headaches, high blood pressure, increased heart rate, heart attacks, and strokes
- Feelings of emotional exhaustion, powerlessness, hopelessness, detachment, resentment, cynicism, irritability, insecurity, anxiety, or depression
- At work, frustration with job-related factors such as task repetitiveness, lack of recognition, and impossibility of advancement or being overworked, underappreciated, confusion about expectations and priorities, concern about job security, or resentment about duties that are not commensurate with pay
- Less enjoyment of work and personal life
- Overeating or undereating
- Excessive drinking or abuse of drugs

BOX 10.5 **DEALING WITH POTENTIAL BURNOUT Physical** Mental Social • Get a complete physical Develop coping skills for Nurture personal dealing with stress relationships Get adequate sleep • Understand yourself and • Engage in meaningful how you deal with stress service to others Eat nutritious and timely meals Set realistic goals Practice healthy communication Exercise regularly • Learn to manage your time more effectively Express your feelings to someone you Take time for relaxation trust Keep your sense of humor

find their jobs unrewarding or frustrating due to a lack of change or too much change too fast, unchallenging routines, work overload, lack of advancement potential, or threat of elimination.

Combating burnout has become essential to career survival. Job satisfaction necessitates taking a positive approach toward work responsibilities. Financial rewards, job challenges, recognition, promotion, variety in responsibilities, and professional development all contribute to job satisfaction. Positive feedback is essential. If people are constantly bombarded by negative comments, they cannot continue to function effectively. Recognition and praise for completing responsibilities often lead to positive changes and enhanced self-motivation.

While work-related stress probably cannot be avoided, each person should understand what causes stress and how to eliminate or cope with it. Physical educators and exercise and sport scientists have a definite advantage in the latter case because they know exercise reduces stress. Everyone needs to attain and maintain a personal level of fitness that not only positively affects productivity and quality of life but also allows opportunities to serve as a role model for others (see Box 10.5 for other ways for dealing with potential burnout).

SUMMARY

Physical activity programs are for everyone. They help people learn fitness and sport skills and incorporate them into their daily lives. It is hoped that students and exercise participants of all ages will increasingly enjoy their physical fitness activities, reach their goals, and adhere to their appropriately designed programs. Increasingly, public and private health and sports clubs, work site programs, rehabilitation clinics, and retirement homes will be charged with meeting the fitness and activity needs of adults. There will be a growing need for specialists in these

areas. Advances in technology as well as the proliferation of research will continue to have widespread implications for physical education and exercise science in the future. School physical education programs will continue to evolve, with an emphasis on fitness activities and the development of the whole person. Educational reforms of standards, accountability, and assessments will significantly affect funding for school programs and lead to important changes. Although instructional and financial constraints threaten the teaching/learning process, competent teachers must creatively find ways to surmount these barriers while being held accountable for helping each student achieve higher standards. Professional involvement and maintaining a physically active lifestyle are two ways to combat job stress and career burnout.

CAREER PERSPECTIVE



KRISTI SNIDER

Physical education teacher and coach Labette County Unified School District Altamont, Kansas

EDUCATION

B.S.E. in physical education, Kansas State University

JOB RESPONSIBILITIES AND HOURS

Beginning at 7:30 each day, Kristi teaches four hours of freshman physical education, one hour of advanced physical education, and one hour of weight training. She also has a one-hour planning period to prepare for her classes. After the regular school day, Kristi serves as the head coach for the volleyball and basketball teams. She conducts practices between 3:15 and 6:00 and is responsible for the athletes on these teams during competitions and on two to three nights a week. In addition, she spends many hours at home watching films and compiling team statistics. Four times during the school year between 4:00 pm and 8:00, Kristi holds parent-teacher conferences with parents who wish to discuss the academic work of their children. The salary range for teachers and coaches is between \$38,000 and \$52,000 and is based on years of experience and academic credentials.

SPECIALIZED COURSE WORK, DEGREES, AND EXPERIENCES NEEDED FOR THIS CAREER

Kristi believes that college courses in methods of teaching physical education, physical activities and sports, and fundamentals of coaching; observations in schools; and student teaching helped prepare her for her current responsibilities. After completing her degree program, Kristi earned her teaching license in Kansas by passing the required tests. She states that attending coaching clinics is important for keeping abreast with coaching strategies and innovations. She also found that a graduate course she completed on the legalities of coaching was beneficial.

SATISFYING ASPECTS OF YOUR CAREER

Kristi emphasizes that teaching and coaching is a very rewarding career because she gets to work with teenagers and watch them mature physically, mentally, and emotionally. As a teacher and a coach, she enjoys teaching young people lessons that will benefit them throughout their lives. She treasures the times when former students return to her to say "Thank you." While Kristi really enjoys what she does, she is bothered by individuals in society who perceive teaching as an easy 8 am–3 pm job. She realizes the significant legal responsibility she has to ensure the safety and welfare of the young people with whom she works, so she always makes sure she has plenty of liability insurance.

JOB POTENTIAL

After gaining teaching and coaching experience and completing an advanced degree, teachers receive higher salaries. They also may choose to move into teaching and coaching at the college level.

SUGGESTIONS FOR STUDENTS

Kristi advises students to learn to be organized. Teachers and coaches need to be self-confident and realize that they must be disciplinarians. In these jobs, it is impossible to please everyone, so it is imperative to be able to defend actions taken. She encourages students to dedicate themselves to continuous improvement and a willingness to change and adapt as needed.

KEY POINTS FOR CHAPTER 10

Adherence to exercise One of the most important factors associated with exercise programs is to get participants, through personal commitment, to persist in engaging in regular physical activity.

Challenges facing recreation and leisure programs

These include demographic changes, altered family and work patterns including latch-key kids, budget reductions, environmental concerns, socioeconomic circumstances of participants, and unique programmatic needs of individuals of all ages.

Challenges facing the exercise sciences These include public health issues, such as obesity and cardiovascular diseases; rising health care costs; adherence to activity programs; inadequately educated individuals conducting fitness classes, prescribing exercises, or serving as personal trainers; and lack of access to fitness programs by some minorities, females, senior citizens, and individuals with special needs.

Research in the exercise and sport sciences Much of the research in the exercise and sport sciences is interdisciplinary because expertise from related disciplines can enhance the knowledge discovered or created.

Research-based inquiry

Indexes and databases are rich resources for information in the exercise and sport sciences.

Elementary school programs

The curriculum should focus on fundamental movement skills, progressing from simple to complex, along with basic fitness concepts.

Movement education

This approach to learning begins where each child is, proceeds from known activities into new movement patterns, continues within the personal and unique

limitations of each child, develops confidence for each child since each learns at his or her own ability level, and encourages the freedom to explore more difficult, yet basic, movements.

The curriculum should focus on developing responsible

Middle school physical education

The curriculum should focus on developing responsible personal and social behaviors through team sports, games, dance, and outdoor adventure activities.

Secondary school physical education

The curriculum should focus on developing and maintaining a health-enhancing level of physical fitness, including aerobics and muscular strength and endurance, and lifetime sports and activities.

Instructional challenges facing physical education teachers These include apathetic students, violence and bullying, the use and abuse of alcohol and other drugs, socio-economic hardships, lack of parental and family support for education, heterogeneous students in large classes (along with inclusion), and disciplinary and behavioral problems.

Accountability

The expectation is that professionals should be held responsible for achieving a specified level of performance.

Standard

Students and professionals can rightfully be expected to conform to a uniform criterion or minimum essential

performance as a measurement of quality.

Assessment

The importance of measuring knowledge, skills, and abilities is applicable to many fields.

Career burnout

Decreased performance can result from stress, job-related problems like lack of support or reward, and overwork.

Coping with career burnout

Physical, mental, and social approaches can help deal effectively or cope with stressors to prevent career burnout.

REVIEW QUESTIONS FOR CHAPTER 10

- 1. Describe several benefits or values of participating in regular physical activity.
- **2.** What are several strategies for ensuring adherence to a physical activity program?
- **3.** How do changing demographics affect recreation and leisure services programs?
- **4.** Describe the characteristics of movement education in an elementary physical education.
- 5. How should middle school and secondary school physical education curricula differ?
- **6.** What are several instructional challenges facing physical educators in schools?
- 7. What is accountability, and how does it relate to standards and assessment?

STUDENT ACTIVITIES

- 1. Talk with five friends about any individual exercise program in which they are (or were) involved. Summarize the factors that led to their quitting or adhering to their programs.
- 2. Write a one-page paper about your personal accountability in a job you have held in a field related to your major, such as lifeguard, sport official, camp counselor, or sporting goods salesperson. (If you have not had any of these experiences, talk with people who have and report their experiences.)
- 3. Secure a copy of the local elementary, middle school, and secondary school standards and curricula for physical education. Analyze them to determine if the standards are being achieved through a progressive and sequential program.
- 4. Read two articles in any professional journals that describe how an expanded knowledge base and technology in physical education and exercise science have positively affected noneducational programs. Summarize in two or three sentences the impact each has made.
- **5.** Describe two actual examples of people who have suffered from career burnout. What changes would you have recommended that might have prevented these situations?

SUGGESTED READINGS

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- Holahan, C. K., Holahan, C. J., & Suzuki, R. (2008). Purposiveness, physical activity, and perceived health in cardiac patients. *Disability and Rehabilitation*, *30*, 1772. Cardiac patients with an average age of 60 years who show a sense of purposiveness, defined as maintaining purpose in life, a sense of personal growth, and better perceived health, positively impact their recovery during cardiac rehabilitation.
- Huberty, J. L., Ransdell, L. B., Sidman, C., Flohr, J. A., Shultz, B., Grosshans, O., & Durrant, L. (2008). Explaining long-term exercise adherence in women who complete a structured exercise program. *Research Quarterly for Exercise and Sport*, 79, 374. Since women must value themselves to continue to participate in physical activity, the authors recommend that they should increase their motivation and enjoyment relative to activity, make activity a high priority, improve or deemphasize their body image, increase their support system, and use self-regulation strategies.
- Lambdin, D., & Erwin, H. (2007). School wellness policy: Community connections. *Journal of Physical Education, Recreation and Dance*, 78(6), 29. The authors recommend ways, such as health fairs, fun runs and family activity nights, that physical education teachers working with community partners can use to help implement school wellness policies.
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- Orsega-Smith, E., Getchell, N., Neeld, K., & Mackenzie, S. (2008). Teaming up for senior fitness: A group-based approach. *Journal of Physical Education, Recreation and Dance*, 79(1), 39. The authors describe the relationship between aging and physical activity and the importance of offering fun and motivating programs for older individuals to improve their health and mental well-being.
- Simonavice, E. M., & Wiggins, M. S. (2008). Exercise barriers, self-efficacy, and stages of change. *Perceptual and Motor Skills*, *107*, 946. This study of 198 college students finds that those who do not exercise or only exercise sporadically perceive more barriers to exercise than do those who exercise regularly. Regular exercisers rate their confidence higher (i.e., self-efficacy) to overcome obstacles to exercise.
- Sherman, C. P. (2008). Training elementary school classroom teachers to lead developmentally appropriate physical education. *Journal of Physical Education, Recreation and Dance, 79*(9), 33. The author stresses the importance of credentialed physical education teachers, rather than classroom teachers, providing the instruction to elementary school children to help ensure that the children will engage in moderate-to-vigorous physical activity.

Stevens, T. A., To, Y., Stevenson, S. J., & Lochbaum, M. R. (2008). The importance of physical activity and physical education in the prediction of academic achievement. *Journal of Sport Behavior, 31,* 368. The authors report that physical activity not associated with school-based physical education participation is significantly and positively related to mathematics and reading achievement in boys and girls.

11

ISSUES IN SPORTS

KEY CONCEPTS

- Girls and women are increasingly involved in competitive sports and have been aided by Title IX in these advances.
- While ethnic minorities, senior citizens, and individuals with special needs enjoy greater activity, they still struggle for equality in sports.
- Rather than emphasizing winning, the benefits and developmental goals
 of youth sports and interscholastic athletics should be emphasized.
- As many intercollegiate athletic programs are besieged with problems associated with commercialized sports, colleges and universities should strive to ensure the attainment of educational outcomes.
- The Olympic Games provide opportunities for friendship among athletes
 of the world who are seeking to prove their physical superiority; yet the
 Games are characterized by politics, nationalism, and commercialization.

Sports are fun. Sports provide a setting for people to develop their own identities by learning about their capabilities and limitations. Genuine satisfaction comes with making one's best effort regardless of the outcome. A revitalization of body, mind, and spirit through sports can renew one's perspective on life. Cooperation, discipline, emotional control, fair play, self-esteem, character development, and teamwork are the desired outcomes of sports. Athletes can learn these values as well as learn to respect their opponents on and off the field. Athletes should accept officials' decisions without dispute. Even spectators can be encouraged to display these values. Models of ethical behavior are especially important for young people, who typically imitate the attitudes and behaviors of school, collegiate, professional, and Olympic athletes.

Sports participants seek to win. "We're number one" has seemingly become the United States' sports motto from youth leagues to professional teams. To produce the best teams, athletes are often expected to specialize in one sport, accept coaches' dictates without question, practice and train with deferred gratification, excel or face elimination, and circumvent the rules when necessary to increase the likelihood of winning. Ethical behavior is often disdained or negatively regarded by coaches, teammates, and spectators, since winning surpasses everything else in importance.

Girls and women, ethnic minorities, senior citizens, and individuals with special needs are being treated more equitably in sports today, but they still face discriminatory practices and biases. Public and private youth sports organizations, interscholastic programs, and elite competitions at the collegiate and international levels share some of these common problems and conflicts. This chapter discusses several of these controversial issues (see Box 11.1) and some proposed solutions.

BOX 11.1 THREATS TO THE INTEGRITY OF SPORT

Academic problems, circumvention of rules to gain competitive advantages, pressures to win, violence, the arms race, and excessive commercialization are major threats to the integrity of sports. Because of the pervasiveness of these negative factors, many of the lofty values associated with sport, like fair play and sportsmanship, have eroded to the extent that many people question whether sports can any longer realistically claim to develop character.

Academic Issues

Sports in educational institutions have been associated with a plethora of problems—highlighted by grade changes and athletes receiving unearned grades to maintain eligibility. Whenever athletes realize that they do not have to attend class, study, complete assignments, or even take tests, they quickly devalue education and begin to overemphasize the importance of sports or their achievements in sports. Some high school students, through their own initiative or with the advice of their parents or coaches, seek to meet the requirements to play in NCAA institutions by receiving credits through "diploma mill" schools or by getting others to take the SAT and ACT for them, often after they have not scored high enough to be eligible for collegiate grants-in-aid. Despite more rigorous standards for collegiate athletes that require declaring majors and making progress toward their degrees, graduation rates in several institutions remain quite low. Balancing the time demands of being high school or collegiate athletes with those of being successful in the classroom too often leads to cheating, dishonesty, and deception. It also should be noted that failure to take advantage of educational opportunities is a disadvantage to former athletes, who are unlikely to have careers in professional sports and find themselves ill-prepared for their lives outside of sports.

Breaking the Rules

Many coaches instruct their athletes how to circumvent game rules without getting penalized. At early ages, athletes learn that faking an injury to get the clock stopped, calling an opponent's ball out when this helps in gaining an advantage, and lying about their legal guardians in order to play on geographically defined teams are acceptable, and even praised, behaviors. Sports rules can also be broken by violating the spirit of the rules, through, for instance, psychological intimidation, such as trash talking or taunting, or unsportsmanlike behaviors, such as running up the score or refusing to shake the hands of opponents before or after games. Breaking the rules also includes athletes taking anabolic steroids or other drugs that they believe will help them gain competitive advantages, accepting money or other benefits as bribes for attending certain universities, and refusing to give honest efforts because they believe they are underpaid under their existing professional contracts. It sometimes seems as if breaking the rules has become the expectation or normative behavior rather than being classified as what it is—unethical, immoral, unsportsmanlike, and wrong.

(continued)

BOX 11.1 THREATS TO THE INTEGRITY OF SPORT (continued)

Pressure to Win

Pressure to win is exerted on athletes of all ages by coaches, parents, and fans. With an overzealousness for victory, some coaches excessively stress youngsters' arms and bodies, verbally and physically abuse children and adolescents, and teach and model unethical behaviors. Coaches and parents emphasize winning so much that by age 12 over half of all youth sport participants drop out because they are no longer having fun and developing their skills. Some parents define their status and let their lives be consumed by their children's sports achievements. Others may even withhold love from children who do not perform up to parental expectations. Families have moved or separated and other children have been neglected in the pursuit of potential lucrative professional sports careers for adolescents who show promise of future stardom. Pressure to win at all levels of sports often leads athletes to break the rules as well as to seemingly be willing to do anything to win. This winning-at-all-costs mentality leads directly to an erosion of the values once believed inherent in sports. For example, because winners are so lavishly rewarded, athletes will put their physical well-being at risk through overtraining, drug abuse, and specialization in one sport. They will push themselves so hard that they will use any psychological ploy to gain advantages. The singular focus on winning has become so pervasive that the culture in many sports readily accepts intimidation and gamesmanship as "how the game is played," even though honesty, justice, responsibility, beneficence, and overall integrity are lost in the process. Is seeking to win acceptable only if an athlete honors the letter and spirit of the rules?

Violence

Moral callousness develops when people no longer feel that immoral actions are morally wrong. Such may be the case with the increasing prevalence of violence in sports. When coaches teach or condone "taking out opponents," with the intent to injure, athletes quickly realize that intentionally harming another athlete has become the norm for playing the game. Even when rules expressly forbid specific actions, athletes learn that using force to intimidate and even hurt an opponent may lead to a better chance of winning and so is worth the risk of penalty. There seems to be a growing disregard for sportsmanship—being honor bound to follow the spirit and letter of the rules— because violent behaviors are antithetical to it. Is intimidation an inherent part of football, ice hockey, lacrosse, and basketball? Has winning become a cultural imperative, with the benefits and rewards received by the winners so important that fair play and adherence to the letter and spirit of the rules have disappeared? In many instances, violent actions in sports have been taught, condoned, and even rewarded because the results of such behaviors benefit the perpetrator of the violence, usually in gaining an advantage that contributes to winning.

The Arms Race

Many who direct youth, school, and college programs and coach the teams believe that in order to remain competitive they must have the finest facilities, equipment, and uniforms, highly paid coaches, and luxurious travel accommodations. This "keeping up with the Joneses" mentality has thrust these programs into a race to get ahead and stay ahead of others for bragging rights and especially to help in recruiting the best athletes. The millions of dollars that this unending process costs too often results in selling marketing rights to clothing, scoreboards, and stadiums to corporations and naming rights to facilities. Sometimes, though, an inappropriate influence accompanies receiving money. The further along the business pathway sport programs go, the further away they seem to get from educational values.

(continued)

BOX 11.1 THREATS TO THE INTEGRITY OF SPORT (continued)

Excessive Commercialization

Commercialization in sport is a reality and, many would argue, a necessity for programs to survive. Corporate funding, fans' financial support, and the media are not inherently bad, but they can become excessive and lead to an erosion of educational values. Local businesses support agegroup teams, but it is questionable whether 10-year-olds winning national championships or state titles should serve as a basis for Chamber of Commerce bragging rights. Corporate sponsorships can help youth, school, and collegiate sport teams pay their expenses, but some governing groups have ruled that unhealthy products should not be advertised inside arenas or public schools. Television dictates who gets broadcast and when and where competitions are held, even though accommodating this medium often adversely affects athletes' class attendance and academic performances. Unless athletic administrators are willing to set limits on the influence of commercial interests, values such as honor, commitment, cooperation, and sportsmanship may be lost.

Each of these issues threatens the integrity of sports. Unless coaches, sport administrators, and parents choose to model ethical behaviors and educate athletes about moral values and how these should be incorporated into their lives, sports will lose their educational values. Adults should set and maintain standards that will mandate that athletes meet academic requirements, abide by the letter and spirit of the rules, and keep winning in proper perspective. Adults should refuse to allow commercial, entertainment, and recruiting interests to supplant fair play and other values.

GIRLS AND WOMEN IN SPORTS

Although the Greeks excluded women from the ancient Olympic Games, and the founder of the modern Olympic Games viewed women's role as cheering spectators, there has been a gradual acceptance of girls and women as sports participants. Traditionally beliefs about physiological differences contributed to the virtual exclusion of girls and women from sports. Research demonstrates that the physical abilities of males and females exist on a continuum. Overall, females are not as strong as men; are shorter and lighter; and, due to total body size, have smaller lungs and lower cardiac output. But some females possess physical abilities that exceed those of some males. Some female athletes have surpassed the limitations placed on them by running and swimming faster and longer than males. Some females compete professionally against and with males, achieving high levels of muscular strength and endurance, and are proficient in sport skills once the domain of males only. The physical potential of girls and women is not yet known, since they must first have equal opportunities in sports to achieve their maximum potential. Contrary to the writings of the early 1900s, women do not risk sterility when they train strenuously and compete aggressively. Like males, females benefit in multiple ways when they achieve their physical potential.

One reason girls and women have enjoyed expanded opportunities to play and compete has been Title IX of the 1972 Education Amendments. (Table 11-1 includes data about changes in competitive, coaching, and administrative opportunities for girls and women.) Aided by this federal legislation, thousands of

TABLE 11-1

IMPACT OF CHANGING SOCIETAL ATTITUDES AND INCREASED OPPORTUNITIES FOR FEMALES IN SPORT

Interscholastic Sports*

Number of Participants

	1972–1973	1981–1982	1991–1992	2001–2002	2006–2007	2008–2009
Girls	817,073	1,810,671	1,940,801	2,806,998	3,021,807	3,114,091
Boys	3,770,621	3,409,081	3,429,853	3,960,517	4,321,103	4,422,662

Intercollegiate Athletics (NCAA)†

Average number of sports for women:

1978: 5.61

1982: 6.59

1986: 7.15

1990: 7.24

1992: 7.09

1996: 7.50

2000: 8.14

2004: 8.32

2006: 8.45

2008: 8.65

Most popular sports:

1	Basketball	6	Tenr
١.	DaskelOali	0.	1611

2. Volleyball 7. Track and field

3. Soccer 8. Golf

4. Cross country 9. Swimming 5. Softball

Female coaches of women's teams

1972: over 90%	1996: 47.7%
1978: 58.2%	2000: 45.6%
1982: 52.4%	2004: 44.1%
1986: 50.6%	2006: 42.4%
1990: 47.3%	2008: 42.8%
1992: 48.3%	

Female athletic directors (females hold 48.6% of all athletics administrative jobs in NCAAmember institutions; no females are involved in the administration of 11.6% of intercollegiate athletics in these institutions' programs):

10. Lacrosse

1990: 15.9%	2004: 18.5%
1992: 16.8%	2006: 18.6%
1996: 18.5%	2008: 21.3%
2000: 17.8%	

^{*}Data from the National Federation of State High School Associations. (www.nfhs.org/content.aspx?id=3282& linkidentifier=id&itemid=3282)

[†]Data from a study by Vivian Acosta and Linda Carpenter, "Women in Intercollegiate Sport—A Longitudinal Study—Thirty-one Year Update 1977–2008" © 2008 Carpenter/Acosta.

school and college females have achieved greater equity in sport. In 1992, the Supreme Court ruled in *Franklin v. Gwinnett County Public Schools* that monetary damages were available under Title IX. The fact that victims could be compensated for inequitable treatment provided an incentive needed to force schools and colleges to eradicate discrimination. (See Chapter 9 for a timeline of the most important events related to the impact of Title IX on girls' and women's sports.) It should be emphasized that Title IX does not require equal funding in athletics for males and females. This federal law does, however, require equal opportunity and equitable treatment.

Title IX's provisions relative to athletics have not been uniformly implemented because of gender biases, limited budgets and facilities, lack of coaches, and resistance to change. Women have benefited, however, by receiving approximately one-third of colleges' athletic budgets for team travel, recruiting, coaches' salaries, medical treatment, publicity, and athletic grants-in-aid. Regarding grants-in-aid, it should be noted that the number of these awarded to football players leaves fewer for men's non-revenue-producing sports if equity for female athletes is achieved.

As these programs have expanded, however, control has shifted to men. Today a much smaller percentage of women coach girls and women than before Title IX, and few women administer athletic programs for females. Among the factors contributing to the increasing number of men coaching girls and women are too few women with expertise or interest in coaching, more equitable salaries for coaches of female teams than was the case prior to Title IX, unwillingness of many women to coach highly competitive teams, and hiring practices in which male athletic directors and school principals prefer to hire male coaches. When female and male athletic programs were combined, men were almost always named to the top positions either because of seniority or because of the belief that they were more qualified. Occasionally, though, a female is hired to administer an athletics program that competes at the highest collegiate level. Thus, a major issue confronting athletic programs is the need for more qualified female coaches and sport administrators who are given more opportunities to coach teams as well as direct athletic programs.

Over 35 years after its passage, Title IX remains highly controversial relative to athletics, even though in other educational settings, equal opportunity for both genders has largely been achieved. At issue, especially at the intercollegiate level, are two major questions. First, depending on who served as president of the United States, the Office of Civil Rights either has not been effective in enforcing this law or has enforced it in ways that have led to the elimination of men's teams. Second, many college administrators claim the federal government has failed to provide clear guidance about how to comply with Title IX and its policy interpretations or has been too prescriptive about proportionality of female students and athletes relative to males.

To help address these issues, the U.S. Secretary of Education in 2002 appointed a Commission on Opportunity in Athletics to examine ways to strengthen enforcement and expand opportunities to ensure fairness for all college athletes. Upon receiving a report from this commission, the Department of Education in 2003 issued a letter of clarification that addressed these two key issues. First, this letter



In 1960, Wilma Rudolph became the first American woman to win Olympic gold medals in the 100- and 200-meter sprints.

emphasized that nothing in Title IX requires the elimination or reduction of men's teams to demonstrate compliance. Second, this letter stressed that any one of the criteria of the three-prong test for compliance, as established in 1979 and clarified in 1996, could be used by educational institutions to show that they were providing equal opportunities to their male and female students to participate in athletics. These are the three alternative ways to demonstrate compliance:

- Participation opportunities are substantially proportionate to the fulltime undergraduate enrollment of males and females.
- When members of one sex have historically been underrepresented among intercollegiate athletes, there must have been a history and continuing practice of program expansion in response to developing interests and abilities of the underrepresented sex.
- In the absence of a continuing practice of program expansion, an institution must show that the interests and abilities of members of the underrepresented sex have been fully and effectively accommodated.

The problem that this commission and the subsequent letter of clarification attempted to address was that many athletic directors have for years chosen the "safe harbor" of proportionality (the first alternative) because they believed that the other two criteria were more difficult to measure or prove. In seeking to achieve this substantially proportionate number of female and male athletes relative to undergraduate enrollment, many institutions increased the number of their women's teams while also establishing quotas for the number of walk-on athletes permitted on their men's teams. That is, some male athletic directors refused to provide parity in intercollegiate athletics and instead manipulated participation numbers by gender. Numerous colleges still fail to meet this proportionality requirement. Considerable discontent clouds intercollegiate athletics regarding the elimination of men's teams and ways to comply with equitable competitive opportunities.

EQUALITY FOR ETHNIC MINORITIES, AND ESPECIALLY AFRICAN AMERICANS

Members of ethnic minority groups, especially African Americans, have found themselves sport outcasts throughout most of this nation's history. Prior to 1950, sports were rarely integrated, with a few notable exceptions such as Jack Johnson (boxing), Joe Louis (boxing), Paul Robeson (football), Satchel Paige (baseball), Jackie Robinson (baseball), and Jesse Owens (track). Following the Supreme Court's *Brown v. Board of Education* decision in 1954, school desegregation slowly began to open more school and college sport programs to historically under-represented groups.

Throughout the years, African Americans have experienced blatant discrimination in the form of quota systems (only a small number allowed on a team), position stacking (African Americans competed for only a limited number of positions because certain others were unavailable to them), social exclusion from clubs and parties, disparity in treatment by coaches, weak academic support, and little tutorial help. Sometimes these athletes, because of their cultural and educational backgrounds, were ill prepared for the academic demands of college; their athletic prowess had gotten them through a vocational or technical rather than college-preparatory, high school curriculum. Many failed to earn college degrees, thus eliminating themselves from possible coaching positions when their dreams of professional stardom failed to materialize or ended abruptly.

Some ethnic minorities oppose the NCAA's rule that to be eligible to compete at the Division I level, prospective student-athletes must graduate from high school having successfully completed the following 16 core courses:

- 4 years of English
- 3 years of mathematics (Algebra I or higher)



Carl Lewis, shown here receiving the baton (lane 5) in the gold medal—winning 4×100 meter relay in the 1984 Los Angeles Olympic Games, has been called by some the greatest track and field athlete ever.

- 2 years of natural or physical science (1 must be a lab science)
- 1 year of additional English, mathematics, or natural or physical science
- 2 years of social science
- 4 years of additional courses (from any of the above, foreign language, or nondoctrinal religion or philosophy)

In addition, prospective student-athletes must have a combined (reading and math) score on the Scholastic Assessment Test (SAT) or a sum score on the American College Test (ACT) based on a sliding index that ranges from a core course grade point average (GPA) of at least 3.55 with a 400 SAT or a 37 ACT score to a 2.00 GPA with a 1010 SAT or 86 ACT score. Some argue that the SAT and ACT are culturally biased against ethnic minorities, and, therefore, the test requirements prove that the predominantly white institutions want to limit the domination of ethnic minorities on some of their sport teams.

Whether discrimination against under-represented groups in sports is subtle or overt depends on the school or college, the team, and the leadership of both. Many interesting questions persist: Why are the starters on football and basketball teams predominantly African Americans when the student bodies are predominantly Caucasian? Why are members of tennis, swimming, golf, and gymnastics teams almost exclusively Caucasian? Why do fewer African Americans team members who are less highly skilled athletes receive athletic scholarships than comparably skilled Caucasians? What is the status of female athletes who are ethnic minorities? Why are almost all head coaches and athletic directors Caucasian, especially when a high percentage of football and basketball players are African American? (See Box 11.2 for information about participation of ethnic minorities in sport as well as how they fare in securing coaching and sport management positions.)

BOX 11.2 RACIAL AND GENDER REPORT CARDS

The Racial and Gender Report Cards are published by Richard Lapchick, who is the director of the Institute for Diversity and Ethics in Sport. These reports provide current and historic data on the hiring practices by race and sex in coaching and sport management in collegiate and professional sports. Grades are awarded in collegiate sports based on the race of head coaches, assistant coaches, athletic directors, and student-athletes overall and in basketball, football, and baseball. For example, in the 2008 Racial and Gender Report Card, college sports received a C+ for race and a B for gender. Grades are awarded to Major League Baseball, the National Basketball Association, and the National Football League based on the race of head coaches, assistant coaches, general managers and those in other top management positions, and athletes. Data are provided for these and other categories at the collegiate and professional levels. The latest report cards can be obtained at http://web.bus.ucf.edu/sportbusiness/?page=1445. Lapchick also serves as the chief executive officer of the National Consortium for Academics and Sports. This consortium of colleges and universities helps former student-athletes complete their college degrees while they serve their communities, including in the area of diversity.



When given the opportunity, formerly underrepresented groups often pursue a variety of sports.

Some claim that African American athletes are bigger, stronger, and generally more highly skilled than Caucasian athletes. Research does not substantiate these claims. However, it is a fact that some athletes' opportunities in elite and expensive sports have traditionally been limited, resulting in their devoting greater amounts of time and energy to the school-sponsored sports of football, basketball, baseball and track and field. These four sports also offer the remote possibility for professional careers.

High costs and lack of opportunities have traditionally prevented underrepresented groups from pursuing tennis, swimming, golf, and gymnastics. Private lessons, expensive equipment, club memberships, and travel requirements for quality competition discourage some individuals from entering these sports; the virtual absence of role models only reinforces the status quo. It should be noted that female athletes who are ethnic minorities must overcome both racial and gender barriers to receive equal opportunities in sports.

The blatantly discriminatory practices of the past against ethnic minorities in the United States are legally prohibited and largely socially unacceptable today. Yet, residual racism is ingrained culturally in the United States, including in sport, as biases and prejudices, even on the part of owners, coaches, and teammates, dissipate slowly. Nearly a half century after the passage of the Civil Rights Act, only a limited number of ethnic minorities are coaches and sport managers in colleges and professional leagues. The media's treatment of ethnic minorities perpetuates disparate treatment through how it praises them for their natural abilities when they achieve at outstanding levels, while claiming that Caucasians perform well because of their hard work. Sometimes comments in the print and electronic media, even though they may be subtle, elusive, and abstract, contain racial overtones and perpetuate stereotypes.

The historic domination of Caucasians has enabled them to use their power and prestige over under-represented groups. Caucasians enjoy the highest prestige in sports and remain the standard against which ethnic minorities are judged. Exclusive of the superstars, illustrations of this second-class status for most ethnic minorities in sport may include lower signing bonuses, salary discrimination, and fewer endorsement opportunities.

All athletes, regardless of ethnicity, race, gender, sport, or level of competition, deserve to be treated fairly and equitably. All athletes should be expected to complete their academic work in schools and colleges and to earn their degrees in preparation for later life. Because of past discrimination, individuals in underrepresented groups may deserve to receive counseling to help them derive the most from their educational opportunities and to learn marketable skills. Since prejudicial attitudes change gradually, everyone must work together to eliminate discrimination in athletics. Coaches must prohibit mistreatment of any athlete on their teams, and administrators must ensure equity for all.

EQUALITY FOR SENIOR CITIZENS

Senior citizens have had to overcome discriminatory biases to gain sporting opportunities. As the average age of the U.S. population increases, a greater awareness of the needs of seniors to exercise and to compete has emerged. People past 50 years of age are walking, cycling, hiking, swimming, lifting weights, and engaging in a large number of sporting activities with the encouragement



Senior citizens expect to have opportunities to engage in and benefit from lifelong physical activity.

of their physicians, who view such activities as good preventive medicine. This enthusiasm for exercise and activity has rekindled in many seniors a desire to compete. The National Senior Games and masters events in national, regional, state, and local competitions are providing opportunities for former athletes and newly aspiring older athletes to achieve in sports in unprecedented ways. For example, in the first National Senior Games, which began in 1987, approximately 2,500 men and women competed in sports ranging from archery to volleyball. Held biennially, the National Summer Senior Games now attract over 10,000 competitors in 18 sports. A listing of past competitions, the sports in which competitions are held, and affiliated state organizations can be found at www.nsga.com/DesktopDefault.aspx. Whether competing for recognition or personal satisfaction, these older Americans are beneficiaries of enhanced strength, flexibility, endurance, and balance, factors that directly improve the quality of their lives. Their activity also reduces the stress of lost spouses and friends and replaces loneliness with new friends and social opportunities.

Public and private recreational programs for older Americans are proliferating. For example, commercial health and fitness clubs offer water aerobics, exercise programs for individuals with arthritis, walking clubs, and other types of programs designed specifically for senior citizens. Many programs for seniors include cardio-respiratory, muscular strength and endurance, and flexibility components appropriate for individuals with histories of cardiac problems or chronic conditions requiring adaptations. Senior centers, either publicly funded or associated with residential areas, offer stretching sessions, a variety of recreational activities, aerobic machines, and physical therapy. Senior citizens are encouraged to continue their pursuit of lifelong physical activity through age group participation in tennis, golf, swimming, and other sports. Through their votes and discretionary incomes, they are demanding and receiving more equitable access to recreational and sporting facilities.

EQUALITY FOR INDIVIDUALS WITH SPECIAL NEEDS

In recent years, individuals with special needs have increasingly desired equal opportunity to participate and compete in sports. The Amateur Sports Act of 1978 specified that the competitive needs of athletes with special needs must be accommodated. The Education for All Handicapped Children Act of 1975 mandated that athletics be provided to school students with special needs, and the 1990 Americans with Disabilities Act called for access to public recreational facilities for those previously denied it. These factors and an eagerness and determination to treat everyone equitably have led to a proliferation of organizations and competitions.

The Paralympic Games, which began in 1952, offer international competitions for individuals with spinal cord injuries. These games, which are now held every four years at the site of the Olympic Games, expanded from 130 athletes from 2 nations to 3,951 athletes from 146 countries at the summer 2008 Paralympic Games in Beijng. (See www.paralympic.org/release/Main_Sections_Menu/index.html for more information about the history and activities of the International Paralympic Committee.) In 1976 the Paralympic Winter Games began,

and visually impaired athletes were welcomed to its competitions. Since 1980, individuals with amputations and those with cerebral palsy have become competitors; in 1996, intellectually challenged athletes began to compete in these games. The following list of sports attests to the abilities of these remarkable athletes: alpine skiing, archery, athletics (track and field) bocce, cycling, equestrian, football (soccer; 5-side and 7-side), goalball, ice sledge hockey, judo, crosscountry skiing, power lifting, rowing, sailing, shooting, swimming, table tennis, volleyball, (sitting) wheelchair basketball, wheelchair curling, wheelchair fencing, wheelchair rugby, and wheelchair tennis.

Since 1968, the Special Olympics has provided competitive opportunities for intellectually challenged individuals. Although experts initially questioned this program, the overwhelming success of personal training and state, national, and international competitions has verified the importance of giving individuals with intellectual challenges the chance to achieve and be recognized as winners. The 26 official Special Olympics sports for athletes 8 years and older include alpine skiing, aquatics, athletics (track and field), badminton, basketball, bocce, bowling, cricket, cross-country skiing, cycling, equestrian, figure skating, floor hockey, floorball, football (soccer), golf, artistic gymnastics, rhythmic gymnastics, judo, kayaking, netball, play activities, power lifting, roller skating, sailing, snow-boarding, snowshoeing, softball, speed skating, table tennis, team handball, tennis, unifed sports, and volleyball. Almost 7,500 athletes from 164 countries competed during the 2007 Special Olympics World Summer Games; at the 2009 Special Olympics World Winter Games more than 2,000 athletes from nearly 100 countries demonstrated their skills.

YOUTH SPORTS

Around 50 million children and adolescents (ages 4 to 18) participate annually in youth sport competitions sponsored by cities, companies, and local and national organizations. These youthful athletes ride derby cars, horses, and dirt bikes; throw baseballs, softballs, footballs, and basketballs; roll bowling balls; hit golf balls, tennis balls, racquetballs, and table tennis balls; kick soccer balls; participate in a variety of martial arts; turn flips; swim; dive; wrestle; run; and compete in triathlons and many more sporting events. This proliferation of youth sports has been fueled by television, money, civic pride, the desire to produce national champions, parental overzealousness, and professional sports models.

The major issues facing youth sport programs are specialization in one sport, which often results in overuse injuries, an overemphasis on winning, poorly trained coaches, parental pressures, and eroded ethical values. The rationale for early and continued specialization in one sport is that only focused training can lead to higher skill levels, enhanced chances of winning, and attainment of long-term goals such as Olympic medals, professional contracts, or collegiate grants-in-aid. When children aspire for what over 99% will never achieve, they miss the enjoyment of playing various sports and risk overuse problems, such as injuries.

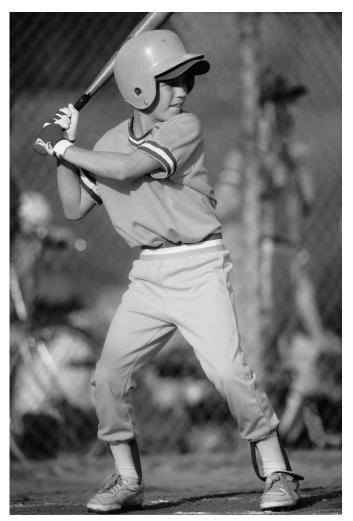


Soccer is a popular sport for children.

When winning becomes the primary objective, other potential outcomes are lost. Coaches are usually the ones initially caught up in this win-at-all-costs attitude. To fulfill their own ego needs, coaches too often pressure young athletes to play while injured, violate the rules to their advantage, and quit if they are not good enough. Also, coaches' lack of preparation may result in poorly taught skills, improper treatment of injuries, and an inability to understand and deal with children's developmental needs. Some coaches are even guilty of physically, mentally, and sexually abusing young athletes.

While usually well intentioned, parents often impose their wishes on their children to play a particular sport. This occurs despite most children's preferences to explore a variety of sports. Too often parental aspirations for their children's success in sports stem from their own needs rather than the children's needs. Children may experience considerable guilt because their parents invest huge amounts of time and money in lessons and competitions, which only pushes these young athletes to more desperately seek success. Parents too often reward results rather than effort and improvement. And when coaches and parents reinforce cheating to win, abusing officials and opponents, circumventing the rules, and stressing the outcome (winning) over the process (having fun and developing skills), important values are lost. In addition, adult-dominated sports rob children of the opportunity to make decisions, to learn give and take in organizing their own sports, and to make good judgments.

With such a long list of problems, why do youth sports continue to grow in popularity? First, American children have a genuine interest in and enthusiasm for sports. Second, the positive outcomes in most programs exceed the negative aspects. There are leagues, organizations, coaches, and parents who emphasize fun and participation and ensure positive physiological and psychological outcomes for children.



Youth sports can teach a love of competition that for many continues throughout life.

Through orientation programs, parents learn about program goals and how to help their children benefit most from their experiences. To help achieve these goals, program administrators need to emphasize the following:

- Making sure that children have fun is the most important goal
- Developing sport skills
- Educating coaches so they will teach skills, strategies, and rules in developmentally appropriate ways
- Playing every child in each game and in different positions
- Keeping the games and participants safe
- Matching young athletes' abilities and maturity levels

- Emphasizing playing several sports, not specializing in one sport
- Educating parents so they model proper behaviors
- Giving each child an equal opportunity to strive for success
- De-emphasizing winning
- Awarding certificates of participation, not trophies
- Eliminating individual awards and tournaments that reduce playing opportunities
- Avoiding all-star, traveling and select teams
- Teaching and modeling values like cooperation, discipline, fair play, respect, responsibility, sportsmanship, and teamwork

Learn more about how selected national organizations support youth sports and the development of values and positive outcomes through these programs in Box 11.3.

BOX 11.3 SELECTED ORGANIZATIONS THAT SUPPORT YOUTH SPORTS

National Association for Sport and Physical Education

(www.aahperd.org/naspe/)

- Publishes Quality Coaches, Quality Sports: National Standards for Athletic Coaches
- Cosponsors the National Council for Accreditation of Coaching Education, which supports
 qualified coaches for sport participants through programs that provide quality coaching
 education and conducts National Coaching Educators' Conferences
- Publishes position papers, such as on the "Rights and Responsibilities of Interscholastic Athletes," "A Coach's Guide to Parental Roles and Responsibilities in Sport," and "A Coach's Code of Conduct"
- Selects an Athletic Director of the Year to recognize school athletic directors who
 exemplify the highest standards of their profession and have made significant
 contributions to their schools and communities

National Alliance For Youth Sports

(www.navs.org)

- Goal—make sports and activities safe and positive, provide children positive instruction, build basic motor skills, and provide programs and services that add value to youth sports
- Offers the National Standards for Youth Sports as a guide for operating youth sport programs
- Provides recommendations for communities for conducting youth sport programs
- Provides information, guidelines, and a process for background screening of volunteers to reduce the risks of liability and potential threat of child abuse
- Its National Youth Sports Coaches Association offers sport-specific online clinics to help volunteer coaches learn to teach the fundamentals of sports and holds volunteer coaches to a strict code of conduct.

(continued)

BOX 11.3 SELECTED ORGANIZATIONS THAT SUPPORT YOUTH SPORTS (continued)

- Its Parents Association for Youth Sports educates parents and encourages them to show good sportsmanship, give positive reinforcement to youth, and keep youth sports in proper perspective.
- Its National Youth Sports Administrators Association provides training, information, and resources so volunteer administrators can set and maintain high standards for youth sport programs.

National Council of Youth Sports

(www.ncys.org/index.html)

- Goal—promote participation by all youth in fun and healthy physical activities according
 to their interests and abilities and promote organized youth sports that develop positive
 attributes, including healthier lifestyles, self-esteem, fair play, and good citizenship
- Provides guidelines for background screening of volunteers
- Its partnership with the National Center for Safety Initiatives helps youth sports
 organizations better protect children through due diligence and dealing with the
 challenges of ethical, legal, and financial issues.
- Its Certified Sports Administrator courses educate youth sport administrators, managers, volunteers, and coaches.
- Its STRIVE (Sports Teach Respect, Initiative, Values and Excellence) awards recognize sport
 administrators, coaches, and volunteers who demonstrate a heartfelt passion, an enthusiastic
 commitment, and a contagious spirit to help kids succeed in youth sports activities.

Amateur Athletic Union

(http://aausports.org/default.asp)

- Conducts the AAU Junior Olympic Games
- Helps promote the Presidential Champions program offered by President's Council
 on Physical Fitness and Sports, which focuses on the development of personal fitness
- Offers national, regional, and local competitions in nearly forty sports and activities

Examples of Coaching Certifications

- The American Coaching Academy (www.americancoachingacademy.com/) offers
 three levels of coaching certification for youth and interscholastic coaches. Based on
 the National Standards for Sport Coaches of the National Association for Sport and
 Physical Education, the content includes coaching philosophy and ethics, teaching and
 communication, safety and injury prevention, athlete growth and development, physical
 conditioning, skills and tactics, program administration, and program evaluation.
- The American Sport Education Program (ASEP) (www.asep.com/index.cfm) works
 directly with more than 40 state high school associations to deliver beginning and
 advanced coaching education programs leading to certification. ASEP partners with more
 than 400 sport organizations and educational institutions to offer its courses to thousands
 of volunteer coaches annually.

(continued)

BOX 11.3 SELECTED ORGANIZATIONS THAT SUPPORT YOUTH SPORTS (continued)

- The National High School Coaches Association (www.nhsca.com/) offers certification
 programs for coaches in baseball, basketball, cross-country, field hockey, football, golf,
 soccer, softball, swimming, tennis, track and field, volleyball, and wrestling. Each course
 includes administrative issues, sports science, sports law, fundamentals and techniques,
 first aid and safety, coaching ethics, and sport specific skills.
- The National Youth Sport Coaching Association (www.nays.org/Coaches/) offers its
 members the opportunity to become a Gold Level Certified Coach through an online
 course. Volunteer coaches learn information in philosophy and ethics, sports safety and
 injury prevention, physical preparation and conditioning, growth and development,
 teaching and communication, organization and administration, skills and tactics, and
 evaluation.

A controversial aspect of youth sports is whether strength training is beneficial or harmful. Assuming qualified adults supervise, instruct, and spot youth at all times, workouts begin with stretching, proper technique is taught and used, realistic goals are set, resistance (weight) is increased gradually, and strength training is a part of a balanced conditioning program, strength training for children and adolescents can be beneficial. For example, strength training benefits coordination and muscle fiber development by improving motor skills and sport performance, increases lean body mass, aids in the development of cardiorespiratory fitness, enhances self-image and self-esteem, and lowers the incidence of sports-related injuries. There is no scientific evidence that strength training by youth can retard growth.

Many states also have coaches' associations that either are specific to one sport or have coaches from all sports in their memberships. These groups usually sponsor statewide or regional workshops or clinics on specific coaching techniques or strategies, rule changes, values and ethics in school athletics, and sport psychology. Many volunteer coaches join the National Youth Sports Coaches Association.

Each year, millions of girls and boys ages 8 to 18 years compete in the largest amateur sports program in the United States, the Junior Olympics. The Junior Olympics are organized by the Amateur Athletic Union and recognized by the United States Olympic Committee. These amateur athletes compete in more than 3,000 local meets, state championships, regional events, and national finals. The benefits from being a part of the Junior Olympics include making friends, having opportunities to travel, gaining a sense of achievement, and enjoying the excitement of the competitions. Youth also compete in state games, such as the Empire State Games (New York) and the Keystone State Games (Pennsylvania), which provide a variety of sports opportunities for children of all ages. Most of the athletes in these state games have developed their skills through youth and school athletic programs.

INTERSCHOLASTIC SPORTS

The National Federation of State High School Associations promotes interscholastic sports as an integral part of the educational experiences of high school students (see the "Case for High School Activities" at www.nfhs.org/search .aspx?searchtext=case for high school activities). Most physical educators have traditionally favored and supported interscholastic sports because they believe adolescents are developmentally and emotionally able to compete. School administrators stress the beneficial outcomes of fitness, sportsmanship, cooperation, self-discipline, and character development for participants. From a broader perspective, interscholastic sports enhances school spirit and, in many locales, enlists strong community support for the school. The most popular sports for boys are football, basketball, outdoor track and field, baseball, soccer, wrestling, crosscountry, golf, tennis, and swimming and diving. The most popular sports for girls are basketball, outdoor track and field, volleyball, fast-pitch softball, soccer, crosscountry, tennis, swimming and diving, competitive spirit squads, and golf.

Today, though, many interscholastic sports coaches have not been properly prepared to coach. Several factors have contributed to this problem:

- Elimination of many physical education requirements and teaching positions
- The addition of more specialized requirements for prospective physical education teachers and a reduction of coaching-related courses in colleges
- Physical educators choosing not to combine teaching and coaching careers
- Physical educators ceasing to coach
- More school sports teams, especially for girls, requiring coaches
- Teachers of other school subjects seeking coaching positions even though they lack courses in physiology, psychology, and motor learning to help prepare them to coach

The National Federation of State High School Associations (founded in 1920) and the 50 state and associated high school athletic and activities associations work to protect the activity and athletic interests of high schools, promote the growth of educational interscholastic sports, and protect high school students from exploitation. It publishes *Interscholastic Athletic Administration*. The National High School Athletic Coaches Association (founded in 1965) and the National Federation Interscholastic Coaches Association (founded in 1981) combined have nearly 100,000 members.

The major problem in high school sports in the United States is an overemphasis on winning. Indicative of this compulsion are year-round conditioning programs and practices, students specializing in one sport, students playing while hurt, and coaches' jobs depending on winning. Advocates of year-round conditioning programs stress that they are needed to develop advanced skills, stay competitive with other teams' athletes, and increase chances for collegiate



Basketball is a popular high school sport for female athletes.

grants-in-aid. Arguments against single-sport specialization include athlete burnout and overuse injuries; lack of opportunities to acquire skills in other sports, play with other athletes, and learn from other coaches; and exploitation by coaches concerned only with their teams.

Another controversial issue facing interscholastic sport programs is the "no pass, no play" policy adopted by some states. Generally, this policy requires that student players obtain passing marks in all (or most) courses taken during the previous grading period. Supporters state that the purpose of schools is education. Thus, participation on a team, or in any other extracurricular activity, is a privilege earned by those who achieve in the classroom. Advocates also claim that this policy will motivate students to achieve academically on a consistent basis. Policymakers, school administrators, and most parents applaud the effectiveness of this policy because students' performances in their class work have improved overall. Opponents disagree, claiming that extracurricular activities, especially sports, encourage some young people to remain in school. Experience, though, has shown that although a few students may continue their education only because of the appeal of sports participation, many students seem to be taking their schoolwork more seriously because of "no pass, no play" policies.

The abuse of drugs is all too pervasive in schools. Most adolescents and children, including athletes, have easy access to tobacco, alcohol, marijuana, amphetamines, cocaine, and other legal and illegal drugs. Unless coaches educate their athletes about the harmful effects of these drugs on their bodies, and hence their performances, many interscholastic athletes will succumb to peer pressure and the desire to gain athletic advantages and use these drugs. Underage drinking,

cigarette smoking, and the use of smokeless tobacco are all too common among interscholastic athletes. Some of these athletes also use anabolic steroids, often resulting in immediate and irreparable physiological damage. Taken to attempt to increase muscle bulk and size for appearance and performance purposes, anabolic steroids interfere with normal growth and development, lead to overly aggressive and irrational behaviors, cause sterility, or even may kill the user.

School sport programs also face other problems such as spectator violence, unsportsmanlike conduct by coaches and athletes, cheating to maintain academic eligibility, and program budget cuts. Because of skyrocketing costs, due somewhat to injury and liability insurance and the provision of athletic programs for girls and individuals with special needs, many schools can no longer afford to provide competitive sports as a right. Many high schools are adopting a pay-for-play policy, which means educational allocations will no longer finance varsity sports teams; instead, any student who desires to participate on a team will have to pay for the experience. Although this policy excludes students who are unable to pay, this trend is becoming increasingly popular, especially in private schools.

INTERCOLLEGIATE ATHLETICS

In the realm of intercollegiate athletics, the regulatory bodies include the National Collegiate Athletic Association (NCAA; founded in 1906), the National Association of Intercollegiate Athletics (NAIA; founded in 1952), and the National Junior College Athletic Association (NJCAA; founded in 1938). The NCAA, with over 1,000 institutional members, promotes competition through 19 championships each for women and men. Athletes in the nearly 300 small colleges that hold membership in the NAIA compete in sports for men and 10 sports for woman. The NJCAA, representing over 400 institutions, conducts championships in 15 sports for men and 13 sports for women. (See Table 11-2 for participation data by gender and competitive level.)

Ever since the proliferation of intercollegiate athletic programs for men in the late 1800s, college faculties and administrators have been concerned about the potentially detrimental effects of athletics on academic work. Associated problems then and now include students missing classes because of competing and traveling, receiving unearned grades, and being admitted into colleges even though underqualified. The NCAA, NAIA, and NJCAA have attempted to administer intercollegiate athletics on the basis of educational principles, although regulations concerning these issues rest largely with each institution. The problem that each college faces is how to deal effectively with regulations when winning is almost synonymous with survival, especially at large institutions.

Winning teams appeal to spectators and increase interest. More fans bring in larger gate receipts. More money contributes to hiring coaches with winning reputations and to recruiting and awarding grants-in-aid to better athletes, who combine to win more games. This cycle (winning = fans = money = winning = fans = money) repeats itself with alarming regularity and tends to spiral into an

TABLE 11-2	
NUMBER OF MALE AND FEMALE ATHLETES BY GENDER AND DIVISIONAL LEVEL	

	Institutions	Males	Females	Total
National Collegiate Athletic Association IA	125	36,032	30,156	66,188
National Collegiate Athletic Association IAA	116	31,573	23,727	55,300
National Collegiate Athletic Association IAAA (without football)	96	14,893	15,455	30,348
National Collegiate Athletic Association II (with football)	151	35,534	20,202	55,736
National Collegiate Athletic Association II (without football)	135	15,742	14,195	29,937
National Collegiate Athletic Association III (with football)	231	67,568	40,673	108,241
National Collegiate Athletic Association III (without football)	188	22,858	21,956	44,814
National Association of Intercollegiate Athletics I	127	14,085	8,096	22,181
National Association of Intercollegiate Athletics II	144	18,751	12,460	31,211
National Association of Intercollegiate Athletics III	3	459	266	725
National Junior College Athletic Association I	224	14,911	9,224	24,135
National Junior College Athletic Association II	93	6,091	3,789	9,880
National Junior College Athletic Association III	99	7,547	3,959	11,506
	Institutions	Males	Females	Total
National Collegiate Athletic Association	1042	224,200	166,364	390,564
National Association of Intercollegiate Athletics	274	33,295	20,822	54,117
National Junior College Athletic Association	416	28,549	16,972	45,521

Compiled using the Equity in Athletics Data Analysis Cutting Tool based on institutional self-reported data for 2007 to the U.S. Office of Postsecondary Education.

ever-widening circle. The resultant commercialization changes intercollegiate athletics from an extension of the institution's educational mission to a business venture. When winning becomes the most important objective, rules are frequently violated, both during play and in the recruiting of athletes; sportsmanship, character development, and other values are often lost or at least de-emphasized in the process. (See the Research View The Game of Life for what one study of these issues found.)

Why do intercollegiate athletics continue to thrive? There are three major reasons. First, intercollegiate athletics reflect Americans' attitudes, beliefs, and values. Many people believe that colleges have the responsibility to offer competitive sport opportunities for students, and they defend the concept that sport participation helps prepare the athletes for life by developing physical, intellectual, social, and moral skills. Second, the benefits already mentioned exceed the liabilities. Many people think the problems just listed are sporadic rather than

RESEARCH VIEW

The Game of Life

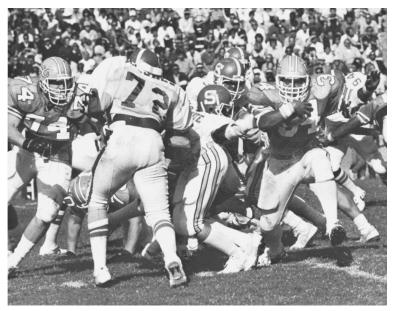
The authors of this book examined the precollegiate preparation and subsequent academic performance of athletes and other students in the 1951, 1976, and 1989 entering classes at 30 academically selective institutions. Their analysis of the data led to these and other conclusions:

- 1. Educational opportunities at the institutions studied have increasingly been rationed in favor of athletes; e.g., athletes make up a substantial portion of each entering class.
- **2.** There is a tendency for athletes, regardless of sport, competitive level, and gender, to underperform academically.
- **3.** Sport specialization has resulted in few multisport athletes as well as fewer competitive sport opportunities for nonrecruited athletes.
- 4. Athletes and athletics are less central to the campus culture.
- **5.** Escalating costs for athletic programs threaten other educational uses of limited financial resources.
- **6.** The commercialization of intercollegiate athletics remains largely unchecked.

As the results of this extensive research study indicate, intercollegiate athletics faces significant ethical, educational, societal, and financial issues. Examining the daily newspaper or listening to the evening news often reveals another scandal associated with a fired coach or an athlete arrested for some law-breaking behavior. When the graduation rate of African American players on a team is low or athletes submit assignments in their classes that are not their own work, education obviously has been devalued. It is hard to defend how coaches can be paid millions of dollars to change teams regardless of existing contracts, while athletes lose eligibility for transferring institutions in order to play. When layers of rhetoric are stripped away, the major controversy surrounding Title IX is not about equal opportunity for females versus sports teams for males; the challenge is how an institution can fund a comprehensive athletic program while enmeshed in a spiraling arms race.

Source: Shulman, J. L., & Bowen, W. G. (2001). The game of life: College sports and educational values. Princeton, NJ: Princeton University Press.

pervasive. They add that participants and spectators enjoy being entertained, while college spirit and allegiance are enhanced. Third, athletic teams are valuable public relations tools for institutions. College enrollments often increase as a result of successful athletic programs, especially in football and men's basketball. The provision of entertainment attracts large numbers of spectators to intercollegiate athletic contests, with an accompanying surge in college loyalty



Intercollegiate football teams have become multimillion-dollar businesses in many institutions, challenging the accuracy of the concept of the student-athlete.

that many claim positively affects legislative appropriations and private donations to academic departments, in addition to generous support for athletics.

Realistically, intercollegiate athletics, regardless of the extent of the challenges, will continue to thrive because of its entertainment value and benefits. To accentuate the positive and reduce the negative, the following actions are possible strategies:

- Sanction intercollegiate coaches and athletes who violate athletic regulations, especially in the areas of recruiting and scholarships, for the first offense; place violators on a two-year probation from coaching and competing for the second offense; ban violators from college coaching and from intercollegiate competition for life for the third offense.
- Withhold for a period of five years one grant-in-aid for every athlete who does not graduate within six years.
- Base coaches' job security and salaries not on their won-lost records but on the fulfillment of their job responsibilities and the provision of positive experiences for their athletes.
- Reduce schedules of all sports so that no more than one day of class per week is missed.
- Admit only those athletes who meet the academic standards of admission to the colleges they attend.
- Limit grants-in-aid to tuition, fees, and books, and award them only on the basis of need

If some or all of these suggestions are implemented, intercollegiate athletics may become a more positive, educational experience for athletes.

The abuse of drugs by college athletes (see Box 11.4) and the desire by the NCAA to curtail their use have led to drug testing at football bowl games and

BOX 11.4 NUTRITIONAL SUPPLEMENTS AND SPORT PERFORMANCE

A major controversy ranging through sport at all levels is whether all, none, or selected nutritional supplements and sport enhancement drugs should be banned. Extensive use by athletes of steroids, amphetamines, or other performance-enhancing drugs—which are easily available at health food stores, via the Web, or just across the Mexican border—has led sports fans to question the validity of records and the integrity of sports. The media have repeatedly publicized how athletes have used a variety of nutritional supplements, denied their use of supplements, or tested positive in the use of banned supplements. For example, controversies pervading Major League Baseball, including subpoenas of players and former players to appear before a congressional committee, resulted in more stringent drug policies and the subsequent suspensions of players who violated them.

The most popular nutritional supplements that are presumed to enhance sport performance are briefly described below.

Alleged Positive Effects on the Body	Proven Negative Effects on the Body
Increased muscle mass	Excessive amounts converted to fat
 Increased energy in short-duration, high-intensity activities Enhanced gains in muscle fiber volume Improved anaerobic performance Delayed muscle fatigue 	 Dehydration of the bloodstream Potential for renal disease with consumption of excessive amounts Long-term side effects and dangers are not fully known
Increased testosterone levels	 Impairment or shutdown of the body's production of testosterone with excess use Stunted growth in adolescents
 Increased muscle mass Enhanced athletic performance Improved physical appearance 	 Mood swings Elevated cholesterol Acne Rapid weight gain Depression Out-of-control aggression Liver damage Heart attacks and strokes (continued)
	Increased muscle mass Increased energy in short-duration, high-intensity activities Enhanced gains in muscle fiber volume Improved anaerobic performance Delayed muscle fatigue Increased testosterone levels Increased muscle mass Enhanced athletic performance

Nutritional Supplement	PERFORMANCE (continue	Proven Negative Effects
or Drug Anabolic steroids (banned by the NCAA)	on the Body	on the Body Men Impotence Development of breasts Reduced sperm count Shrinkage of testicles Difficulty or pain in urination Baldness Women Facial hair growth Breast reduction Menstrual cycle changes Deepened voice
Human growth hormone (banned by the NCAA)	Maintenance of normal growthRegulation of energy production and storage	Side effects that may lead to life-threatening health conditions
Erythropoietin (EPO) (banned by the NCAA)	 Increased oxygen absorption Reduced fatigue Improved endurance by increasing the rate of red blood cell production 	 Increased thickening of the blood (blood viscosity) Risk for coronary and cerebral artery blockages
Amphetamines (banned by the NCAA)	 Increased alertness and concentration Increased endurance Decreased appetite Increased weight loss 	Blood flow away from the skin, with increased risk of heat stroke Increase in heart rate, blood pressure, and risk for cerebral hemorrhage and seizures Kidney damage Headaches and dizziness
Ephedra (banned by the NCAA)	Short-term weight loss	 Complications include irritability, anxiety, insomnia, and headaches Linked with heart attack and stroke
Tetrahydrogestrinone	Increased muscle mass	May pose considerable risk to health

NCAA championships (see Box 11.5). Although only a few athletes have been barred from competition because of the use of banned drugs, many claim that institutional drug-testing programs have deterred many athletes from the use of performance-enhancing drugs. Still, many college athletes are guilty of perjury when they sign the pledge required by the NCAA stating they do not use

BOX 11.5 DRUG TESTING

Sport governing organizations at the school, college, and professional levels, in an affirmation of their commitment to fair and equitable competition, ban certain performance-enhancing drugs. To prevent athletes from gaining pharmacological advantages through drugs or deter them from the use of drugs that have been proven harmful, participants are required to submit to drug testing on a regular and/or random basis. The National Center for Drug Free Sport, Inc. (www.drugfreesport .com) is the official administrator of the NCAA drug-testing programs. (See http://www.ncaa.org/wps/wcm/connect/53e6f4804e0b8a129949f91ad6fc8b25/2009-10+Banned+Drug+Classes.pdf? MOD=AJPERES&CACHEID=53e6f4804e0b8a129949f91ad6fc8b25 for a list of the drugs banned by the NCAA. In NCAA member institutions, student-athletes are required, in order to be eligible for intercollegiate competitions, to sign a consent form indicating their understanding of the drugtesting program and willingness to participate in it. Member institutions must conduct a drug and alcohol education program once per semester to raise the awareness of student-athletes about the harmful effects of drug use and to inform them about institutional and NCAA drug policies.

For decades the International Olympic Committee has been concerned about the increasing abuse of drugs to enhance the potential for winning medals in the Olympics—despite the fact that doping contravenes the values and fundamental principles of the Olympics and medical ethics. Because doping threatens the health of the athlete and the integrity of Olympic sport and its ideals, extensive drug testing pervades the Olympic Games and, unfortunately, results in the disqualification of gold medalists and public exposure and sanctioning of guilty athletes. Among the prohibited drugs in the Olympics are stimulants, narcotics, anabolic agents, and diuretics. Blood doping and other forms of pharmacological and chemical manipulation are also forbidden.

In 2003 the International Olympic Committee and all Olympic sports joined with delegates representing governments, the International Paralympic Committee and its sports committees, athletes, and national anti-doping organizations in adopting the World Anti-Doping Code as the basis for the fight against doping in sport. The World Anti-Doping Code can be found at www.wada-ama.org/rtecontent/document/code_v3.pdf.

these substances. The drug education programs offered by colleges and universities have failed to eradicate this blemish on the reputation of intercollegiate athletics.

The use of anabolic steroids is especially dangerous. Besides providing unfair physical advantages, anabolic steroids can severely harm those who abuse them. These drugs may cause users to behave violently on and off the field. Their abuse is often linked with an obsession to earn a starting position, become a star player, or get drafted into a professional league. Amphetamine abuse may also occur under the guise of increasing one's aggressiveness and effort. Cocaine, marijuana, tobacco, and alcohol are more likely to be used socially or for relaxation. As with other college students, most athletes' drug of choice is alcohol, even though most are underage drinkers. Coaches therefore face the challenge of educating their athletes about the negative effects of drug abuse as well as about the rules and values violated through their use.

Academic abuses have plagued intercollegiate athletics throughout their existence. To address these, over the years the NCAA, NAIA, and NJCAA have established numerous requirements for high school academic performance as a

prerequisite for college eligibility and meeting an institution's academic requirements. Some athletes, often with the assistance of their coaches, have circumvented academic policies—for example, by taking easy courses to maintain eligibility, failing to make progress toward a degree, and not taking advantage of the educational opportunities provided by receiving grants-in-aid. To address these problems, the NCAA has established very specific expectations on student-athletes that are described in detail in the *NCAA Manual*. For example, the NCAA now requires

- Satisfactory progress—Athletes must make progress toward their degrees. After the first year of enrollment, each athlete must successfully have completed 24 hours and achieved 90% of grade point average (GPA) required for graduation. After the second year, each athlete must declare a major, have achieved 95% of GPA required for graduation, and have successfully completed 40% of the degree requirements. After the third year, each athlete must have achieved 100% of GPA required for graduation and have successfully completed 60% of the degree requirements. After the fourth year, each athlete must have completed 80% of the degree requirements and maintain the GPA required for graduation.
- Degree designation—Athletes must designate a program of study
 (major) that leads to a bachelor's degree no later than the beginning
 of the third year of enrollment and thereafter make satisfactory progress
 toward that degree.
- Five-year rule—Athletes can compete no more than four seasons in intercollegiate competition in any one sport, which must occur within five years of initial enrollment.

The latest NCAA academic reform package is designed to improve the academic success and graduation of student-athletes. The centerpiece of that is the Academic Progress Rate, or APR, which assesses a team's academic performance by awarding points each term to student-athletes on grants-in-aid who meet academic eligibility standards and remain enrolled at that institution. In holding each team accountable for the graduation of student-athletes, the calculated APR score must reach 925. With failure to achieve this score, which occurs when a student-athlete becomes academically ineligible, not only is that player lost to the team but the team also cannot re-award that grant-in-aid to another player for one year.

To preserve the integrity of intercollegiate sports, coaches and athletic administrators must also resolve issues of institutional control. Several institutions have failed to keep overeager supporters from giving money, cars, clothes, and other benefits to athletes. Although not illegal, these actions violate NCAA rules. In the intense recruiting battles for the most highly skilled athletes, many coaches convince admissions committees to lower entrance standards. Many institutions have been criticized for the low graduation rates of athletes, especially African Americans.

Some athletes' conduct also undermines the values thought to be associated with intercollegiate athletics. For example, actions such as taunting opponents and excessive celebrations run counter to the goals of fair play and respecting one's opponents. Coaches' physical and emotional abuse of players is another example



Intercollegiate sports have the potential to help athletes develop their physical, mental, and social skills as long as these positive outcomes are taught and reinforced.

of destructive behavior. In addition, misdemeanors and felonies, such as driving under the influence of alcohol, using illegal drugs, and sexual assaults and rape, have negatively affected the image of athletes as well as institutions. Some athletic foundations willingly pay off the contracts of coaches with whom they have become disillusioned for not winning enough games and then provide millions of dollars to entice a coach with a winning record to leave another institution. Such actions always raise the question of who is in control of athletics. These examples describe situations at only a few of the nationally prominent universities that may have failed to maintain institutional control over their commercialized athletic programs.

INTERNATIONAL SPORTS

Elite athletes around the world have numerous opportunities to compete in championship events annually, as well as in special events such as the Pan-American Games, the Asian Games, the British Empire and Commonwealth Games, and the World University Games. These events, open to athletes from the countries implicit in the games' titles, are conducted every four years except for the World University Games, which are held every two years. All of these are important competitions, but the most prestigious internationally are the Olympic Games. Since 1896 (and 1924 for the Winter Games) athletes from around the world have competed every four years (except during World Wars I and II) under the direction of the International Olympic Committee (IOC). Since 1994, the Winter Games have been held in even-numbered years alternating with the Summer Games.



WEB CONNECTIONS

www.ed.gov/pubs/TitlelX/index.html

The Department of Education provides a 25-year description of the progress in equal opportunity in educational programs achieved as a result of Title IX of the 1972 Education Amendments.

2. www.womenssportsfoundation.org/

The Women's Sports Foundation, an advocacy organization, promotes the participation of girls and women in sports and physical activity.

- 3. http://web.bus.ucf.edu/sportbusiness/?page=1445 The Institute for Diversity and Ethics in Sport publishes annual studies on hiring practices in coaching and sport management, student-athlete graduation rates, and racial attitudes in collegiate and professional sports, including the Racial and Gender Report Card.
- www.nationalseniorgames.org/
 The National Senior Games Association promotes healthier lifestyles for individuals 50 years and older through education, fitness, and sports competitions.
- 5. www.paralympic.org/release/Main_Sections_Menu/index.html
 The International Paralympic Committee conducts the International
 Paralympic Games, which are elite sport competitions for athletes with
 disabilities.
- 6. www.specialolympics.org/

The Special Olympics is an international program of year-round sports training and athletic competition serving more than 200 million people with intellectual disabilities. Check out this site for a wealth of information about the history, philosophy, and programs of Special Olympics.

7. www.ncys.org

The National Council of Youth Sports seeks to enhance the experiences of youth participating in sports through educational programs for coaches, parents, and administrators.

8. http://www.nfhs.org/

The National Federation of State High School Associations serves the state athletic associations that provide playing rules for and oversee 16 sports for over 11 million boys and girls.

9. www.knightcommission.org/

The Knight Commission on Intercollegiate Athletics has examined problems facing college sports and published reports with recommendations for reform. This site provides copies of all of its reports.



Competitive opportunities in international sport include cycling.

The Olympic Games have faced numerous threats to their ideals, with politics being the chief challenge. From the inception of the Games through the attempt by the Nazis to prove Aryan supremacy in 1936 to boycotts in 1976, 1980, and 1984, countries have attempted to use the Olympics to advance their political agendas and influence public opinion. The worst political situation occurred during the 1972 Munich Olympic Games when Arab terrorists killed or kidnapped 11 Israelis; all of these athletes, coaches, and officials lost their lives. The banning of some countries and the nonrecognition of others prove that the Olympic Games remain political. Athletes competing as representatives of their nations, the playing of national anthems during the awards ceremonies, national medal counts, team sports, and national uniforms consistently reinforce nationalism. Governments, financially and ideologically, continue to increase their involvement because international prestige and promotion of their political ideologies are at stake. Judging irregularities often result from political alliances, while increased use of drugs verifies the importance placed on winning.

Commercialism has grown exponentially. For example, the 1968 Mexico City Games cost \$250 million to stage, while the 2008 Beijing Olympic Games cost over \$40 billion. CBS paid \$660,000 to broadcast the 1960 Rome Olympic Games; NBC paid \$3.5 billion in rights fees to televise five Olympics through Beijing. One blatant example of the commercialism tainting the Olympics has been the bribes associated with site selection and privileged treatment of IOC members, most noteworthy the bidding scandal revealed about the 2002 Salt Lake City Winter Olympic Games. The athletes are not



Jesse Owens, a Big Ten champion from The Ohio State University, won four gold medals in the 1936 Berlin Olympic Games.

immune to commercialism either. Although the Olympic Games were begun for amateur athletes competing for the love of sport, today most athletes are professionals, with each sport's governing federation specifying what competitors are allowed to accept monetarily. Many athletes receive money from their countries based on how many medals and what types (gold, silver, or bronze) they win.

In spite of these problems, the Olympic Games thrive and continue to increase in popularity. The development of friendships and the attainment of personal athletic goals are two of the many positive outcomes. Most disdain the boycotts, political maneuvering, unfair judging, and drug abuse, since these incidents detract from the integrity of the Olympic Games. Commercialization of the overall staging and of the athletes themselves is a modern reality of the expense of hosting the Games and training costs of athletes, not a reason to end the competitions. Many people advocate either reducing the number of events and entries or lengthening the Games and increasing the number of sites and sports.

As other nations emphasized Olympic sport success in the decades after World War II, the United States found its traditional dominance lessening, often because of other nations' subsidization of elite athletes. To address this, a restructuring of amateur sports in the United States occurred. Following the passage of the Amateur Sports Act of 1978, the United States Olympic Committee (USOC) established the United States Olympic Training Center in Colorado Springs, Colorado. It offered to National Governing Bodies for each Olympic sport its resources and facilities as training sites for athletes. The USOC has received some federal funding but largely relies on corporate sponsorships and private donations to support its work. Increasingly, athletes in the lesser-known sports are receiving funding from the USOC to continue training year-round.

SUMMARY

Sports opportunities for girls and women, ethnic minorities, senior citizens, and individuals with special needs, often limited in the past, are today more equitable, although some barriers exist that only time and an increased commitment to equity will remove. Youth sports too often overemphasize winning, as do some high school sports. Yet most parents support their children's participation in sports because the positive outcomes outweigh the risks. Balancing educational values with business concerns remains the dilemma facing intercollegiate athletics today. Abuses abound, yet the public continues to expect colleges to offer athletic programs as entertainment. Similarly, the Olympic ideals, whether real or imagined, seem to ensure people's support of the Olympic Games as politics, nationalism, and commercialization provide insufficient reasons to cancel the spectacle. The pervasiveness of sports (see Box 11.6) in the United States means that people believe sports contribute far more to society than they detract from it. It is the responsibility of those who work in any of these sports arenas to ensure that the potential values to be learned and reinforced through participation in sports are realized by all.

BOX 11.6 SPORTS TIMELINE

Girls and Women in Sports

1971—Association for Intercollegiate Athletics for Women established (ceased to exist in 1982) 1972—Congress passed the Education Amendments that included Title IX

Equality for Minorities

- 1946—Kenny Washington and Woody Strode (Los Angeles Rams) became the first African Americans in the modern era to play in the National Football League; Bill Willis and Marion Motley (Cleveland Browns) played in the All-American Football Conference
- 1947—Jackie Robinson (Brooklyn Dodgers) became the first African American in the modern era to play Major League Baseball
- 1950—Chuck Cooper (Boston Celtics) was the first African American to be drafted by a National Basketball Association (NBA) team; Nat Clifton (New York Knicks) was the first African American to sign a contract with an NBA team; Earl Lloyd (Rochester Royals) was the first African American to play in an NBA game
- 1954—United States Supreme Court passed *Brown v. Board of Education,* which led to school desegregation with subsequently more equality of opportunity for African American students and loss of positions for African American coaches

Equality for Senior Citizens

1987—National Senior Games began

(continued)

BOX 11.6 SPORTS TIMELINE (continued)

Equality for Individuals with Disabilities

- 1952—Paralympic Games began to offer competitions for individuals with spinal cord injuries
- 1968—Special Olympics began to offer competitions for individuals with intellectual disabilities
- 1978—Amateur Sports Act passed by U.S. Congress mandated meeting the competitive needs of disabled athletes

Youth Sports

- 1930—Pop Warner football began
- 1939—Little League Baseball established
- 1964—American Youth Soccer Organization established
- 1967—Amateur Athletic Union's Junior Olympics began

Interscholastic Athletics

1922—National Federation of State High School Associations formed

Intercollegiate Athletics

- 1852—First intercollegiate sports competition for men held (rowing contest between Harvard and Yale)
- 1896—First intercollegiate sports competition for women held (basketball game between Stanford and University of California)
- 1906—National Collegiate Athletic Association established (began women's competitions in 1981)
- 1938—National Junior College Athletic Association formed (began women's competitions in 1976)
- 1952—National Association of Intercollegiate Athletics formed (began women's competitions in 1980)

International Sports

- 1896—Modern Olympic Games began
- 1924—Winter Olympic Games began
- 1978—Amateur Sports Act passed by U.S. Congress that restructured international sport in this country

CAREER PERSPECTIVE



MICHAEL DELONG

Head Football Coach

Springfield College

Springfield, Massachusetts

EDUCATION

B.S., physical education, Springfield College M.A., physical education, University of North Carolina at Chapel Hill

JOB RESPONSIBILITIES AND HOURS

The responsibilities of college and university coaches vary tremendously, depending on the emphasis placed on the institution's program and the sport. Mike organizes and administers an NCAA Division III football program, including directing a staff of two full-time assistant coaches and 12 graduate assistants, recruiting student athletes, planning games and practices, working directly with admissions, raising funds, developing community support, and carrying out on- and off-field coaching duties. Of these responsibilities, recruiting may be the most time consuming and challenging. He also teaches four semester hours in-season and six to eight semester hours out-of-season, and advises physical education majors—a typical work load at a smaller institution. As with most coaches, Mike's weekly hours, which vary from 85 in-season to 70 off-season to 30 during the summer, are demanding. Salaries are based on each coach's experience and won—lost record, the institution and its reputation, and the sport. At the NCAA Division III level, the salary range is \$40,000 to \$80,000 for head coaches and \$20,000 to \$40,000 for assistant coaches.

SPECIALIZED COURSE WORK, DEGREES, AND WORK EXPERIENCES NEEDED FOR THIS CAREER

Although college or university coaching does not require a master's degree, teaching at smaller institutions may require attaining this degree. Physical education is the most common major for coaches at both the undergraduate and graduate levels, although many coaches have degrees in other disciplines. Opportunities to become head coaches usually follow years of coaching high school teams, serving as effective graduate assistants or full-time assistant coaches, or completing successful college or professional playing careers. Volunteering to coach a youth, school, or club team may provide an entry into this career. Mike recommends that prospective coaches emphasize exercise physiology, oral and written communication skills, problem-solving techniques, organizational skills, motivational strategies, and theory and technique courses. He encourages prospective coaches, as well as those already in positions, to visit successful programs and to learn from others.

SATISFYING ASPECTS

People may choose this career because they love a particular sport, want to continue associating with it, enjoy teaching its skills and strategies, like to help athletes develop their talents to their optimal levels, or any combination of these and other reasons. Mike

especially enjoys player-coach relationships, coach-to-coach interactions, and the feeling of accomplishment as the team improves. Coaching can be tremendously satisfying, not only in terms of wins and losses but also in watching teams and players grow and mature. For Mike, helping individuals reach their goals is the most rewarding part of coaching.

JOB POTENTIAL

Mike states that to be secure in a college or university coaching position, winning is essential. If you perform within the rules, he says, you will be secure; if you do not perform within the rules, you can expect to be relieved of your duties. Promotion is also based on performance. Coaches who are proven workers have a good chance for advancement in the profession. Politics also plays a role, so it helps to know people. Since getting your foot in the door is difficult and highly competitive, a major part of the initial hiring process is knowing someone who can help you secure a full-time position. Once you have proven your abilities and made connections with people, things generally go a little easier. The job market is extremely competitive, especially for the best jobs. Patience and perseverance are two characteristics essential for success.

SUGGESTIONS FOR STUDENTS

Mike states that coaching is a wonderful career because of the fun and excitement. Coaches are surrounded by great people who like to work and play hard. The rewards of developing players and a team to perform to their fullest potential are tremendous. Mike advises that prior to becoming a coach, be sure you are ready to make a full commitment, because the players you will coach deserve your best effort. Your family also must be aware of the sacrifices they will have to make to the time demands of this career. He adds that you need to be flexible and ready to overcome obstacles and setbacks; there are both extreme highs and extreme lows with which you must cope. The rewards of coaching are directly proportional to the effort you put into the team. If you give your best, coaching is well worth the effort in the long run.

KEY POINTS FOR CHAPTER 11

Threats to the integrity of sports

These include academic problems, cheating, pressures to win, violence, the arms race, and excessive commercialization.

Girls and women in sports

Title IX of the 1972 Education Amendments requires equal opportunity in athletes in financial aid, program areas such as facilities and coaches, and meeting the interests and needs of both genders.

Ethnic minorities, especially African Americans, in sports Historically, with some persisting discrimination today, minorities have been excluded from sports teams, subjected to quota systems and stacking, experienced academic and economic exploitation, been denied coaching and management opportunities, and been deceived by the myth of upward mobility through sports.

Equality for senior citizens

While in the past older individuals have not been encouraged to participate in sport or other physical activities, because they now are living longer, have economic resources, and are interested in quality of life issues, they are more active.

Equality for individuals with special needs

Federal laws like the Individuals with Disabilities Education Act, Amateur Sports Act, and Americans with Disabilities Act require that individuals with special needs have opportunities to participate in sports as well as have their needs accommodated as spectators.

Youth sports

To eliminate problems like an overemphasis on winning, burnout, and dropout, youth sports should be focused on every child having fun and learning sports skills in developmentally appropriate ways.

Interscholastic sports

Issues in high school sports, such as too much emphasis on winning, year-round conditioning programs, specializing in one sport, playing while hurt, and demonstrating unsportsmanlike conduct, should be replaced by learning sport skills and values like teamwork and sportsmanship.

Intercollegiate athletics

Academic abuses, recruiting violations, cheating and other unethical behavior, drug use and abuse, gambling, and sports as commercialized businesses threaten the integrity of college sports.

Nutritional supplements and sport performance

The use of nutritional supplements remains controversial within sport since some athletes will take or use any drug that potentially can help them win, while governing organizations have implemented different approaches in dealing with this issue.

International sports

The Olympic Games as well as other elite-level international sport competitions are often plagued with drug abuse, cheating, politics, and commercialization because of the financial benefits that may accrue for those who win.

REVIEW QUESTIONS

- 1. What have been the positive and negative effects of Title IX on sports opportunities for females?
- **2.** What are examples of discriminatory practices affecting African Americans in sports?
- **3.** What are three common problems facing youth sports programs, and how would you recommend solving them?
- 4. What are three issues associated with interscholastic sports, and how would you recommend dealing with each?

- 5. What do "no pass, no play" and "pay-for-play" policies mean in relation to interscholastic sports?
- **6.** What are three major problems facing intercollegiate athletics today, and how would you recommend resolving them?
- 7. How has the use of drugs by athletes led to policies governing the use of performance-enhancing drugs by athletes?

STUDENT ACTIVITIES

- 1. Interview students about their attitudes toward girls and women in sport. Ask them what financial support women should receive, which sports should be available to them, who should coach them, as well as other, related questions. What changes have they observed in society's acceptance or non-acceptance of girls and women in sport?
- 2. Interview two ethnic minority athletes on your campus. Ask them whether they have experienced any discrimination during their sport careers and, if so, have them describe it. Have they seen or experienced any changes in how they are treated today as opposed to how they were treated when they first began playing sports at the college level?
- 3. Interview senior citizens who have participated in Senior Games or masters sporting events or who are active sport participants. What are their reasons for competing and for being active? Has their involvement been lifelong, or is it a recent lifestyle change?
- 4. Based on your attendance at a youth sport event, what were the perceived goals of that program? What should they have been? Was winning emphasized too much? If so, what indicated that winning was overemphasized?
- 5. Is the intercollegiate athletic program at your institution a business or a component of education? Can it be both? If so, how?
- **6.** List several possible changes that could improve the Olympic Games. Which of these are realistic alternatives?

SUGGESTED READINGS

- Anderson, P., & Osborne, B. (2008). A historical review of Title IX litigation. *Journal of Legal Aspects of Sport, 18*(1), 127. The authors analyze the history of Title IX of the Education Amendments of 1972 that mandates protection from discrimination for both genders in educational programs. They argue that interested parties still do not understand how to follow the regulations to enforce the mandates of Title IX.
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12

LEADERSHIP FOR ACTIVE LIVING

KEY CONCEPTS

- Leadership characteristics, theories, styles, and actions are important to understand as individuals prepare for serving as leaders in their careers.
- Several trends will affect professionals in physical education, the exercise and sport sciences, sports, and physical activity.
- Numerous names and identities have been and continue to be associated with physical education, exercise science, and sports.
- The consequences of inactivity provide evidence of the importance of promoting and engaging in physical activity throughout life.
- Science and athletics through genetics, talent detection, technological advantages in clothing and equipment, and medicine and pharmacology are intertwined in the pursuit of winning.

INTRODUCTORY SCENARIO

At 7' 7" and 305 pounds, Jimmy broke every national high school scoring and rebounding record during the 2049–2050 season. A basketball phenomenon, he touched off a recruiting frenzy that quickly exceeded sports fans' wildest imaginations. To get Jimmy, everyone had to go through James Sr., who had genetically engineered his son and then relentlessly conditioned, fed, and trained him physically and mentally using the latest technologies and drugs. James Sr. announced to the world that Jimmy's talents could be obtained, but only for a huge price.

State University offered Jimmy a new car, a condo of his choice, a \$100,000-per-year salary, and to rename the basketball arena in his father's honor if Jimmy helped the semipro Golden Knights win the NCAA Championship.

The New York Kings, the leading professional basketball franchise, tried to entice Jimmy to leap to its league from high school. They implored James Sr. to allow Jimmy to sign a \$50 million-per-year, 20-year, guaranteed contract. As an incentive, the Kings added a \$75 million bonus for each season Jimmy won the league's Most Valuable Player award.

The NRA conglomerate (formerly Nike, Reebok, and Adidas) promised to introduce the Jamming Jimmy autograph shoe within one month if Jimmy signed its \$1 million-per-week endorsement agreement. If he signed, Jamming Jimmy clothing and sports equipment would be marketed within two months.

International Sports Marketing (ISM), however, succeeded in getting James Sr. to grant it monopolistic control over Jimmy's career. Jimmy would play for State University for one year before joining the Kings. He would sign with NRA immediately and wear his autograph shoe at the university, but defer the \$1 million per week and other endorsements until he joined the Kings. All of the promised payouts were guaranteed; plus, ISM would negotiate for Jimmy an additional \$100 million per year in endorsements managed by ISM.

LEADERSHIP IN PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

Leadership is the behavioral process of influencing the behaviors of others in the accomplishment of shared goals. Leadership involves the creation of a vision that empowers others to translate this vision into reality. Empowerment occurs when the leader enhances each individual's feeling of self-worth, unleashes this person's potential, and inspires each individual to accomplish extraordinary results.

Leadership Characteristics

Leadership is vitally important to the operational success of businesses, educational institutions, public agencies, and group endeavors of all kinds. Although numerous characteristics have been identified as important for leaders, these six often have been identified as essential for success:

- Leaders have integrity
- Leaders are effective communicators
- Leaders build and nurture strong relationships with people
- Leaders are visionary and creative
- Leaders establish, maintain, and model high standards of performance
- Leaders are intelligent and competent

Each of these characteristics will be briefly described.

Integrity is the quality of a person's character that fulfills one's moral obligation to self and others. Integrity is essential for leaders because without it, people will not believe in the veracity of what is said or done. A leader's integrity is characterized by honesty, sincerity, and candor. Leaders with integrity tell the truth, even when this may be negatively perceived by others or when being less than truthful would be easier or more convenient. Leaders are guided by values that preclude acting based on personal self-interest or winning by harming others in the process. Successful businesses and endeavors are led by individuals who base their decisions on honesty, respect for others, and responsibility in all situations, regardless of the pressures they may encounter. Leaders display



Leaders use a variety of styles and display leadership characteristics in office, laboratory, and activity settings.

their character by demonstrating the courage and conviction to live consistently with their values. Leaders make good organizations or companies great by being guided by values as they establish clear performance objectives congruent with these values.

A leader who is an effective communicator shows respect for others, which includes being a good listener and respectful respondent. Leaders are inspiring when they engage others through their words and actions. A leader understands that goals are more likely to be achieved when there is knowledge about these goals, an understanding of their appropriateness, and a commitment to helping to achieve these goals. A leader articulates how individuals will be involved or impacted by the planned action and inspires them through clear communications so they can grasp why and how to proceed. Good communicators are consistently dependable, decisive, tactful, enthusiastic, knowledgeable, and courageous.

Leaders place a strong emphasis on personal relationships and the quality of their connections with people. Leaders are able to attract and retain good people because they emphasize interpersonal relationships. Leaders realize that in order to mobilize others toward the accomplishment of shared goals, they need to tap into the internal motivations of a diversity of individuals, each of whom is unique. A leader establishes and nurtures a culture (the values, beliefs, traditions, and norms integral to an organization) and climate (perceptions and interactions within an organization) that help each person meet personal needs, pursue interests, and achieve aspirations. The working environment facilitated by the leader ensures flexibility so all individuals affected can maximize their potential. A few of the keys to nurturing relationships with people include understanding how others see things, consulting with and listening to others' opinions, being trustworthy, and dealing compassionately with others. When leaders are focused on

valuing people, they tap into their energies, unlock their potential, and increase the potential for extraordinary results. Through the synergistic teamwork of committed people, amazing things can happen.

Leaders are visionaries as they provide clarity and consistency of mission, purpose, and goals. Once leaders have set the direction and desired outcome, they relentlessly facilitate the progress made toward the goals. They are able to look broadly and futuristically to determine threats, trends, and opportunities for expanding, refining, or redirecting the work of an organization, educational institution, agency, or program. Leaders are inspiring and optimistic as they view the future from the perspective of possibilities yet to be realized. Leaders are creative as they explore options, innovations, and arenas into which others have not yet moved. Rather than feeling limited by the past, leaders frequently ask how a new market, program, or activity can be pursued. They are risk takers in exploring new opportunities because they envision an unlimited and boundless future. Inevitably, leaders are optimists and inspire others to expand their reach.

A leader establishes, maintains, and models high standards of performance. Leaders set the parameters for the level of performance expected of each person and clearly indicate that compromises, shortcuts, or inferior performances will not be accepted. Through modeling high standards, leaders guide others to greater levels of achievement. High standards, when articulated clearly, become realistic stretch goals for intrinsically motivated employees who have committed themselves to achieving them. Leaders incrementally praise and reward those who rise to the challenge and meet, and sometimes even exceed, high standards of performance.

Leaders are perceived to be competent because of the positions they hold, but this is not sufficient. Leaders demonstrate their competence on a regular basis as they interact with others. Through their actions, decisions, and interactions with internal and external stakeholders, they show their knowledge, intelligence, and abilities. Leaders commit to lifelong learning both formally and informally. They are unafraid to admit not knowing, while at the same time dedicate themselves to gaining new knowledge and insights. One illustration of this commitment to learning and lifelong development is through reading. Intelligent leaders realize what is not known, so they are humble about their level of educational attainment and intellectual abilities. Another sign of competence is the ability to ask intelligent questions that can stimulate the thinking of others while verifying the leader's competence. The next section will provide illustrations of each of these leadership characteristics.

Examples of the Application of Leadership Characteristics to Physical Education, Exercise Science, and Sport

Leaders have Integrity

Athletic directors show leadership by requiring coaches to consistently
follow the letter and spirit of the rules of their sports as well as the
policies and procedures of the institution and intercollegiate athletics
governing organization.

- Athletic trainers show leadership by ensuring that injured athletes are
 only allowed to return to competition with medical clearance or when
 there is no risk of harm to the athlete.
- Biomechanists show leadership by explaining, fully informing, and documenting through a signed consent form that all participants in the planned research study understand fully the expectations and risks involved.

Leaders are Effective Communicators

- Physical education teachers show leadership by explaining how to execute a new movement or sport skill in ways that students can understand fully, practice correctly, and learn properly.
- Personal trainers show leadership by explaining and implementing up-to-date, accurate, and appropriate programs and coaching to clients to help them achieve their goals.
- Youth sport coaches show leadership by conducting a parent orientation session so parents understand that their role is to support and provide positive reinforcement for their children.

Leaders Build and Nurture Strong Relationships with People

- Coaches show leadership by ensuring that each player understands his or her role and how each person's contributions can help the team succeed.
- Physical therapists show leadership by gaining the trust of clients by showing empathy for their apprehensions about moving, concerns about discomfort or pain, and struggles with the slow progress to full recovery.
- Exercise specialists in fitness clubs show leadership by providing
 positive learning, fitness, and socially interactive classes so participants
 are more likely to persist and develop an affinity for these classes and
 co-participants.

Leaders are Visionary and Creative

- Recreational program directors show leadership by envisioning how to expand programs and services for individuals of all ages through partnerships and collaborations despite limited resources.
- Department heads show leadership by transforming a traditional academic unit into a vibrant, energized faculty committed to teaching, research, and service.
- Cardiac rehabilitation specialists show leadership by investigating several alternative and innovative programs to determine the most effective approach to prescribing appropriate exercises for each client.

Leaders Establish, Maintain, and Model High Standards of Performance

- Exercise physiologists show leadership by ensuring the careful and accurate collection of data and reporting of research findings.
- Physical education teachers show leadership by designing their curricula based on state and national standards and helping all students meet these standards.
- Athletic administrators show leadership by setting high expectations for customer service and helping each staff member achieve the desired results.

Leaders are Intelligent and Competent

- Physical education teachers show leadership by ensuring that they are knowledgeable and up-to-date about the movement, fitness, and sport skills that they help each student learn.
- Sport administrators and exercise scientists show leadership
 by collaboratively and tirelessly working to eliminate the use
 of performance-enhancing drugs in sports at all levels because they
 know the harmful physical effects and that these drugs violate the
 letter and spirit of the rules.
- Athletics directors in schools and colleges show leadership by ensuring that male and female students have equal opportunities in sport because this is the law and the morally right thing to do.

Leadership Theories

In order to understand leadership more fully, it is helpful to examine some of the historic and current theories about leadership. The great man theory suggests that leaders display remarkable abilities or attributes because they are genetically predisposed to become leaders. That is, by accident of birth, these individuals are bestowed with the capacity to become leaders. This theory often is used to explain how the descendents of royal families are destined to lead. The great trait theory offers that leaders inherently possess one distinguishing characteristic that thrusts them into positions of leadership. Charisma most often characterizes these leaders, although this trait also might be military prowess, a vision for the future, or the ability to communicate effectively. John Kennedy is praised as a charismatic leader. The behavioral theory of leadership assumes that leadership capability is learned, so anyone can become a leader. Rather than having an inborn trait or characteristic, leaders are defined by what they do and how they act. George Washington, as leader of the Revolutionary War armies and first president, serves as an example of this theory.

The situational theory of leadership describes how leaders emerge in specific circumstances. Some leaders come into their leadership roles because the situation calls for their unique abilities. For example, Winston Churchill is praised as an outstanding prime minister of England because he rallied the emotions and

actions of his countrymen during World War II. But he was not reelected in the post-war years, since the circumstances called for a different set of abilities. The transactional or management theory of leadership suggests that directive leaders take action based on organizational goals, structures, and systems. Transactional leaders are results oriented and tie rewards directly to performance. For example, Jack Welch, the long-time chief executive officer of General Electric, demanded that his company become number one or number two in each product category; he punished those who failed to measure up while rewarding those who succeeded. The transformational or relationship theory of leadership is characterized by visionary leaders who set new high goals and create commitment through shared values. These leaders are strategic in that they envision, innovate, build, motivate, and energize organizations, but they are also sensitive to the importance of building relationships with people. Steven Jobs, who created and built Apple, became one of the nation's top businessmen as a transformational leader.

Leadership Styles

In order to be successful, leaders utilize a variety of styles in how they interact with people and seek to achieve their goals depending on the circumstances of each situation. That is, the most effective leaders are flexible and able to vary their leadership styles as needed. The authoritative style of leadership focuses on mobilizing people toward a vision. The leader using this approach is self confident in setting a new direction and serving as a catalyst for change. The participative or democratic style of leadership is used when leaders involve others in the decision-making process of deciding what to do and how to do it. While consensus is sought, the leader retains final authority in making the decision. This leader gets input from as many stakeholders as possible in order to gain their buy-in and active participation. This leadership style may work best when there is a need for everyone to feel a personal ownership for subsequent actions and a collegial atmosphere is needed. The coaching style of leadership develops people and helps them achieve their potential. Like a coach of a sport team wants to build a cohesive unit, the leader as coach wants those involved to develop their long-term abilities and strengths. Leaders as coaches facilitate learning, productivity, and morale; align individual performance with the team's objectives; and help individuals take ownership and responsibility for their actions.

The delegating or laissez-faire style of leadership assumes that colleagues are capable of getting tasks accomplished on their own. Leaders use this style when their highly motivated and competent team members have the abilities to control their own actions within established parameters. The pacesetting style of leadership can be effective when leaders expect excellence and high standards of performance, as long as these high expectations are not excessive and unending. The coercive or autocratic style of leadership is used when immediate compliance is necessary. In a crisis situation, for example, a leader may rightfully demand the execution of directives as the only appropriate course of action.

Another style of leadership is servant leadership, which is built on the belief that leaders are devoted to serving the needs of organizational members by listening and building a sense of community. Abraham Lincoln personified this style of leadership before it was even identified. Servant leaders act on behalf of others, take their responsibilities seriously, treat everyone as equals, and serve an elevating purpose or mission. Servant leaders are patient, kind, humble, respectful, selfless, forgiving, honest, and committed. They dedicate themselves to sacrificing for and serving others above all else. Servant leaders behave in ethical ways based on values, enhance the personal growth of people, and facilitate teamwork for greater success.

When to use each style of leadership depends on what each specific situation requires. It also is determined by each leader's identification and authenticity with the style chosen. Leaders understand the circumstances and the people, in order to utilize a style that matches the situation and goals.

Leadership and Emotional Intelligence

In addition to intelligence, successful leaders have a high quotient of emotional intelligence, which is the ability to effectively manage themselves and their relationships with others. Personal management includes being able to identify and manage individual strengths, such as honesty, intuition, trustworthiness, and resiliency. It includes being self-aware through understanding personal emotions and capabilities, and having a sound sense of self-worth. It includes controlling disruptive emotions, adapting to changing situations, showing the initiative to improve performance, seizing opportunities, and demonstrating optimism.

In addition to personal management, emotional intelligence includes being socially aware and managing relationships. Socially aware leaders show empathy by sensing the emotions of others, understanding their perspectives, and showing interest in their concerns. Leaders are aware of internal and external politics as they recognize and meet the needs of followers, clients, and customers. When managing relationships, leaders guide and motivate through a compelling vision; utilize an influential range of persuasive tactics; bolster the abilities of others through feedback and guidance; resolve disagreements and conflict; build, cultivate, and maintain a web of relationships; and nurture teamwork, cooperation, and collaboration. Emotional intelligence depends on personal and social competence as successful leaders gain mastery over themselves and work effectively with and through others.

What Good Leaders Do

Leadership may be more about what leaders do than their characteristics, styles, or others' labeling them according to some theoretical construct. One way of understanding leadership is to focus on the results they achieve through two dimensions of leadership, namely relationships with people and tasks, and getting the job done. These dimensions can be further divided into quadrants based on the amount of support for relationships or direction in

accomplishing tasks that is needed. When leaders perceive that followers are unable to get the job done and unwilling to act, they structure expectations to ensure getting results with less concern for building relationships. Whenever leaders realize that followers are willing to work but lack the knowledge or ability to do the job, they show a high regard for relationships by coaching their followers as they get the job completed. When supportive relationships matter the most and followers are able but not yet willing, leaders encourage them until the job gets done. Whenever followers are willing and able, little support or direction is required and leaders are free to delegate. In each of these four scenarios, the specific action taken by the leader associated with supporting relationships or directing tasks determines whether or not success is achieved.

Here are few additional examples of what leaders do. They model strong human relations and interpersonal skills while facilitating collaboration among a diversity of people. They demonstrate organizational skills and knowledge. They make timely, informed, and effective decisions. They develop a culture of mutual trust and respect. They learn through the harsh realities of career experiences that leadership is an art, not a science.

Most importantly, though, leaders demonstrate their character and competence on a daily basis for all to observe and follow. Character is at the heart of leadership as values and principled actions shape and give meaning to their lives and to those they influence. Character is a true moral compass for leaders who serve as role models living according to timeless values, trust the bond of leadership, display humility, exhibit a caring concern for others, show an attitude of service, demonstrate a fierce resolve to something larger than themselves, and foster an environment of civility. Competence is central to leadership, too. Competence is built upon knowledge, skills, and abilities, which are continuously enhanced through lifelong learning. Competence is enhanced over time through varied experiences, gaining new knowledge, and thoughtful reflection. Competent leaders help others maximize their talents. In combination, character and competence comprise the most important leadership traits and are what great leaders show and live each day.

POSSIBLE CHANGES IN PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORTS

In addition to the importance of leadership and its role, prospects for careers, opportunities to make a difference, and a few challenges await professionals in physical education, the exercise and sport sciences, and various sport-related endeavors. Certainly no one can accurately forecast what the future may hold, but we can draw on the past and look at emerging trends. Several possibilities—in physical education, the exercise and sport sciences, sports, and physical activity for life—exist for young professionals considering careers in these fields to be aware of and consider.

Physical Education

- Physical education teachers will be held more accountable for demonstrating that their students are learning.
- In an effort to combat childhood obesity, schools will increasingly meet the national standard of 150 minutes per week of elementary school physical education and 225 minutes per week of middle and secondary school physical education.
- The curriculum in school physical education programs will use technologies such as heart rate monitors, exer-games, and non-traditional activities and sports to more actively engage students and enhance their learning.

Exercise and Sport Sciences

- The rapidly expanding knowledge associated with the exercise and sport sciences will require everyone working in athletic training, exercise physiology, motor development, motor learning, sport biomechanics, sport history, sport management, sport philosophy, sport sociology, and sport and exercise psychology to continuously learn in order to keep abreast with relevant and appropriate information.
- Interdisciplinary research will characterize the work of many exercise
 and sport scientists, because the problems and issues investigated can
 be more effectively solved and funding is more readily available
 through collaborations that require shared expertise.
- Exercise and sport scientists will be required to enhance their abilities
 to deliver instruction using a variety of methodologies including online
 course and media-enriched lessons in classrooms.



Exercise and sport scientists help elite athletes enhance their performance.

Sports

- Technological advances and pharmacological products will be used by athletes of all ages to enhance their skills and performances.
- Sports as entertainment will grow in popularity at all competitive levels with winning and associated commercialization emphasized even more.
- Sports will continue to be used to teach values to some athletes, while other athletes and coaches will cheat to gain competitive advantages.

Physical Activity for Life

- Quality of life issues, as people live longer, will gain greater importance as individuals realize and seek to gain the health benefits of regularly engaging in physical activity.
- Professionals in fitness-relative careers will be challenged to help those they serve begin and maintain physical activity as an integral part of their lives.



Just as the pole vaulter focuses on the goal ahead, professionals in physical education, exercise science, and sport focus on helping others achieve their goals.



WEB CONNECTIONS

- www.ccl.org/leadership/index.aspx
 This site for the Center for Creative Leadership, a leading non-profit institution dedicated exclusively to leadership, provides information about research, innovative training, coaching, and assessment to prepare leaders for their careers.
- 2. http://www.leadershipdevelopment.com/index.php
 One of many sites with information about leadership development,
 go to this site for access to *Leader Guide Magazine* and other helpful
 resources.
- www.americanheart.org/presenter.jhtml?identifier=1200000
 This site of the American Heart Association offers extensive information about healthy lifestyles and other resources relative to living a healthy lifestyle.
- 4. www.seniorfitness.net/ The American Senior Fitness Association provides professional resources, comprehensive training and certification, and support for fitness specialists who serve older adults.
- 5. www.free.ed.gov/subjects.cfm?subject_id=134&res_feature_request=1 Check out the free educational technology materials available from this site of the Federal Resources for Educational Excellence.
- http://www.ncppa.org/landmarkreports.asp
 The National Coalition for Promoting Physical Activity is a collaborative effort of public and private organizations working to inspire and empower all Americans to lead more physically active lifestyles.

CHANGING IDENTITY—FROM PHYSICAL EDUCATION TO EXERCISE SCIENCE AND SPORT STUDIES

When school and college programs involving the development of motor skills were initially developed in the late 1800s and early 1900s, they were called gymnastics or physical training. Gradually the descriptive term for these programs was changed to physical education as an affirmation that this educational field could uniquely contribute to the psychomotor development of students. The term physical education continues to describe school and college programs that focus on participation in fitness, sports, and other physical activities. State requirements determine the number and length of physical education classes attended by school-children where



Children are our future. They need to enjoy movement and learn to value it during their early years.

they learn fundamental movement skills, develop a variety of sport skills, and learn lifetime fitness practices. College elective and required programs in physical education continue to offer young adults the opportunities to learn new skills, increase abilities in preferred sport skills, and maintain personal fitness.

The term most often used by nonschool agencies, such as public recreational programs or private sports clubs, has never been physical education. Within the past few years, many of these and similar programs have identified themselves using terms such as fitness, physical activity, and wellness. Since they were not associated with educational institutions, the term physical education never appropriately explained their emphases on fun and healthy lifestyles.

Following the emergence of the specialty areas such as exercise physiology, sport psychology, motor learning, and sport sociology in the 1970s, many in higher education began to question whether the term physical education accurately encompassed the tremendous expansion in knowledge in these new fields. These professors did not want to be saddled with what was perceived as an outdated and constricting name, especially one that was alleged to be nonacademic. Years of discussions and national surveys yielded dozens of proposed name changes, but no consensus for a new name for the field emerged. Several advocated for kinesiology; others preferred human movement or human performance as more inclusive of the various specialties. On college and university campuses, departmental names continue to vary widely as each seeks to find an identity that describes the scope of what its faculty does and studies.

Most professionals in the fields associated with physical activity will agree that their professional history is built on physical education. But they prefer to identify themselves as exercise physiologists, motor development specialists, biomechanists, fitness specialists, or athletic trainers. Like many university departments, this book has used the term exercise science to encompass these and related fields. Individuals in sport history, sport sociology, sport management, and sport philosophy may believe that sport studies more accurately describes what they do.

Thus, sport has been included throughout this book as a single vital component in the broad definition of this field. Less important than the preferred name is the commitment to contribute to the knowledge base associated with physical activity and to encourage all people to make physical activity a part of their lives.

PHYSICAL ACTIVITY TRENDS AND THE CONSEQUENCES OF INACTIVITY

One of the goals of *Healthy People 2010* is to improve quality of life through daily participation in physical activity. Despite promotional efforts for physical activity nationwide, trend data indicate that the proportion of adults who do not engage in physical activity remains over 50%. Yet overwhelming evidence shows that health risks, such as coronary heart disease, increase dramatically in the absence of at least moderate physical activity on a regular basis.

As a result, alarming data show that over the past 20 years there has been a dramatic increase in obesity in the United States. The Centers for Disease Control and Prevention at http://www.cdc.gov/nccdphp/dnpa/obesity/trend/maps/provide an animated map that shows the prevalence of obesity between 1985 and 2007. Sadly, only one state, Colorado, has a prevalence of obesity of less than 20% among individuals of all ages. Thirty states have a prevalence of 25% or greater, while three states (Alabama, Mississippi, and Tennessee) have a prevalence of obesity of 30% or greater.

The causal factors for obesity are directly related to the lack of physical activity. Children and adults provide increasing evidence that the energy balance equation is significantly out of balance. Today's fast-paced society is characterized by high-calorie, super-sized fast food or consumption of pre-prepared food, an overdependence on energy-saving devices, such as remote controls and pushbuttons, and technological advancements like videos, computer games, and television that consume much of people's leisure time. More often than not, individuals of all ages choose to be entertained passively rather than to get actively engaged themselves. It should come as no surprise, therefore, when extra pounds accumulate when the expenditure of energy is minimal.

Health problems such as diabetes often result. According to the National Diabetes Information Clearinghouse, 7.8% of people of all ages in the United States in 2007 had diabetes. For people 20 years or older, this number increases to 10.7%, with males higher at 11.2%. Complications from diabetes include heart disease, stroke, high blood pressure, blindness, kidney disease, nervous system disease, amputations, dental disease, and complication of pregnancy.

PROMOTING PHYSICAL ACTIVITY

Coronary artery disease accounts for approximately 35 percent of deaths in the United States with physical inactivity one of the major risk factors. The American Heart Association (AHA) is a leading advocate for each person engaging in regular, and preferably, daily, physical activity for a minimum of 30 minutes. Since physical

activity can prevent coronary artery disease and help manage associated risk factors like elevated triglyceride levels, hypertension, and obesity, the promotional activities such as those suggested at the URLs listed below should be supported. For example, health care professionals, exercise scientists, sport managers, and others should model active living, ensure that schools teach psychomotor and sport skills so young people will engage in physically active lifestyles, and encourage communities to develop exercise and sport programs for all ages and ability levels. The AHA is a leader in providing informational and promotional resources, such as the following:

- Exercise and Fitness (www.americanheart.org/presenter.jhtml? identifier=1200013)
- Physical Activity in Your Daily Life (www.americanheart.org/ presenter.jhtml?identifier=2155)
- Choose to Move, a self-paced, 12-week program for women (www.choosetomove.org/)

Accountability for program content and results is essential and continues to grow in importance. Without quality and benefits accruing to those served, no program merits continuation. If children, club members, athletes, senior citizens, or corporate



Karate is a demanding, yet enjoyable, recreational and competitive activity.

employees are not being taught the skills and knowledge they seek through activity or sport programs, elimination of the activity, or at least replacement of the teacher or leader, is warranted. Individuals hired to teach programs owe it to their participants to ensure learning. Abdication of this responsibility should lead to others being hired to do these jobs. For example, accountability in school physical education necessitates that every student achieve content standards established by the National Association for Sport and Physical Education (see www.aahperd.org/naspe/template.cfm?template=publication-nationalstandards.html).

Linked closely with accountability is the importance of public relations. Traditionally, the perspective taken by individuals in school programs has been a willingness to serve but not a desire to publicize or market programs. Today this attitude is no longer acceptable. Teachers and program leaders, regardless of setting, must publicize the benefits to those who participate in sport and physical activity. To enlist involvement and financial support, programs must be attractive and successful in meeting perceived needs. An additional outcome of this concerted effort to tell others what physical education and sport can do for them is that it brings together, rather than drives apart, all physical activity programs. Here are some examples of ways to promote physical activity and sport:

- Get your governor or mayor to proclaim May as Physical Fitness and Sports Month in your state or city.
- Conduct special events such as a family fitness night, a community fun run, or mall exhibitions of physical education during Physical Fitness and Sports Month.
- Celebrate National Employee Health and Fitness Day in May.
- Initiate daily fitness programs in schools and businesses to encourage everyone to participate in 10 minutes of stretching and 30 minutes of aerobic activities.
- Develop public service announcements for local radio and television stations that promote physical activity and include fitness tips.
- Write and publish a newsletter or local newspaper articles about popular physical activities, sports, and fitness.
- Involve a local service organization and the community in developing a fitness trail.
- Ask the school and city libraries to display books about physical activity, sports, and fitness.
- Involve senior citizens with school-age children in intergenerational walks or other recreational activities.
- Plan special events in schools, businesses, and public agencies to celebrate Heart Month (February), National Nutrition Month (March), and Family Health Month (October).
- Celebrate National Girls and Women in Sports Day in February.
- Initiate a sports attire day each month to encourage everyone to dress for and participate in physical activity.

Hopefully, these and other promotional initiatives will help people accept responsibility for incorporating physical activity in their lives. The next section describes how important this will be in an increasingly technological world.

PHYSICAL ACTIVITY THROUGHOUT LIFE

Many people in the middle and upper classes, some of whom are responding to health concerns or to manage their weight better, are choosing to become more active physically. Because of social needs and feelings of self-worth, people of all ages are motivated to join exercise and sports programs. Jogging, participating at fitness clubs, attending fitness camps, and playing golf are examples of the choices being made.

The sports and fitness movement, recognized now as a part of the American way of life rather than a fad, is initiating dramatic changes in physical activity programs. Consumer demand is readily evident for healthy lifestyles that seek to improve the quality of life through physical activity. Physical educators, exercise scientists, and sport professionals must share their knowledge about physiology, nutrition, psychology, and fitness and skill development. You may conduct



Physical activity begins early and spans our lifetimes.

programs at a work site as well as in public facilities and private clubs. While helping the corporate executive, you must not neglect lower-income individuals, whose levels of productivity and lifestyles can also be enhanced.

The group whose needs probably will become paramount in the twenty-first century includes individuals 65 years of age and older. Between 1982 and 2050, the percentage of people in this age category will almost double (to over one-fifth of the population). As Americans live longer, they will need lifetime recreational activities, not only to prevent disease and degeneration but also as a way to enjoy happier, healthier lives.

Advances in medicine and technology not only help people live longer but have greatly changed lives in other ways. Cures for some diseases, advances in heart surgery to prevent coronaries, and electronically stimulated movement of paralyzed limbs are but a few medical breakthroughs that lengthen and invigorate life. Fewer and fewer household and mundane tasks demand time and energy as machines provide freedom from routine jobs. Technological advances directly influence leisure-time pursuits as well. Better-designed running shoes, exercise machines equipped to monitor fitness levels, biomechanical analyses of tennis strokes or other sport skills, and individualized training paradigms already exist. Undoubtedly advances in sporting equipment, clothing, and facilities will continue to enhance performance as well as pleasure.



Technology offers all individuals the opportunity to be physically active and compete if they choose to do so.

Personal digital assistants (PDAs), cell phones, and instant messaging are only the beginning of technological advances of the twenty-first century. With a service economy based on and mandating communication skills and technology as the norm, people are increasingly turning to sport, fitness, and leisure activities during nonwork hours for rest, stress reduction, and entertainment.

Computer technology already permits exercise scientists to assess fitness levels, design and prescribe exercise programs to meet individualized needs, and monitor the attainment of personal fitness goals. Using database management computer software, corporate fitness leaders can determine the impact of each exercise program offered by using attendance numbers and recording fitness parameters. Sport managers can use computers to generate ticket sales and target marketing campaigns. Computer graphics, desktop publishing, financial forecasts for athletic programs and clubs, students' fitness report cards for parents, biomechanical analyses of athletes' skill performances, and computer-based play calling are a few examples of technological advances affecting programs. (See the Research View Combining Technology and Health Care for an exciting development in telemedicine and children's health care.)

RESEARCH VIEW

Combining Technology and Health Care

TeleKidcare is a telemedicine project that helps parents obtain health care for their children in Unified School District (USD) 500 in Kansas City, Kansas, which has a student population of approximately 75 percent ethnic minorities and a similar number on free and reduced lunches. The University of Kansas Medical Center (KUMC) widened the work of its Center for TeleMedicine & TeleHealth (CTT) in 1997 to address the barriers encountered by urban families and schoolchildren when attempting to access health care by "bringing a doctor to the school."

School nurses in USD 500 had expressed concern about an emergent alarming trend among schoolchildren who were not receiving care for routine acute conditions, such as strep throat or an ear infection, a skin irritation, or a respiratory ailment. As a result, these children missed several days of school when necessary intervention did not occur in a timely fashion, if at all, due to barriers such as language, inadequate transportation or economic resources, lack of familiarity with the medical community, and citizenship status. When medical treatment was sought, it was often found in the emergency rooms of area hospitals, with their higher costs and adverse impact on scarce medical resources.

TeleKidcare consists of interactive television (ITV) systems placed in a school's health office and in the KUMC Pediatric Clinic that allow the school nurse and the child to see, hear, and interact with the physician. In addition, this state-of-the-art telemedicine technology, equipped with a digital otoscope and an

(continued)

electronic stethoscope, allows physicians to diagnose and treat a wide range of ailments, including acute conditions such as ear and strep infections, as well as chronic conditions, such as attention deficit hyperactivity disorder and asthma.

In addition to the nearly 1,900 health care consultations (consults) in USD 500 via ITV over five years, TeleKidcare has been instrumental in enhancing the role of the school nurse. No longer simply saddled with various clerical duties, school nurses are enjoying a renewed appreciation from administrators and faculty members alike for their medical assessment skills and ability to inform and educate schoolchildren, parents, and school personnel regarding health and wellness concerns.

Parental survey results indicated that 98 percent of parents were "satisfied" or "very satisfied" with services offered through TeleKidcare, which provides a safe, nonthreatening environment to facilitate the movement of underserved families into an established health care delivery system at school. By utilizing strategies developed by TeleKidcare, parents can satisfy their children's health care needs without jeopardizing their income, salary, or employment status. By bringing together school nurses, physicians, and parents at the school, this health delivery mechanism provides for a continuum of care unobtainable through traditional school health delivery systems. You can learn more about this innovative program at www2.kumc.edu/telemedicine/2008Programs/TKC.htm.

SCIENCE AND ATHLETICS

What is the likelihood of becoming an Olympic, professional, intercollegiate, or interscholastic athlete? There are over 306 million people in the United States, with over 7 million high school athletes, less than 500,000 college athletes, approximately 10,000 professional athletes, and less than 800 Olympic athletes. So the answer is that most people will not play sports beyond their early years. Even though the odds are stacked against each person, many still pursue this elusive dream.

Most elite athletes have genetic advantages, because a person cannot buy what nature did not supply. One strong indicator of future athletic success is who your parents are. The message to unborn children who may aspire to stardom and wealth as professional athletes is "choose your parents carefully."

Genetics

Approximately half of the individuals choosing to use a sperm bank, cryobank, choose athletes as donors because of the potential for inheriting their physical abilities. The process used at a cryobank is to obtain sperm that are active (motile), while slacker sperm are eliminated. This leads to charging around \$350 per vial, each with at least 10 million vibrant sperm. One or two vials of sperm are used for each insemination, and it takes six to eight vials for impregnation. Since it takes about 100 million sperm to result in one baby, each child born defies the odds.

The unique genetic make-up of the human genome is comprised of 100,000 genes that instruct the body through a chemical code known as deoxyribonucleic acid, or DNA. While humans share 99.8% of their DNA, the other .2% of these genetic building blocks makes a huge difference athletically. One gene, ACTN3, produces a protein that contributes to the ability to generate forceful, repetitive muscular contraction. Genetic Technologies of Melbourne, Australia, offers an ACTN3 Sports Gene Test that identifies whether a person is naturally predisposed toward sprint or power events or has endurance sporting ability. Since the results show the types of sports or events in which a person is most likely to succeed, these results can be used by coaches and athletes to tailor training programs to help athletes realize their potential.

Genetics set biological limits. Physical characteristics are largely determined by genetics, such as height, bone structure, the percentage of slow-twitch (endurance) and fast-twitch (power) muscle fiber, body type, ability to pull weights, and vertical jumping ability. Elite athletes are at the extreme end of the curve on physical characteristics. For example, basketball suffers from not having enough tall people, since only 3% of the grown men in the United States are taller than 6'3". The average height of players in the National Basketball Association is 6'7".

Since Michael Phelps's parents were not outstanding athletes, how did he accomplish the remarkable feat of winning eight gold medals and setting seven world records in the 2008 Beijing Olympic Games? The best answer could be, "he won the genetics lottery." Michael Phelps is tall (6'4"), has an extra-long torso and arms (6'7" wingspan), and flexible feet that act almost like flippers. In addition to having an ideal body type, he has swimming talent that enables him to use his body in an optimal aerodynamic way; plus he demonstrated the mental discipline to engage in rigorous physical conditioning. Also, Phelps did not just appear "out of nowhere." He competed in his first Olympic Games at age 15 (having started swimming at age 7). Four years later in the 2004 Athens Olympic Games, he won five gold medals, with record-setting performances and two bronze medals.

How about Dara Torres, who swam in her fifth Olympic Games at age 41? Torres, who won three silver medals and came within one one-hundredth of a second of winning the gold medal in the 50-meter freestyle in the 2008 Beijing Olympic Games, set her first American record in this same event 26 years earlier at age 15. Did she discover the fountain of youth? It is more likely that her secret is associated with a lifelong dedication to fitness, rigorous training, discipline, and ultra-competitiveness. Then there is tennis star Andy Roddick, who has recorded the fastest serve ever at 155 miles per hour. He benefits from the unique ability to arch his back and rotate his right arm 44% farther than the average professional player. As has often been suggested, you cannot get out (i.e., athletic performances) what was not put in (i.e., genetic or athletic potential).

Talent Detection

Since some individuals seem to have been blessed with potential, how can this be tapped into or realized? In the pyramid approach to talent detection, the millions who are signed up for youth sports comprise the base, with those who

perform well moving up and continuing in sports, while the others are eliminated. This is the model used in the United States.

One approach to talent detection occurs when many parents want to know the sports in which their children are more likely to have advantages. They pay for the Sports Matching and Readiness Tool (SMART), which is a series of physical and cognitive assessments for boys and girls ages 8 to 12. The SMART results for each child's skills and abilities allow for matches of skills with sports and may be used to guide decisions for sport participation and training.

Such identification inevitably leads to specialization in one sport. By age four and sometimes even younger, many children in the United States begin playing one sport as they embark on their athletic journey toward superstardom. Parents often sign up young athletes for private lessons or coaching, send them to specialized sport camps, and help them qualify for state, regional, and national championships. Some parents willingly provide technologically advanced equipment, private coaching, and year-round practices and competitions because they are hopeful that their investments and sacrifices will give their children the needed advantage to become the perfect athlete. Early maturing youths are initially the most successful in sports, but most youths who peak athletically at early ages drop out when surpassed by later maturing and more physically talented athletes. When children and adolescents begin to compete against more talented opponents, they are forced to reassess their skills and goals. This pyramid structure narrows with fewer and fewer athletes skillful enough to play interscholastic sports and intercollegiate athletics, with only a percentage or two of these playing professionally in their chosen sports.

In the measurement of specific traits or abilities approach to talent detection, a large number of children are screened in order to identify those with favorable attributes. With the goal of developing the highest number of elite athletes using this approach, the chosen individuals are provided advanced training opportunities dedicated to the development of their skills. This approach has been used in East Germany, the Soviet Union, China, and other nations.

The Australian Institute of Sport (AIS) is an international leader in elite athlete development. Through its talent identification program based on the physical measurements of children, such as vertical jump or 40-meter sprint, AIS matches athletes with the right sports and coaches so that nature can take its course. Given the narrow window of opportunity for athletes, the idea is for athletes to specialize in the sports in which they have the greatest potential for success.

Technological Advantages of Athletic Clothing and Equipment

A controversial ethical issue in the 2008 Beijing Olympic Games revolved around the swimming suits worn by some athletes. Similar concerns had been expressed in the past when athletes from wealthier nations and corporate-sponsored athletes had access to athletic clothing and shoes that gave them a better chance of success than athletes without this equipment. Speedo's LZR Pulse swimsuit, made of ultra lightweight, water-repellent material, boasts that it reduces muscle oscillation and skin vibration leading to low skin friction drag. Speedo claims



Advancements in athletic shoes, clothing, and equipment will help athletes perform at higher levels in the future.

that the LZR Pulse swimsuit shapes the swimmer's body, forcing muscles and skin into a bullet-shape aerodynamic structure that reduces the drag, to allow the swimmer to move faster while expending less energy.

Nike's Swift System of Dress was worn by the U.S. track and field team in the 2008 Beijing Olympic Games. Nike's one-piece, body-fitting track suit is lighter and more breathable, reduces aerodynamic drag across a larger number of surfaces of the body, promotes cooling, minimizes friction, and virtually eliminates seams for a snugger fit and reduced chafing. Nike's uniform provided socks, gloves, and arm coverings to cut wind resistance and drag. This technology also has been applied to athletic clothing worn in cycling, speed skating, rowing, and swimming. No one knows how many of the 43 world records and 132 Olympic records set by athletes at the 2008 Beijing Olympic Games occurred because of technological advances.

Some equipment has helped athletes perform and attain records previously thought impossible. The carbon fiberglass poles used in pole vaulting as they bend and straighten to absorb more of athletes' energy have nearly doubled the heights athletes can jump. Golf balls with special dimple patterns fly farther and straighter, especially when hit by graphite golf clubs with titanium heads. The extra yards these balls travel threaten to make existing golf courses obsolete. Baseballs come off aluminum bats faster than they do off wooden bats leading to more hits. Major league baseball players are not permitted to use aluminum bats because the game would cease being the same.

The technology of prosthetic limbs has enabled amputee athletes to record times only about a second slower than the fastest times for Olympic athletes in the 100-meter sprint. The technology of wheelchairs for sports has reached new



Scientific advancements contribute to faster cars and better conditioned athletes to drive them.

heights. Carbon fibers and titanium, along with computer-aided design of the suspension, have made possible specially designed chairs for basketball, tennis, and racing. Wheelchairs and prosthetic limbs for sports cost thousands of dollars, thus limiting the number of people who can afford them.

Medicine and Pharmacology

Athletes of all ages use performance-enhancing aids, such as surgeries to repair injured ligaments and tendons. Other athletes use drugs, treatment modalities, and rehabilitative exercises to hasten their recovery so they can return to competition. Some athletes, beginning in youth sport and continuing throughout their competitive years, choose to use performance-enhancing drugs, as they seek to gain competitive advantages. Anabolic steroids in strength sports and erythropoietin (EPO) in endurance sports change the outcome of performances. For example, thousands of East German athletes were given anabolic steroids in the 1970s and 1980s, which helped them achieve at the highest level of sports. EPO, even small doses which may or may not be detectable, increases the oxygen-carrying capacity of the blood. International cyclists have used EPO for years because they found that it yielded prolonged improvements in performance.

Science and athletics are inextricably intertwined today. Whether genetic engineering or talent detection, any early advantage is sought and exploited in order to gain any advantage possible. Technological and pharmacological advances are utilized whenever possible to bolster the chances of winning. There are numerous ethical questions, however, about whether these approaches to athletics detract from dedication, hard work, self-discipline, and other positive values that have historically been associated with participation in athletics.

SUMMARY

Leaders are needed in physical education, exercise science, and sport. Through an understanding of leadership characteristics, theories, styles, and actions, professionals in associated careers are better prepared to lead. Future trends include greater accountability for learning, technology-enhanced instruction, an explosion in knowledge, interdisciplinary research, technological and pharmacological affects on sport performances, and the importance of engaging in physical activity throughout life. Numerous names have been and continue to be used to describe the contributions of professionals associated with physical activity, human movement, and sports. Because of the health risks associated with inactivity, professionals must be tireless promoters of the benefits of engaging in physical activity throughout life. The chapter concludes with a look into science and athletics as genetics, talent detection, technological advantages, and pharmacology are intertwined in the pursuit of winning.

CAREER PERSPECTIVE



DANA D. BROOKS

Professor and Dean of the College of Physical Activity and Sport Science West Virginia University Morgantown, West Virginia

EDUCATION

A. A., Hagerstown Junior College, Hagerstown, Maryland B. S., physical education, Towson State College, Towson, Maryland M. S., physical education and sport behavior, West Virginia University Ed. D., physical education and sport behavior, West Virginia University

JOB RESPONSIBILITIES AND HOURS

Dana serves as the chief budgetary and academic officer for the two departments within the College of Physical Activity and Sport Science. One important feature of these duties is personnel management, including hiring, supervision, and evaluation of faculty and staff, and faculty promotion and tenure decisions. He is responsible for all of the facilities used by individuals in the instructional and activity programs. His duties also include fund raising and alumni development. Given the scope of his responsibilities, Dana typically works around 60 hours per week and at whatever times these duties demand. The salary range for individuals in positions similar to his is \$160,000 to \$200,000.

SPECIALIZED COURSE WORK, DEGREES, AND WORK EXPERIENCES NEEDED FOR THIS CAREER

Dana identifies courses taken in group dynamics and statistics and workshops completed in leadership development, strategic planning, and staff development as most beneficial in helping him fulfill his job responsibilities. In order to qualify for this leadership position, earning a doctoral degree in one of the academic disciplines in the exercise and sport sciences is required. In addition to his educational preparation, Dana gained experiences in higher education as a graduate coordinator, department chair, associate/assistant dean, and faculty member as he advanced through the ranks from an assistant professor to associate professor to full professor.

SATISFYING ASPECTS

Dana is energized by providing a vision resulting in cultural change within his academic unit. He takes great pleasure in working with a dedicated and professional staff of support personnel. He really enjoys helping his faculty colleagues reach their professional goals. He also relishes the ability and opportunity to reward and support faculty, staff, and students. He is challenged, however, by the long time that it takes to bring about change on a college campus.

JOB POTENTIAL

While progressing in position and responsibility to dean shows significant career advancement for a leader in higher education, some may also aspire to become a provost or associate provost for academic affairs or a college president. These positions carry with them broader scopes of duties on and off campus.

SUGGESTIONS FOR STUDENTS

Dana offers the following wise counsel to students: (1) do your homework—prepare, prepare, prepare; (2) set long-term and short-term professional goals; (3) develop a strong academic and personal support system; (4) learn to listen and respect your peers; (5) always remember—learning is a lifelong process; (6) have a passion for your job; and (7) leadership is about service to others.

KEY POINTS FOR CHAPTER 12

Leadership Leaders have integrity, are effective communicators,

build and nurture strong relationships with people, are visionary and creative, establish, maintain, and model high standards of performance, and are intelligent and competent as they influence the behaviors of others in

the accomplishment of shared goals.

Leadership theories A variety of theories, such as great man, great trait,

behavioral, situational, transactional, and transformational, seek to describe why some individuals are

effective leaders.

Leadership styles The effective leader successfully uses numerous

approaches, such as authoritarian, participative or democratic, coaching, delegating or laissez-faire, pacesetting, coercive or autocratic, and servant, depending on the situ-

ation and the individuals involved.

Changes in Student learning will be enhanced when schools provide daily, quality physical education, offer curricula that uses

technologies such as heart rate monitors, exer-games, and non-traditional activities and sports to more actively engage students, and when teachers are held more

accountable.

Changes in the Lifelong learning, interdisciplinary, collaborative research, and technologically-enhanced instruction are essential sport sciences for professionals in the exercise and sport sciences.

Changes in sports As commercialized, spectator sports continue to grow in popularity, athletes will benefit from technological

advances. They will have to decide whether to engage

in unethical actions, like using performance-enhancing drugs, or learn and demonstrate ethical behaviors.

Changes in physical activity for life

The goal of professionals in fitness-relative careers is to get those they serve to enjoy the health benefits of regularly engaging in physical activity.

Changing identity

Regardless of the name, such as physical education, exercise science, or sports, it is most important for professionals in these and related fields to emphasize physically active lifestyles.

Physical activity trends

The consequences of inactivity, such as cardiovascular disease, diabetes, and obesity, should be stressed so each person will begin and persist in engaging in regular physical activity and enjoy the associated positive health benefits.

Science and athletics

Genetics, talent detection programs, technological advances in equipment and clothing, and pharmacology will dramatically affect athletes' performances in the future.

REVIEW QUESTIONS

- 1. Define any two characteristics of leadership, and give an example of how each would be important in your planned career.
- **2.** Compare the transactional and the transformational theories of leadership.
- **3.** Given the various styles of leadership, what determines what style is most effective for a leader to use?
- **4.** What are three trends of how technology may impact physical education, exercise science, and sport in the future?
- 5. What are three examples of ways to promote physical activity for all individuals?
- Describe two ways that science has affected and will continue to affect athletics.

STUDENT ACTIVITIES

- 1. Interview a leader working in a career similar to your proposed career and ask this individual to respond to these questions: (a) What are the characteristics of a leader? (b) What leadership style or styles are used most often? (c) If this leader uses other leadership styles, in what situations are they used? and (d) What do leaders do?
- 2. Using at least one written source, other than the Internet, describe how technology will impact your proposed career. Give at least one specific example.

- **3.** Using at least two types of resources (e.g., online, newspapers, magazines, professional journals, interviews), briefly describe two promotional statements or advertisements about the benefits of physical activity.
- 4. Describe what you think the changes will be in your career within the next twenty years. Provide at least two specific examples of these changes.

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- Rieke, M., Hammermeister, J., & Chase, M. (2008). Servant leadership in sport: A new paradigm for effective coach behavior. *International Journal of Sports Science and Coaching, 3,* 227. This study of 195 high school basketball players reveals that those who perceive that their coaches possess servant leadership qualities such as trust and humility, display higher intrinsic motivation, are more task oriented, are more satisfied, are "mentally tougher," and perform better than are athletes coached by nonservant leaders. These athletes prefer the servant leader coaching style to more traditional styles
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Glossary

Academic discipline a formal body of knowledge discovered, developed, and disseminated through scholarly research and inquiry

Accreditation a quality-control process that reviews and recognizes educational programs and institutions

Adapted physical education a physical activity program for exceptional students who are so different in mental, physical, emotional, or behavioral characteristics that, in the interest of quality of educational opportunity, special provisions must be made for their education

Aesthetics the philosophical area that focuses on the artistic, sensual, or beautiful aspects of movement

Affective development an educational outcome that focuses on the formation of attitudes, appreciations, and values, and includes both social and emotional dimensions

Agility ability to change directions rapidly and accurately

Agoge an educational system for Spartan boys that ensured the singular goal of serving the city-state

Altruism the selfless giving to other people out of a genuine concern without expecting anything in return

Anthropometrics bodily measurements used to evaluate physical size and capacity

Arete all-around mental, moral, and physical excellence valued by the Greeks **Assessment** a measure of knowledge, skills, and abilities that leads to the assignment of a value or score

Athletic training the study and application of the prevention, analysis, treatment, and rehabilitation of sports injuries

Athletics organized, highly structured, competitive activities in which skilled individuals participate

Balance ability to maintain equilibrium, while stationary or moving

Battle of the Systems a controversy raging in the 1800s over which system of gymnastics was most appropriate for individuals in the United States

Body Mass Index is a measure of an adult's weight in relation to his or her height, specifically the adult's weight in kilograms divided by the square of his or her height in meters

Body composition percentage of body fat or lean body mass

British Amateur Sport Ideal concept espoused by upper-class males in Great Britain that values playing sports for fun and competition and not for remuneration

Burnout decreased performance quality and quantity resulting from stress, job repetitiveness, lack of support and reward, and overwork

Calisthenics the term used in the 1800s to describe Catharine Beecher's program of exercises designed to promote health, beauty, and strength

Cardiorespiratory endurance ability of the lungs, heart, and blood vessels to deliver adequate amounts of oxygen to the cells to meet the demands of prolonged physical activity

Categorical imperative the belief that moral duties are prescriptive and independent of consequences

Chariot race a three-mile race of seven laps between competitors driving light chariots with four horses; the most popular included gory accidents

Citizen-soldier the expectation that all Roman males during the Republic must serve the state during war as well as participate in governmental affairs

Cognitive development an educational outcome that emphasizes the acquisition, comprehension, analysis, synthesis, application, and evaluation of knowledge

Coordination ability to perform motor tasks smoothly and accurately

Danish gymnastics program of formalized exercises on command, with no individual expression allowed; associated with nationalism

Day's Order Swedish systemized, daily exercises that progressed through the whole body from head to toe

Deontology an ethical theory advocating that people have the duty to act in ways that conform to absolute rules of moral behavior, which are characterized by universality and respect for the individual

Eclecticism a combination of theories and doctrines from several philosophies into a consistent and compatible set of beliefs

Education of the physical a belief that physical education's unique contribution within education should be to develop individuals' physical fitness and sport skills

Education through the physical the theme that stated that physical education as a field uniquely contributed to the education of the whole person because it included learning through the physical realm

Ethics the study of moral values or the doing of good toward others or oneself **Exercise** physical movement that increases the rate of energy use of the body

Exercise adherence development and maintenance of a physical activity program that results in physical fitness

Exercise physiology the study of the body's response to physical activity and stress

Exercise science the scientific analysis of the human body in motion **Existentialism** a twentieth-century philosophy that centers on individual existence and advocates that truth and values are arrived at by each person's choices and experiences

Experiential learning the knowledge, skills, and abilities developed through involvement in actual work

Field day opportunities to compete on a one-time basis in sports and activities with the emphasis on fun

Flexibility ability of a joint to move freely through its full range of motion **Games** activities ranging from simple diversions to cooperative activities to competitions with significant outcomes governed by rules

German (Jahn) gymnastics outdoor exercises that emphasized the development of strong boys who would reestablish and defend the German nation

Gladiatorial contests competitions of trained gladiators, who used various types of weapons in battling captives, animals, or other gladiators

Grand tourney or melee combats fought at medieval tournaments under conditions similar to war between two teams of knights

Greek Ideal unity of the man of action and the man of wisdom

Gymnasium a site for intellectual and physical activities for Greek citizens

Gymnastics term used to describe Greek athletics, European systems of exercises with or without apparatus, and a modern international sport

Halteres handheld weights used by jumpers to enhance their performances

Health the absence of illness and disease and a positive state of physiological function that includes physical fitness and the five dimensions of wellness

Health-related fitness the level of positive well-being associated with enhanced functioning of the heart, muscles, and joints to improve the healthfulness of life

Hygiene the science of preserving one's health

Hypokinetic diseases those diseases and health problems associated with physical inactivity and a sedentary lifestyle

Idealism a philosophical theory advocating that reality depends on the mind for existence and that truth is universal and absolute

Inclusion the placement of students with physical, mental, behavioral, or emotional limitations or special needs into regular classes with their peers

Internship a supervised period of apprenticeship, related to a student's degree program and career plans, when a student works under supervision to learn practical applications of classroom material

Jousting an event at medieval tournaments in which two mounted knights armed with lances attempted in a head-on charge to unseat each other

Kantian (or non-consequential) theories that state that actions must conform to absolute rules of moral behavior

Kinesiology the study of human movement

Knight warrior during the medieval period

Leadership a behavioral process of influencing the behaviors of others in the accomplishment of shared goals

Licensure the credential (or certificate) required for professional employees in public schools that verifies that they are competent to fulfill their teaching, administrative, or service responsibilities

Light gymnastics Dioclesian Lewis's program based on executing Beecher's calisthenics along with handheld apparatus

Massage the systematic and scientific manipulation, such as through kneading, rubbing, and tapping, of body tissues to therapeutically enhance the functioning of the nervous, muscular, and circulatory systems

Military camps locations where fathers taught their sons the skills needed for military conquests

Motor behavior broad term encompassing motor control, motor learning, and motor development

Motor control the study of the integration and maturation of muscular, skeletal, and neurological functions in executing movements

Motor development the maturation and changes in motor behavior throughout life and the factors that affect them

Motor learning the study of the internal processes associated with movement or repetitive actions that result in changes in response or performance

Movement education a child-centered curriculum that emphasizes presenting movement challenges to students and encouraging them to use problem solving through guided discovery to learn fundamental skills

Muscular Christianity the philosophy that moral values can be taught through sport

Muscular endurance ability of a muscle to exert submaximal force repeatedly over a period of time

Muscular strength ability to exert maximal force against resistance

Nationalism a pervasive theme stressing promotion and defense of one's country that was the desired outcome of several European systems of gymnastics in the 1800s

Naturalism a belief that nature governs life and that individual goals are more important than societal goals; everything according to nature

Networking connecting with others on a personal basis in ways to expand your professional opportunities

New physical education a curriculum focused on developing the whole individual through participation in play, sports, games, and natural, outdoor activities

Normal school a specialized institution for preparing students to become teachers in one or more subjects

Obesity having a very high amount of body fat in relation to lean body mass, or Body Mass Index (BMI) of 30 or higher

Page term used for the boy during the first seven-year training period (ages 7-14), under the guidance of the lady of the castle, to become a knight **Paidotribes** the first physical education teachers, who taught Greek boys wrestling, boxing, jumping, dancing, and gymnastics at a palaestra

Palaestra a Greek school where boys learned wrestling, boxing, jumping, dancing, and gymnastics

Pancratium an event in Pan-Hellenic festivals that combined wrestling and boxing skills into an "almost-anything-goes" combat

Pan-Hellenic festivals festivals open to all Greeks in which athletic contests were a focal point

Pedagogy the art and science of teaching and the study of theories and application of teaching methods

Pentathlon a five-event competition that included the discus throw, javelin throw, long jump, stade race, and wrestling

Philosophy the love, study, or pursuit of wisdom, knowledge, and truth **Physical activity** repetitive movements by the skeletal muscles that require energy and produce health benefits

Physical education a process through which an individual obtains optimal physical, mental, and social skills and fitness through physical activity

Physical fitness the body's capacity to adapt and respond favorably to physical effort

Physical therapy is the treatment of physical injury or dysfunction using therapeutic exercises and modalities with the goal of restoring normal function

Play amusements engaged in freely, for fun, with less formality in rules

Play day opportunities for female students to participate on sports teams on a one-time basis with females from other institutions; the emphasis is on social interaction

Playground movement the opening of supervised play spaces in urban areas so that children could develop physically as well as mentally and morally

Portfolio a representative collection of a student's work that demonstrates performance, achievements, and experiences

Power ability to exert force rapidly through a combination of strength and speed

Pragmatism an American movement in philosophy emphasizing reality as the sum total of each individual's experiences through practical experimentation

Profession a specialized occupation that requires mastery of knowledge and the meeting of standards demonstrating competence

Psychomotor development an educational outcome that emphasizes the learning of fundamental movements, motor skills, and sport skills

Purpose a stated intention, aim, or goal that provides the answer to the question "why"

Reaction time ability to respond or react quickly to a stimulus

Realism a philosophical system stressing that the laws and order of the world as revealed by science are independent from human experience

Recreation refreshing or renewing one's strength and spirit after work; a diversion that occurs during leisure hours

Reliability describes the consistency in or repeatability of what is measured **Renaissance** a period from the fifteenth to seventeenth centuries marked by a renewed appreciation for classical culture

Scientific method the process of making observations, developing hypotheses, conducting experiments, analyzing data and information, reporting findings, and establishing theories or drawing conclusions

Settlement house a social reform approach to helping the poor in urban areas deal with issues of poverty, injustice, and acclimatization to a new country

Skill-related fitness achieving levels of ability to perform physical movements that are efficient and effective

Speed ability to quickly perform a movement

Sports physical activities governed by formal or informal rules that involve competition against an opponent or oneself and are engaged in for fun, recreation, or reward

Sport and exercise psychology the study of human behavior in sports, including an understanding of the mental processes that interact with motor skill performance

Sport biomechanics the study of the anatomical and physiological effects of natural laws and internal and external forces acting on the human body during movement

Sport history the descriptive and analytical examination of significant people, events, organizations, and trends that shaped the past

Sport management the study of the theoretical and applied aspects of leading, planning, organizing, staffing, funding, and conducting sporting events

Sport philosophy the study of the beliefs and values of humans as displayed within sport and an analysis of their meaning and significance

Sport sociology the study of the social relationships of gender, race, ethnicity, class, and culture in the context of sport and the social behavior of individuals, groups, organizations institutions, and societies in sporting context

Sports day opportunities for female students to participate on sport teams on a one-time basis against females from other institutions with the emphasis on social interaction

Squire term used for the boy during the second seven-year training period (ages 14-21), under the direction of a knight, to become a knight

Stade race a footrace in Pan-Hellenic games run the length of the stadium **Standard** a uniform criterion or foundational guide used to measure quality **Swedish gymnastics** movements on command into rigidly held positions that were designed primarily to develop military preparedness for national defense

Telegraphic meet opportunities for female students to participate in sporting events on a one-time basis and then share scores to compare their performances with females from other institutions

Teleological refers to theories that focus on the end results or consequences of processes or actions

Thermae facilities in Rome for contrast baths of varying water temperatures and other leisure activities

Turners individuals who exercised at a turnplatz

Turnfests festivals for the exhibiting of German (turner) gymnastics

Turnplatz an outdoor exercise area established by Friedrich Jahn

Utilitarianism a theory that refers to the goal of creating the greatest good for the greatest number of people

Validity describes the strength or accuracy of conclusions or inferences

Wellness includes the emotional, mental, physical, social, and spiritual factors that lead to an overall state of well-being, quality of life, and ability to contribute to society

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