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ACSM'S

RESOURCES FOR THE PERSONAL TRAINER

FOURTH EDITION



Wolters Kluwer
Health

Lippincott
Williams & Wilkins

ACSM's Resources for the Personal Trainer

FOURTH EDITION

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4th Edition
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Printed in China

Library of Congress Cataloging-in-Publication Data

ACSM's resources for the personal trainer / [edited by] Barbara Bushman, Rebecca Battista. — 4th ed.
p. ; cm.
Resources for the personal trainer
American College of Sports Medicine's resources for the personal trainer
Includes bibliographical references and index.
ISBN 978-1-4511-0859-0 (alk. paper)
I. Bushman, Barbara Ann. II. Battista, Rebecca. III. American College of Sports Medicine. IV. Title: Resources for the personal trainer. V. Title: American College of Sports Medicine's resources for the personal trainer.
[DNLM: 1. Physical Education and Training. 2. Exercise—physiology. QT 255]

613.7'1—dc23

2012039411

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Preface

This fourth edition of *ACSM's Resources for the Personal Trainer* represents another step forward from the previous edition and is based on *ACSM's Guidelines for Exercise Testing and Prescription, Ninth Edition*. In this fourth edition, the editors and contributors have continued to respond to the needs of practicing Personal Trainers. This edition has taken the very best from the third edition, provided significant updates throughout, expanded content on special populations and behavior modification, and added an entire new chapter on advanced training options. The Behavior Modification section, which was new in the third edition, has been lengthened considerably and includes many case study examples. More extensive coverage of guidelines related to special populations as well as an entire new chapter devoted to advanced training options also help to set this edition apart.

Overview

ACSM's Resources for the Personal Trainer, Fourth Edition, continues to recognize the Personal Trainer as a professional in the continuum of creating healthy lifestyles. This text provides the Personal Trainer with both the tools and scientific evidence to help build safe and effective exercise programs for a variety of clients. The book is divided into six distinctly different parts, ranging from an introduction to the profession of personal training to how to run a own business. In between are chapters dedicated to anatomy, exercise physiology, biomechanics, behavior modification, and nutrition. The science- and evidence-based approach provides a way for transfer of knowledge from the Personal Trainer to the client, providing the opportunity for success from a business standpoint as well as for the individual clients and compliance rates. The middle chapters include establishing goals and objectives for clients and a “how-to” manual for risk stratification as well as assessing strength, aerobic capacity, and flexibility. Other chapters have been dedicated to developing resistance, cardiorespiratory, and flexibility training programs.

Organization

The chapters are divided into six parts, designed for ease of navigation through the text. Using this approach, usefulness will be maximized for every Personal Trainer.

Part I: Introduction to the Field and Profession of Personal Training. Two introductory chapters are designed to introduce the new and aspiring Personal Trainer to the profession. Chapter 1 provides insight into why the health and fitness professions are some of the fastest growing industries in the world and how the Personal Trainer can capitalize on this growth. Chapter 2 provides a career track for the Personal Trainer, helping prospective Personal Trainers to examine their own interest in personal training and how to make personal training a viable career.

Part II: The Science of Personal Training. In Part II, Chapters 3 to 6 provide the scientific foundations for personal training. Every Personal Trainer, regardless of experience, will find these chapters helpful. For the Personal Trainer just starting out, these chapters introduce the scientific basis for exercise. For the advanced Personal Trainer, these chapters serve as a foundational resource for specific lifestyle modification programs. These four chapters include anatomy and kinesiology, applied biomechanics, exercise physiology, and nutrition.

Part III: Behavior Modification. The next section of this book is dedicated to learning how and why people are either willing or unwilling to change their behavior. One of the most frustrating aspects of personal training is when a client refuses to change a deleterious habit or even “cheats”

between training sessions. Chapter 7 provides a comprehensive overview of several theories of behavior change that are commonly used to increase exercise behavior. Chapter 8 provides some strategies to increase adherence in clients. Chapter 9 provides strategies for coaching and working closely with clients to ensure success with personal training. These chapters have the potential to impact one's approach to personal training.

Part IV: Initial Client Screening. Part IV comprises Chapters 10 to 12 and walks the Personal Trainer through the first client meeting to a comprehensive health-related physical fitness assessment. Capitalizing on the learning objectives of Part III, this section establishes a framework for developing client-centered goals and objectives. Though certainly not an exhaustive list of physical fitness assessments, Chapter 12 provides critical techniques to evaluate a client both in the field and in the laboratory. This section includes many tables and figures that will assist with placing clients into various fitness categories.

Part V: Developing the Exercise Program. Chapter 13 introduces the concept of developing a comprehensive exercise program. On that basis and with the goals established by the client and the Personal Trainer in mind, Chapters 14 to 16 (resistance training, cardiorespiratory, and flexibility programs, respectively) are specific “how to” manuals. Chapter 17 is dedicated to the proper sequencing of exercises within a given personal training session. New to this book, Chapter 18 has been written for the Personal Trainer who works with individuals who desire more advanced training options. Finally, Chapter 19 provides expanded coverage about working with clients with special health or medical conditions. As more people decide that exercise is a good thing, Personal Trainers will encounter these special populations. This chapter also discusses the scope of a Personal Trainer's knowledge, skills, and abilities when it comes to working with these “special populations.”

Part VI: The Business of Personal Training. Although seeing clients improve is rewarding, one goal of a successful business is to be profitable financially. Chapters 20 and 21 introduce the professional Personal Trainer to common business practices and provide information about how to avoid some of the common mistakes beginners typically make in the development of their practices. Chapter 22 deals specifically with legal issues. Written by a practicing attorney with years of experience litigating court cases, this chapter encourages each Personal Trainer to take his or her responsibility seriously by getting the necessary training and experience.

Features

Specific elements within the chapters will appeal to the Personal Trainer. A list of **objectives** precedes each chapter. **Key points** highlight important concepts addressed in the text and boxes expand on material presented. **Case Studies** present common scenarios that allow for application of concepts covered within the chapters. **Boxes** provide additional information and explanations to supplement material discussed in the text. **Icons** are provided in selected chapters directing the reader to valuable videos found at thepoint.lww.com/ACSMRPT4e. Numerous four-color tables, figures, and photographs will help the Personal Trainer understand the written material. A **chapter summary** concisely wraps up the chapter, and **references** are provided at the conclusion of each chapter for easy access to the evidence.

Additional Resources

ACSM's Resources for the Personal Trainer, Fourth Edition, includes additional resources for students and instructors that are available on the book's companion Web site at <http://thepoint.lww.com/activate>

Students

- Full Text Online
- Video clips

Instructors

Approved adopting instructors will be given access to the following additional resources:

- Brownstone test generator
- PowerPoint presentations
- Image bank
- Lesson Plans
- WebCT/Angel/Blackboard-ready cartridge

In addition, purchasers of the text can access the searchable Full Text Online by going to the *ACSM's Resources for the Personal Trainer, Fourth Edition*, Web site at <http://thepoint.lww.com/activate>. See the inside front cover of this text for more details, including the passcode needed to gain access to the Web site.

Acknowledgments

The editorial team is very proud of this fourth edition of *ACSM's Resources for the Personal Trainer*. The editors thank the volunteer contributors who wrote and revised chapters, without whom this book would not be possible, and the many reviewers who volunteered their time to ensure the book content is based on current scientific evidence and established guidelines. We also thank Jon Erhman for his review of content to ensure consistency with other concurrently published ACSM publications. Between authors and reviewers, more than 50 individuals contributed to this book.

We thank the ACSM Committee on Certification and Registry Boards (formerly chaired by Madeline P. Bayles and now chaired by Deborah Riebe), the ACSM Publications Committee (chaired by Walt Thompson), ACSM Director of Publishing Kerry O'Rourke, and all of the national staff of the ACSM Certification Department for supporting the work of our editorial team throughout the process.

The editors thank our long-standing publishing partner, Lippincott Williams & Wilkins, for continued support over the years and with this publication specifically. Special thanks to our product manager, Andrea Klingler, and acquisitions editor, Emily Lupash. We express our heartfelt appreciation to CoxHealth Fitness Center and Victor Pardue for support and access to an amazing facility for our photo and video shoots. And last, but certainly not least, we appreciate all the dedicated Personal Trainers that make this work so rewarding. We dedicate this book to each of you.

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Introduction to the Field and Profession of Personal Training

PART
I



Importance of the Field and Profession of Personal Training



OBJECTIVES

Personal Trainers should be able to:

- Recognize the need for a Personal Trainer.
- Describe the scope of practice of a Personal Trainer, including the background and experience needed to become a Personal Trainer.
- Discuss professional career environments and other educational opportunities for Personal Trainers.
- Identify future trends that will affect the fitness industry and personal training.

Personal training (practiced by one referred to in this book as the “Personal Trainer” but often described as a “fitness trainer,” “personal fitness trainer,” “fitness professional,” or “exercise professional”) is emerging as one of the fastest growing professions in the United States. According to the U.S. Department of Labor, Bureau of Labor Statistics, the job outlook for this profession is projected to “grow much faster than the average” for all occupations between 2008 and 2018, which is further defined as an increase of 29% during this decade (6). The increased emphasis on health and fitness, diverse clientele interested in and in need of health and fitness, and recent links between sedentary activities and all-cause mortality provide multiple opportunities for Personal Trainers.

Consider some groups for whom personal training may be of increased interest. Baby boomers (approximately 78 million Americans born from 1946 to 1964) are the first generation in the United States that grew up exercising and they are now reaching retirement age; they have the time and desire to begin or continue exercising in their 70s and beyond (16). Life expectancy has also increased to an average age of 78.2 years (9). In addition, an increasing number of businesses are recognizing the many cost-related benefits that health and fitness programs provide for their employees (6). The recent emphasis and reliance on technology in office and home has led to increased time spent in sedentary-type activities, for example, sitting and working at a computer. This increased sedentary time is associated with obesity, diabetes, and cardiovascular disease (11).

Older adults and working adults are not the only potential clients for Personal Trainers. A growing concern about childhood obesity and the reduction of physical education programs in schools will also contribute to the increased demand for fitness professionals. Personal Trainers are increasingly being hired to work with children in nonschool settings, such as health clubs. Because of the increased concern for fitness, the number of weight-training gyms for children and health club membership among young adults is expected to continue to grow steadily (13,14).

THE FITNESS INDUSTRY: AN OVERVIEW OF THE LANDSCAPE

According to the U.S. Department of Labor, Bureau of Labor Statistics, the job outlook for this profession is projected to “grow much faster than the average” for all occupations between 2008 and 2018.

Interestingly, although the population may be more physically inactive than ever, the health club industry has never been in better “shape.” Consider the following information reported by the United States from the International Health, Racquet & Sportsclub Association (IHRSA), a trade association serving the health and fitness club industry (13):

29,750	Number of U.S. health clubs
45.3 million	Number of U.S. health club members
\$19.5 billion	Total U.S. fitness industry revenues for 2009
261,000	Number of U.S. fitness trainers/aerobics instructors
337,900	Projected number of U.S. fitness trainers/aerobics instructors in 2018

Although these numbers may seem impressive, only 14.6% of the population are currently members of health or fitness clubs (19). In addition, the majority of Americans perform inadequate

TABLE 1.1 PERCENT OF PHYSICAL ACTIVITY LEVELS FOR AMERICANS, 2007

Group	Recommended (%)	Insufficient (%)	Inactive (%)
Overall	48.8	37.7	13.5
Female	47.0	38.7	14.3
Male	50.7	36.6	12.7

Adapted from Centers for Disease Control and Prevention Web site [Internet]. U.S. physical activity statistics, 2007. Atlanta (GA): Centers for Disease Control and Prevention; [cited 2012 May 21]. Available from: <http://www.cdc.gov/nccdphp/dnpa/physical/stats/index.htm>

amounts of physical activity and exercise. According to the Centers for Disease Control and Prevention (CDC) in 2007 (Table 1.1) more than half of Americans are either insufficiently active or totally inactive, with levels of activity decreasing with age (8). According to the CDC, the southeastern part of the United States has low leisure time activity as well as the highest rates of obesity and diabetes (Figs. 1.1 and 1.2).

A large proportion of the population could benefit from involvement in some type of regular physical activity as part of a healthy lifestyle, whether as a member of a health/fitness club or on their own. Personal Trainers are well positioned to influence public health in this regard. As the health club industry continues to grow, so too will the demand for highly qualified and certified fitness professionals to serve the needs of their members (17).

Despite the growth of the fitness industry and emerging opportunities for physical fitness, high inactivity rates among Americans remain, with only about half of the adult population meeting recommended amounts of physical activity (8). Public schools continue to cut back or eliminate

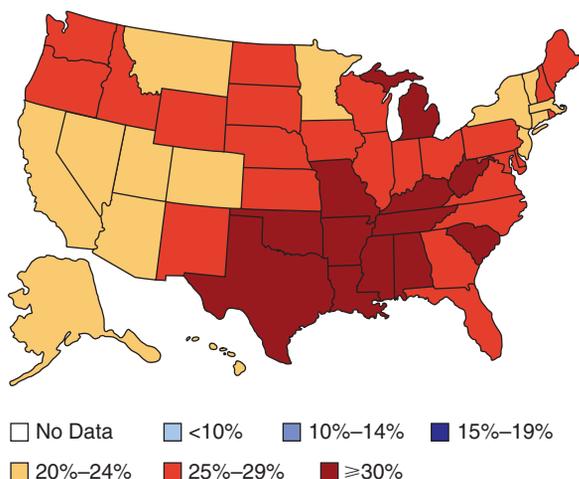


FIGURE 1.1. Prevalence of obesity in percentage (body mass index ≥ 30) in the U.S. adults in 2010. The data shown in these maps were collected through the CDC's Behavioral Risk Factor Surveillance System (BRFSS). Each year, state health departments use standard procedures to collect data through a series of monthly telephone interviews with the U.S. adults. Prevalence estimates generated for the maps may vary slightly from those generated for the states by the BRFSS as slightly different analytic methods are used. (From the CDC Web site [Internet]. Atlanta (GA): CDC, U.S. obesity trends 1985–2010; [cited 2011 April 2]. Available from: <http://www.cdc.gov/nccdphp/dnpa/obesity/trend/maps.>)

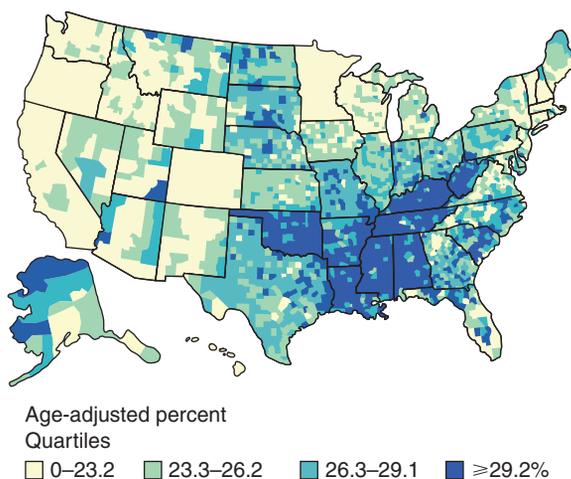


FIGURE 1.2. Physical Inactivity estimates, by County, 2008. From the Centers for Disease Control & Prevention Web site [Internet]. Atlanta (GA): CDC, U.S. leisure-time physical inactivity by U.S. County 2008; [cited 2011 March 9]. Available from: <http://www.cdc.gov/Features/dsPhysicalInactivity.>

physical education. In fact, at the elementary school level, only three states (Alabama, Florida, and Louisiana) require schools to follow the nationally recommended 150 minutes per week of physical education. Only 18% of states require elementary schools to provide daily recess. For middle schools/junior highs, only three states (Alabama, Montana, and Utah) require the recommended 225 minutes per week of physical education and only five states (Illinois, Iowa, Massachusetts, New Mexico, and Vermont) require physical education in every grade (K–12) (15).

Health care costs are rising exponentially as the medical field continues to focus more on treatment than on prevention. Food portion sizes in restaurants are increasing. According to the CDC, obesity has become a problem in every state. No state reported that less than 20% of adults were

obese in 2010. The data also show that at least 30% of adults in 12 states were obese in 2010 (Fig. 1.1). This is quite a change from 2000 when no states reached that level of obesity. The data also indicate how obesity impacts some regions more than others. For example, the South had the highest obesity

Despite the growth of the fitness industry and emerging opportunities for physical fitness, high inactivity rates among Americans have not really changed in the past 20 years.

BOX 1.1 Predicted Top 10 Fitness Trends from 2008 to 2012 (18)

2008	2009	2010	2011	2012
Educated and experienced fitness professionals				
Children and obesity	Children and obesity	Strength training	Fitness programs for older adults	Strength training
Personal training	Personal training	Children and obesity	Strength training	Fitness programs for older adults
Strength training	Strength training	Personal training	Children and obesity	Exercise and weight loss
Core training	Core training	Core training	Personal training	Children and obesity
Special fitness programs for older adults	Special fitness programs for older adults	Special fitness programs for older adults	Core training	Personal training
Pilates	Pilates	Functional fitness	Exercise and weight loss	Core training
Functional fitness	Stability ball	Sports-specific training	Boot camp	Group personal training
Stability ball	Sport-specific training	Pilates	Functional fitness	Zumba and other dance workouts
Yoga	Balance training	Group personal training	Physician referrals	Functional fitness

Adapted from Thompson WR. Worldwide survey of fitness trends for 2012. *ACSM's Health Fitness J.* 2011;15(6):9–18.

rate, at 29.4%, the Midwest had an obesity rate of 28.7%, the Northeast had a rate of 24.9%, and the West had a rate of 24.1% (7,8).

According to the most recent National Health and Nutrition Examination Survey (NHANES), nearly 34% of adults and 17% of children aged 2 to 19 years in the United States are obese. When overweight is included in the statistics, an astonishing 68% of American adults, 33% of children aged 6 to 11 years, and nearly 34% of adolescents/teens aged 12 to 19 years are overweight or obese (15). For children, this is nearly triple the rate of overweight and obesity seen in the year 1963, and double the 1980 rates (7). According to the American Heart Association, childhood obesity is now the number one health concern among the U.S. parents, even greater than the concerns of drug abuse and smoking (5). With so much to be done about the current health status of Americans, the time is right for highly qualified Personal Trainers (with the help of health care providers) to lead the charge toward a healthier nation. Participation in physical activity can lead to higher quality of life by decreasing risk factors associated with morbidity and mortality. Therefore, one role of the Personal Trainer is to encourage and motivate others to be more active.

PERSONAL TRAINERS' SCOPE OF PRACTICE

As mentioned previously, the profession of personal training is rapidly evolving, and employment opportunities are wide-ranging and will continue to increase. But what does a Personal Trainer do? Depending on the work setting, Personal Trainers have a wide range of potential activities, including, but not limited to, the following tasks:

- Screen and interview potential clients to determine their readiness for exercise and physical activity. This may involve communicating with the clients' health care team (especially for clients with special needs): physicians, nurse practitioners, registered dietitians, physical therapists, occupational therapists, and others.
- Perform fitness tests or assessments (as appropriate) on clients to determine their current level of fitness.
- Help clients set realistic goals, modify goals as needed, and provide motivation for adherence to the program.
- Develop exercise regimens and programs (often referred to as an "exercise prescription") for clients to follow and modify programs as necessary, based on progression and goals.
- Demonstrate and instruct specific techniques to clients for the safe and effective performance of various exercise movements.
- Provide clients with safe and effective exercise techniques or training programs as well as educate them about exercises that may be contraindicated.
- Supervise or "spot" clients when they are performing exercise movements.
- Maintain records of clients' progress or lack thereof with respect to the exercise prescription.
- Be a knowledgeable resource to accurately answer clients' health and fitness questions.
- Educate clients about health and fitness and encourage them to become independent exercisers (provided they have medical approval to do so).

Other responsibilities not directly involving a client may be assigned or performed as needed. These usually include administrative paperwork, maintenance of equipment, and cleaning of equipment and facilities as required.

Many Personal Trainers also obtain additional instruction or specialty certifications in areas such as kickboxing, cancer, yoga, aquatic exercise, wellness coaching, studio cycling, and inclusive fitness.

Many Personal Trainers also obtain additional education or specialty certifications in areas such as kickboxing, cancer, yoga, aquatic exercise, wellness coaching, indoor cycling, and inclusive fitness (Fig. 1.3). These specialties should not be confused with "core" or primary certifications,



FIGURE 1.3. A trainer working with a client who has a physical disability.

such as ACSM Certified Personal Trainer. Additional specialty certifications are valuable and allow Personal Trainers to have a wider variety of responsibilities, such as teaching group exercise classes.

Certifications

ACSM currently offers three specialty certifications, with others in the works for the future (see Table 1.2 for details). These additional certifications can assist the Personal Trainers in their continued education as well as provide them with opportunities to add skills and increase potential client base by offering diversity.

ACSM/NCPAD CERTIFIED INCLUSIVE FITNESS TRAINER

ACSM/NCPAD Certified Inclusive Fitness Trainer (CIFT) is a fitness professional who assesses, develops, and implements an individualized exercise program for persons with a physical, sensory, or cognitive disability, who are healthy or have medical clearance to perform independent physical activity. In addition to knowledge of exercise physiology and exercise testing and programming, a CIFT has knowledge in inclusive facility design and awareness of social inclusion for people with disabilities and the Americans with Disabilities Act (ADA).

Additionally, ACSM/NCPAD CIFT demonstrates and leads safe, effective, and adapted methods of exercise; writes adapted exercise recommendations; understands precautions and contraindications to exercise for people with disabilities; is aware of current ADA policy specific to recreation facilities (U.S. Access Board Guidelines) and standards for accessible facility design; and can utilize motivational techniques and provide appropriate instruction to individuals with disabilities to enable them to begin and continue healthy lifestyles.

ACSM/ACS CERTIFIED CANCER EXERCISE TRAINER

ACSM/ACS Certified Cancer Exercise Trainer (CET) is a fitness professional who trains men and women who were recently diagnosed with cancer and have not yet begun treatment, are receiving treatment, have completed treatment, or are a survivor experiencing chronic or late effects from disease or treatment and are apparently healthy or have the presence of known stable cardiovascular disease with low risk for complications with vigorous exercise and do not have any relative or absolute contraindications for exercise testing. In addition, the CET performs appropriate fitness assessments and makes exercise recommendations while demonstrating a basic understanding of cancer diagnoses, surgeries, treatments, symptoms, and side effects.

TABLE 1.2 SPECIALTY CERTIFICATIONS

	Scope of Practice	Minimum Requirements
ACSM/NCPAD Certified Inclusive Fitness Trainer (CIFT)	<ul style="list-style-type: none"> • Works with people with a disability who are healthy or have medical clearance to exercise and were referred or currently under the care of a physician or health care professional • Leads and demonstrates safe, effective, and adapted methods of exercise • Writes adapted exercise recommendations, understands precautions and contraindications to exercise for people with disabilities and is aware of current ADA policy for recreation facilities and standards for accessible facility design 	<ul style="list-style-type: none"> • Current ACSM certification or current NCCA-accredited, health/fitness-related certifications (e.g., ACE, NCSF, NASM, NFPT, NSCA, Cooper Institute) • Current adult CPR (with practical skills component) and AED
ACSM/ACS Certified Cancer Exercise Trainer (CET)	<ul style="list-style-type: none"> • Trains individuals who were recently diagnosed with cancer and have not yet begun treatment, are receiving treatment or have completed treatment and are apparently healthy or have the presence of known stable cardiovascular disease with low risk for complications with vigorous exercise and do not have any relative or absolute contraindications for exercise testing • Performs appropriate fitness assessments and makes exercise recommendations while demonstrating a basic understanding of cancer diagnoses, surgeries, treatments, symptoms and side effects 	<ul style="list-style-type: none"> • An ACSM- or NCCA-accredited exercise/fitness certification • Certification in Adult CPR and AED • Choose one of the following: <ul style="list-style-type: none"> • Bachelor's degree (in any field) 500 h of experience training older adults or individuals with chronic conditions • 10,000 h of experience training older adults or individuals with chronic conditions^a
ACSM/NSPAPPH Physical Activity in Public Health Specialist (PAPHS)	<ul style="list-style-type: none"> • Conducts needs assessments, plans, develops and coordinates physical activity interventions provided at local, state and federal levels • Provides leadership, develops partnerships and advises local, state and federal health departments on all physical activity-related initiatives 	<ul style="list-style-type: none"> • A bachelor's degree in a health-related field^b from a regionally accredited college or university, <li style="text-align: center;">OR • A bachelor's degree in any subject and 1,200 h of experience in settings promoting physical activity, healthy lifestyle management or other health promotion^c

^aHours of experience with older adults or individuals with chronic conditions include: exercise testing, exercise prescription, group or individual training, group or individual client education, academic coursework and/or continuing education (relating to older adults or individuals with chronic conditions), internships or observational hours in an oncology setting and/or cancer rehabilitation program.

^bExamples: Exercise science; exercise physiology; kinesiology; physical education; sports management; athletic training; recreation; nutrition; health education; health promotion; public health; community health; and health care administration.

^cExamples: Education; community/public health setting; YMCA, parks and recreation, after-school programs; worksite health promotion; community health; health education or health promotion; federal, state, or local government; health care or health plan; academia or university; nonprofit organization; commercial health clubs; and corporate fitness centers.

ACSM/NSPAPPH PHYSICAL ACTIVITY IN PUBLIC HEALTH SPECIALIST

ACSM/NSPAPPH Physical Activity in Public Health Specialist (PAPHS) is a professional who promotes physical activity in public health at the national, state, and/or local level. The PAPHS engages and educates key decision makers about the impact of, and need for, legislation, policies, and programs that promote physical activity. Additionally, the PAPHS provides leadership and develops partnerships with private and public associations to catalyze the promotion of population-based physical activity.



FIGURE 1.4. A trainer spotting a squat exercise of a client who is on a bosu ball (with light dumbbells in each hand).

These additional certifications can assist the Personal Trainer in continued education as well as to provide opportunities to add skills and increase potential client base by offering diversity. The kinds of fitness facilities are diverse, with the most numerous being multipurpose, commercial, for-profit clubs, followed by community, corporate, and medical fitness centers. Although there are many core similarities between facilities, there is also great variety in size, structure, target markets, program offerings, amenities, membership fees, contracts, staffing, and equipment. This variety is necessary to attract and serve many different populations with many different interests (Fig. 1.4). With the member retention rate varying greatly across the industry, most clubs and centers must continually recruit new members. According to the IHRSA, in competitive suburban markets, in which the automobile is the primary means of commuting to a club, the majority of a club's membership base will come from within a 10- to 12-minute drive time from home to the club; thus clubs that are located close to one another are typically competing for the same members (13). This means that Personal Trainers are vying for the same clients as well. However, Personal Trainers, just like clubs, can differentiate themselves from the competition in a number of ways, such as focusing on a specific clientele (*e.g.*, women, children, seniors, and athletes), developing expertise in a given area, offering small-group training in addition to individual sessions, offering a more competitive price, and using multiple locations. Many trainers make themselves more marketable by obtaining more than one primary and/or specialty certification.

Definition of a Personal Trainer

ACSM's job definition/scope of practice for ACSM Certified Personal Trainer is:

The ACSM Certified Personal Trainer (CPT) (1) possesses a minimum of a high school diploma, and (2) works with apparently healthy individuals and those with health challenges who are able to exercise independently to enhance quality of life, improve health-related physical fitness, performance, manage health risk, and promote lasting health behavior change. The CPT conducts basic pre-participation health screening assessments, submaximal cardiovascular