This trends and issues paper considers the emerging presence of credentialing programs in the health, leisure, and movement professions in which such diverse occupations as health education teachers, aerobics instructors, exercise physiologists, dance therapists, community park managers, intramural directors, and military fitness instructors are included. The publication's purpose is to assist: (1) students in career planning; (2) professionals who evaluate credentialing options; (3) college and university faculty involved in curriculum design; and (4) professional organizations considering the development of a credentialing program. The document is organized into two parts. The first, entitled "General Trends and Issues in Credentialing," includes: a definition of credential; credentialing in health, leisure, and movement; and references and resources. Part two, "Credentialing Programs in Health, Leisure, and Movement," incorporates the most up-to-date information on several credentialing programs in each field including: parks, recreation, and leisure services; intramural-recreational sports administration; health education; dance education; dance/movement therapy; physical fitness/conditioning leadership; and physical fitness assessment. (LL)
CREDENTIALING IN THE HEALTH, LEISURE, AND MOVEMENT PROFESSIONS

Liane M. Summerfield
American Association of Colleges for Teacher Education

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PART ONE: GENERAL TRENDS AND ISSUES IN CREDENTIALING

The health, leisure, and movement professions are separate and distinct fields of practice linked by their human service orientation and their emphasis on improving the health and well-being of the individual. Included in these fields are a diverse group of occupations—health education teacher, aerobics instructor, exercise physiologist, dance therapist, community park manager, intramural director, military fitness instructor, to name a few. However, all are similar in that they are intrinsically gratifying professions, associated with helping people to attain a higher quality of life. Varying levels of practice are found in each area, from the high school-educated paraprofessional to the professional having several years of postgraduate education. New to the three fields is an emphasis on credentialing as a validation of professional practice.

This publication considers the emerging presence of credentialing programs in health, leisure, and movement. Issues raised by the growth of credentialing programs are explored, and information on several credentialing programs in each field is presented. It is hoped that this publication will be useful to students in their career planning, to professionals who are evaluating credentialing options, to college and university faculty involved in curriculum design, and to professional organizations considering the development of a credentialing program.

WHAT IS A CREDENTIAL?

A credential is a mark of achievement and recognition, bestowed by a governmental or nongovernmental agency, which attests to attainment of a certain level of proficiency. Credentials may be earned by individuals or organizations through four processes: accreditation, licensure, registration, and certification.

Accreditation is granted to a college or university or to an organization’s program of study, which has been judged to meet an acceptable level of educational quality and integrity following a review of curriculum and administrative program support by the accrediting agency. Accreditation promotes high standards of professional preparation, although there is no guarantee to students who graduate from accredited programs that they will qualify for certification, licensure, or registration in their chosen profession. The institution seeking accreditation must undergo a review of its curriculum by the accrediting agency and is subject to periodic re-evaluations to maintain accreditation. The finite nature of accreditation encourages institutions to engage in regular program evaluations and seek improvements.
Licensure is the official recognition by a state agency that an individual or organization has met state-mandated standards for performance of some type of service. The individual or organization seeking licensure must undergo a review process which may include, in the case of an individual, an examination. The term "licensure" is used synonymously with "certification" by many states.

Registration is a process whereby the names of qualified individuals are maintained on a list published by an organization or government agency. To have one's name included on the list, the individual must supply proof of attainment of qualifications, such as education or professional experience.

Certification, like registration, requires individuals to provide proof of such qualifications as education and experience. Certification may also involve an examination. Certified individuals often possess more visibility than registered individuals, and, in fields without licensure, may be perceived as having a higher level of competence than either the registered or uncredentialed professional, by virtue of having passed an examination. Certification is the most common credentialing process in health, leisure, and movement.

Possessing a professional credential may be valuable for a variety of reasons. For the consumer, a credential provides assurance that an individual in a given field of practice has attained a requisite level of knowledge and skills. This may assist the consumer in choosing from among several professionals for the service desired. For the profession, a credentialing program helps define the scope of professional practice and knowledge base of the profession. In addition, a good credentialing program enhances the image of the profession by giving visibility to those who possess the knowledge and skills necessary to offer competent services. And for the professional, preparation for a credentialing examination may encourage further study and development of new professional skills. In addition, attainment of a credential provides validation of qualifications, which may help in getting a good job or in relocating to another geographical area, or which may reduce liability insurance costs.

CREDENTIALING IN HEALTH, LEISURE, AND MOVEMENT: TRENDS

Significant national concern about mental and physical health and fitness has resulted in increased development of health promotion programs and increased demand for personnel, particularly those who can lead fitness activities. Unfortunately, a good physique and high level of personal fitness were once the principal qualifications for a job in fitness and health. In
recent years, however, dozens of credentialing programs have been developed to provide a better way of differentiating between competent and incompetent personnel.

The four types of credentialing programs—accreditation, licensure, registration, and certification—are found in the health, leisure, and movement fields. A wide array of organizations and governmental agencies provide paths through which personnel in these fields may obtain recognition of professional competence. The competition among credentialing programs, especially evident in the physical fitness field, is probably beneficial to both consumers and professionals. However, the existence of so many credentialing programs has also raised new issues and concerns and may be confusing and costly to the public as they attempt to discern which is most appropriate (Carter & Keller, 1989).

CREDENTIALING: ISSUES

The appearance of so many credentials for personnel in health, fitness, leisure, and other related areas has understandably resulted in some controversy about the necessity of credentialing and the validity of so many credentialing programs. The following are the main issues raised by credentialing in health, leisure, and movement.

Is Credentialing of Health, Leisure, and Movement Personnel in the Best Interest of the Public?

Insofar as certification, registration, and licensure identify individuals who are competent in their professions, and insofar as accreditation programs promote quality professional preparation programs, one would probably agree that credentialing is in the public interest. It is generally accepted in the United States that competition serves the public. As the number of credentialing programs increases, and as programs accept alternative paths to attaining a credential, the public interest will be further served.

Which Is the "Best" Credential?

When a variety of credentialing opportunities are available, students and professionals often inquire which individual credential is the best. For example, the health educator planning to work in a corporate health promotion program may choose between the Certified Health Education Specialist or the American College of Sports Medicine's Health/Fitness Instructor. The fitness room supervisor of a community recreation center can select from among the American Council on Exercise's Personal Trainer Certification, the Certified Leisure Professional program, or the National Strength and Conditioning Association's Strength and Conditioning Specialist. Although no one credential in health, leisure, or movement has become the
industry standard, many employers recognize certification, licensure, and registration as additional measures of an individual's competence and are beginning to require specific credentials for employment. As a starting point in choosing a credential, then, the individual must consider not only the setting in which he/she plans to work but the special requirements of that setting.

Is a National Credential Better Than a State or Regional Credential?

Credentialing programs may be administered by state or national organizations and agencies. Although most of the programs presented in this publication are national programs, a state license or state-level registration may in some cases be preferable. The individual seeking a credential must decide if the knowledge and practice of the profession is unique to a particular geographic area or clientele. If so, a state credential may be more valid. If knowledge and practice are not locale-or clientele-specific, a national credential is typically chosen.

Should Accreditation and Certification/Registration/Licensure Be Linked?

The Society for Public Health Education (SOPHE) recommends that faculty in baccalaureate health education programs seeking accreditation be eligible for Certified Health Education Specialist (CHES) certification. Leisure services personnel seeking the Certified Leisure Professional (CLP) credential may avoid the requirement for two years of work experience by graduating from a National Recreation and Park Association/American Association for Leisure and Recreation (NRPA/AALR) accredited college or university program. The linkage between certification and accreditation in these examples demonstrates a commitment to quality and high standards. However, some critics see this as evidence of too much control over the process of credentialing and despair at the lack of diversity in professional credentials that such linkages may create. In addition, some colleges and universities are beginning to balk at the high cost of specialized accreditations (Leatherman, 1991).

Who Decides What the "Body of Knowledge" in a Given Profession Is?

With each credentialing agency claiming to represent those who are "most qualified," professionals and students wonder what body of knowledge is needed to be qualified, and why this knowledge often seems to differ among credentialing organizations. The whole notion of credentialing is based on the premise that there is a general body of knowledge in each field which all entry-level professionals use and that this knowledge can be identified and measured. When different credentialing organizations in, for example, the field of physical fitness, measure a slightly different type of knowledge, this suggests that the premise may not be entirely valid. In fact,
there may not yet be a clear definition of professional practice in all these fields.

Are Certification Examinations Testing What They Should?

A certification examination is only as valid as the knowledge base upon which it is constructed. In fact, the most important consideration in a certification examination program is its ability to measure the knowledge needed for a certain job (Haladyna, 1987). Valid certification examinations are developed following role delineation studies, in which experts in a particular field identify:

- areas of responsibility common to specialists in a particular profession;
- specific tasks performed in the actual practice of each area of responsibility;
- time spent in the performance of each task; and
- importance of performing these tasks correctly.

The role delineation study thereby dictates what type of examination is appropriate (written, oral, practical), the areas the examination must cover, and how many questions are to be assigned to each area. Tasks which are performed frequently or which are extremely critical to participant safety should by necessity have more examination questions.

One way for the student or professional to evaluate a certification program is by its use of a role delineation study in arriving at examination content. Most organizations which have done such a study will publish that fact in their examination preparation materials.

What Else Characterizes a Good Test?

Reliability is also important in a certification examination. In other words, an individual taking the same examination at two successive points in time should receive approximately the same score (Lien, 1980). In general, examinations with more questions tend to be more reliable (Lien, 1980; Ebel & Frisbie, 1986). Standardized test procedures, such as closely observed starting and ending times and careful reading of instructions to test takers, can also increase reliability (Lien, 1980).

The score needed to pass a particular certification examination should be determined in advance and may be published. Good testing practice mandates basing this score on the recommendations of subject-area experts and not on an arbitrary estimation of how many people should pass the exam. For example, if subject-area experts determine that a score of 72% constitutes passing a particular certification exam, yet only one-fourth of test takers attain this score, the passing score should not be lowered in an attempt to increase the number of certified professionals.
Should Continuing Education Be Required?

There is at present considerable debate over whether credentialing organizations should continue to assess the qualifications of a professional once the credential has been earned. It seems logical that education and preparation should not stop when the desired credential is finally earned. Although research has not yet documented that keeping abreast of developments in one's field translates into better job performance, some credentialing programs require certified or licensed individuals to provide documentation of continuing education and training.

Someday Will Professionals in Health, Leisure, and Movement Have to Be Credentialed to Practice Their Professions?

Unlike nurses and lawyers, professionals in health, leisure, and movement typically do not have to pass an examination or belong to a specific professional organization to practice their profession. Some individuals advocate more widespread mandatory certifications as a strategy for preventing unqualified applicants from taking jobs away from qualified health, leisure, and movement professionals. Others, however, express concern that qualified professionals will be restricted from certain jobs because they do not belong to certifying organizations or elect to take a specific examination. Actual credentialing practice at the present time falls between the two points of view. For example, certification has almost become the industry norm for aerobics instructors, whereas only two states require public school dance educators to be certified.

This section has briefly explored some general trends in credentialing in the health, leisure, and movement professions. Increased demand for qualified personnel in these fields has resulted in the development of several credentialing programs, and employers, particularly in the fitness field, now require job applicants to have a specific credential.

Credentialing is based on the premise that a field of study has a general body of knowledge, which can be assessed by a role delineation study. Part two of this publication examines credentialing programs in areas which have identified core knowledge through role delineation studies: parks, recreation, and leisure services (including therapeutic recreation); intramural-recreational sports administration; health education; dance education; dance/movement therapy; physical fitness/conditioning leadership; and physical fitness assessment. For each area, information is provided on scope of the profession, the common body of knowledge, credentialing trends, and specific credentialing programs.

No attempt has been made in this publication to be all-inclusive. There are dozens of credentials offered in health, leisure, and movement which have not been described here. For information on additional creden-
tials, the reader is directed to the list of references and resources at the end of each section.

REFERENCES AND RESOURCES


PART TWO: CREDENTIALING PROGRAMS IN HEALTH, LEISURE, AND MOVEMENT

Certification, licensure, and registration indicate which individuals possess the education, experience, skills, and knowledge needed for practice of a profession. Typically, knowledge is assessed by a written examination and skills by observation, although registration programs do not require an examination and most certification programs do not have a practical, or skills, assessment. Thus, after selecting the field in which one wishes or needs to be credentialed, the individual must next determine which credential best matches his or her knowledge and skills.

This section of the Trends and Issues Paper offers information about several specific credentialing programs in health, leisure, and movement. Because these fields of study are relatively young and therefore are still evolving, one might expect their credentialing programs to also experience change over time. Included here is the most recent information available at the time of publication, but the reader who is seriously considering obtaining a credential should contact the specific credentialing organization for the most up-to-date requirements.
PARKS, RECREATION, AND LEISURE SERVICES

SCOPE OF THE PROFESSION

The Council on Postsecondary Accreditation defines recreation and leisure services as,

the study of leisure behavior and its effect on people and social institutions . . . . The leisure services professional utilizes the knowledge and motivation of leisure behavior to: (a) conceptualize, plan, organize, implement and evaluate recreation and leisure activity that generates positive community development; (b) enhance people’s abilities and satisfactions from participation in leisure activity; and (c) develop, design, maintain or preserve quality natural or man-made physical environments that serve as the "place" where leisure activity is principally expressed.

(Henkel, 1985)

Therapeutic recreation is a facet of leisure services in which recreation and leisure experiences are used to help people improve their health, prevent problems, and maximize their potential. Therapeutic recreation programs may be based in community park and recreation agencies or may be found in hospitals, psychiatric institutions, nursing homes, rehabilitation centers, correctional facilities, outdoor centers, residential schools for the disabled, and other human service agencies.

COMMON BODY OF KNOWLEDGE

There is general consensus that the scope and content of the literature in parks, recreation, and leisure services has expanded, reflecting a maturity in these fields. In general, professionals working in these areas need to have skills in:

- Program administration--developing a budget or giving input into budget development, supervising staff, interpreting departmental policies, developing good public relations, and marketing the program.
- Program delivery--planning the parks and/or recreation program, developing program objectives, assessing participant needs, scheduling, making program arrangements (such as transportation), and evaluating programs.
- Facility and resource management--operations and maintenance (whether the leisure services setting is a pool, community center, nursing home activities room, or a park).
Therapeutic recreation—individualized program development and supervision for participants with special needs (even professionals whose primary job function does not involve therapeutic recreation per se will require these skills).

CREDENTIALING TRENDS

As recently as the late 1970s, fewer than half of practitioners in public parks and recreation departments had a college degree. Some concern was even expressed at that time that public parks and recreation was not a profession.

A great deal of professional growth in the parks and recreation field occurred in the 1980s, such as improvement of parks and recreation college programs and the appearance of more sophisticated texts. A recent survey of municipal parks and recreation directors in large western cities found that 98.3% had a baccalaureate degree from a college or university, although only about 40% received their degrees in park and recreation administration (Turco, 1990). Today, college preparation has become the norm for the upper-level of professional practice.

Registration in recreation and leisure services has historically been fragmented and had very little impact on development of the profession. Voluntary registration in the parks and recreation profession began in the mid-1950s, with most registration programs in the early years being administered by state park and recreation associations (Henkel, 1985). From 1960-65 the American Recreation Society operated a national registration program, and, when the National Recreation and Park Association (NRPA) was formed in 1965, a registration program was developed and ultimately implemented in 1973. Thirty-three states adopted this program, which was criticized even then for its lack of rigor. In 1981, NRPA developed a Model Certification Plan with more rigorous standards, which 40 states adopted. This plan provided one of three professional-level options which linked certification to accreditation, as it required graduation from a college or university program accredited by the American Association for Leisure and Recreation (AALR)/NRPA Council on Accreditation. Renewal of certification requires completion of continuing education units. An examination is now required for Certified Leisure Professionals (CLP).

Credentialing programs for therapeutic recreation personnel have been in existence since the early 1950s, originally through the Council for the Advancement of Hospital Recreation. In 1967 the National Therapeutic Recreation Society, successor to the Hospital Recreation group, began registering therapeutic recreation personnel. In 1981 the National Council
for Therapeutic Recreation Certification (NCTRC) was established to develop a credentialing system based on written examination, education, and experience.

**CREDENTIALING PROGRAMS**

**Accreditation of Parks, Recreation, and Leisure Services Curricula**

The National Recreation and Park Association (NRPA) in cooperation with the American Association for Leisure and Recreation (AALR) sponsor a Council on Accreditation, the only standards-setting program for college curricula in these fields. The council has reviewed baccalaureate and masters programs since 1974, although it stopped accrediting masters programs in 1983. It was recently recognized by the Council on Postsecondary Accreditation (COPA) and is a full voting member of COPA's Assembly of Specialized Accrediting Bodies.

Academic units in leisure and recreation may seek accreditation for their professional program and for specific program options in: (a) leisure services management, (b) natural resources recreation management, (c) leisure/recreation program delivery, and/or (d) therapeutic recreation. Programs seeking initial accreditation must first file a preliminary application to determine if they meet preliminary eligibility standards. If the preliminary application is approved, the program may proceed with the formal application. Faculty of the program seeking accreditation must undertake a self-study and submit a self-study report. The Council on Accreditation then assigns a visitation team which evaluates the self-study report and makes a site visit. Finally, the council acts on all reports at one of its two annual meetings.

Programs maintain their accreditation by filing an annual report, paying an annual fee, and conforming to council standards. An accredited program is normally revisited and re-evaluated every 5 years. NRPA and AALR publish a list of all accredited programs annually. Their latest accreditation report lists 92 college and university programs currently accredited (Ninety-two, 1991).

**Certified Leisure Professional (CLP)**

After the National Certification Board (NCB) of NRPA revised its Model Certification Plan, work was begun on a certification examination. In 1989 the board conducted a job analysis to determine core knowledge requirements for the entry-level leisure professional. The results of this analysis provided the basis for the Certified Leisure Professional (CLP) examination. The examination is administered by a professional testing agency and was administered for the first time in 1990.
To be eligible to take the CLP examination, an individual must have:

1. A bachelor's degree or higher from a NRPA/AALR accredited program; OR
2. A bachelor's degree or higher from a regionally accredited institution not having NRPA/AALR accreditation, with a major in recreation, park resources, or leisure services, plus current full-time employment, and at least 2 years of full-time experience in a recreation, park resources, and leisure services position following completion of the degree; OR
3. A bachelor's degree or higher from a regionally accredited institution, with a major other than recreation, plus current full-time employment, and at least 5 years of full-time experience in a recreation, park resources, and leisure services position following completion of the degree.

There was a "grandfathering" period, whereby individuals who had been certified as CLPs prior to May 1990 through a state plan approved by the NCB or through NRPA's direct national certification program did not have to take the examination. In addition, those already meeting CLP education and experience requirements and who applied for certification before May 1, 1990, did not have to take the examination.

The CLP examination includes approximately 100 items and covers four core areas:

- Leisure services management--25% of the examination content is in budget and finance, staff development and supervision, policy formulation and interpretation, public relations, and marketing.
- Leisure/recreation program delivery--35% of the examination content is in assessment, planning, implementation, and evaluation of programs.
- Natural resources/facility management--25% of the examination content is in planning, development, management, and maintenance of facilities and recreation resources.
- Therapeutic recreation--15% of the examination is devoted to individualized programming for those with special needs.

The certification is valid for 2 years: Continuation of certification requires completion of at least 2 Continuing Education Units or the equivalent in college credits within 2 years after certification or renewal of certification is granted. Certification may also be withdrawn if the NCB judges an individual to have engaged in conduct detrimental to the profession. An individual need not be a member of NRPA to become certified, although members pay a reduced fee.
Provisional Professional Certification

The National Certification Board of NRPA offers this certification for individuals with appropriate educational qualifications for CLP but insufficient experience. To be eligible for provisional certification, an individual must have a bachelor's degree or higher from a regionally accredited institution, with a major in recreation, park resources, and/or leisure services. Individuals already certified as Provision Professionals before May 1, 1990, are not required to take the CLP examination when they accumulate enough experience to qualify for CLP status.

The certification is valid for 2 years. Continuation of certification requires completion of at least 2 Continuing Education Units or the equivalent in college credits within 2 years after certification or renewal of certification is granted. Certification may also be withdrawn if the NCB judges an individual to have engaged in conduct detrimental to the profession. An individual need not be a member of NRPA to become certified, although members pay a reduced fee.

Certified Leisure Technician

This level of certification is available for those who have an associate degree or high school diploma. To be eligible for certification as a leisure technician, the applicant must have:

1. An associate degree from a regionally accredited institution with a major in recreation, park resources, or leisure services; OR
2. An associate degree from a regionally accredited institution, with a major other than recreation, park resources, or leisure services, and 2 years full-time experience in recreation; OR
3. A high school diploma or equivalency certificate and current full-time employment and at least 4 years of full-time experience in a recreation, park resources, or leisure services position.

When the Certified Leisure Technician meets eligibility requirements for the CLP, he or she must take the CLP examination.

The certification is valid for 2 years. Continuation of certification requires completion of at least 2 Continuing Education Units or the equivalent in college credits within 2 years after certification or recertification is granted. Certification may also be withdrawn if the NCB judges an individual to have engaged in conduct detrimental to the profession. An individual need not be a member of NRPA to become certified, although members pay a reduced fee.
Certified Therapeutic Recreation Specialist (CTRS)

Since 1981 the National Council for Therapeutic Recreation Certification (NCTRC) has certified over 10,000 individuals in two levels of practice: the professional Therapeutic Recreation Specialist (TRS), and the paraprofessional Therapeutic Recreation Assistant (TRA). These credentials were awarded based on review of academic coursework and experience. In 1990, NCTRC began requiring an examination for those seeking its certification.

The Certified Therapeutic Recreation Specialist (CTRS) examination is based on results of a role delineation study conducted by NCTRC and is administered by a professional testing agency. There are two paths to this certification:

1. Professional academic path--requires a baccalaureate degree or higher from a regionally accredited college or university, with a major in therapeutic recreation or a major in recreation with an option in therapeutic recreation. The individual seeking certification via this path must also have completed a 360-hour supervised internship in a therapeutic recreation program; OR

2. Professional equivalency path--requires a baccalaureate degree or higher from a regionally accredited college or university with 9 semester hours of therapeutic recreation coursework, 9 semester hours of recreation coursework, and supportive coursework in special education, psychology, adaptive physical education, and science. The applicant must also have 5 years of full-time paid experience in a therapeutic recreation setting.

Those individuals meeting the above eligibility requirements may take the CTRS examination, which was first offered in fall 1990. Current Therapeutic Recreation Specialists have until fall 1992 to take the examination without having their education, fieldwork, and work experience reviewed.

The CTRS examination includes 200 multiple-choice questions and is approximately 3 and 1/2 hours in duration. Examination content areas include:

- Theories and concepts of leisure, therapeutic recreation, and service delivery systems (8% of content);
- Etiology, symptomatology, prognosis, and treatment of conditions and disabilities served by the program (11%);
- Techniques and processes of assessment and domains of assessment, including cognitive, social, physical, emotional, and leisure domains (15%).
Program design and considerations of treatment programs (18%);
Implementation of treatment programs and intervention techniques, such as behavior management, stress management, assertiveness training, remotivation, reality orientation, values clarification, cognitive retraining, counseling techniques, and sensory stimulation (16%);
Documentation and evaluation (9%);
Organizing and managing services (10%);
Professional issues, such as legal/ethical considerations, public relations, resources for professional practice; and practice issues, such as mainstreaming, accessibility, societal attitudes, advocacy, and legislation (13%).

Several study guides are available for those preparing to take the examination (O'Morrow, 1990; Stumbo & Folkerth, 1990). An annual fee is required to maintain certification, and the certificate must be renewed every 5 years, although applicants for renewal do not need to take the examination again.

REFERENCES AND RESOURCES


SCOPE OF THE PROFESSION

The intramural-recreational sports director oversees provision of a variety of recreational and sports activities in such settings as colleges and universities, the military, private industry, community centers, and schools. At one time, the profession focused on sports and tournaments. Today, the intramural-recreational sports professional may also be responsible for outdoor recreation programming, fitness classes, instructional sports, and a broad array of club activities and special events.

COMMON BODY OF KNOWLEDGE

At one time, intramural-recreational sports professionals were not thought to need any special knowledge. Today, a professionally prepared manager, often with a master's degree, has become the norm (Dudenhoeffer, 1990). In a 1989 survey of 200 college/university recreational sports directors, the majority of respondents rated a master's degree very essential (Karol & Glover, 1990). The degree may be in physical education, sports management, or recreation and leisure studies.

It is generally agreed that the professional in this field needs to have knowledge and skills in:

- Organizing, scheduling, and promoting sports tournaments and other recreational activities. Sports officiating skills may also be necessary in some settings.
- Safety and accident prevention, including liability, injury recognition, first aid and CPR, and equipment operation and maintenance.
- Exercise and sports science.
- Administration of recreation and sports programs, including legal aspects of program development; facility management; budgeting; and management, training, supervision, and evaluation of personnel.

CREDENTIAILING TRENDS

The National Intramural-Recreational Sports Association (NIRSA) was formed in 1950 and since that time has tried to establish an identity separate from, although still aligned with, physical education and recreation. The establishment of a certification examination in 1980 was part of the
process of establishing recreational sports administration as an independent field of study.

CREDENTIALING PROGRAM

Certified Recreational Sports Specialist (CRSS)

NIRSA lists the purposes of its certification program as:
(a) maintenance of a high quality of professional competence of recreational sports specialists; (b) provision of a means of identifying individuals who have the necessary knowledge and expertise; (c) promotion of educational standards set forth for the recreational sports specialist; and (d) encouragement of professional growth and development.

NIRSA began its certification program in 1980 under the direction of a Professional Development Committee. The certification process requires individuals to complete successfully a 2-hour examination containing approximately 125 multiple-choice questions. As of this date, NIRSA has certified nearly 700 recreational sports specialists.

NIRSA characterizes its examination as measuring the knowledge and skills needed by the entry-level recreational sports specialist. The examination covers six major content areas:

- Intramural sports programming techniques (28% of content);
- Safety, first aid, and accident prevention (26%);
- Applied sciences, such as exercise physiology and sports psychology (16%);
- Philosophical foundations of sport, recreation, and play (12%);
- Governance, including due process and conduct of players and spectators (10%); and
- Facility management and operation (8%).

To be eligible to take the certification examination, an applicant must be a member of NIRSA and have:

1. a bachelor’s degree or higher in a recreational sports related field; OR
2. a bachelor’s degree or higher in any field and 1200 hours of internship or paid experience in a recreational sports program; OR
3. a minimum of 6 years full-time professional experience in the recreational sports field.


There is presently no requirement for continuing education to maintain certification.

REFERENCES AND RESOURCES


National Intramural and Recreational Sports Association (NIRSA), Oregon State University, 850 SW 15th Street, Corvallis, OR 97333-4145; 503-737-2088. Available:

- *Study Guide for the National Intramural-Recreational Sports Association Certification Exam.*

HEALTH EDUCATION

SCOPE OF THE PROFESSION

Health educators plan, develop, implement, and evaluate health education programs in a variety of settings for the purpose of motivating people to adopt a healthier life-style. Traditionally, most health educators have worked in schools. Today specialists in health education may be found in (a) schools, colleges, and other educational institutions; (b) medical care facilities, such as hospitals and health centers; (c) corporations, industry, and other workplaces; (d) voluntary health agencies, such as the American Heart Association; (e) commercial sites, such as weight loss centers, smoking cessation clinics, and health clubs; and (f) public health agencies. Many specializations are available in health education by subject area (sex education, environmental health), work setting (school, corporation), and responsibility (educator, administrator).

The health field is growing rapidly and presents numerous opportunities for the entrepreneur. It is also open to quackery and misrepresentation by inadequately trained individuals looking to make a fast dollar. For this reason, the health education profession has been working diligently to put in place credentialing programs.

COMMON BODY OF KNOWLEDGE

Health education can encompass a wide knowledge base, and each health education setting will have its own requirements for specific expertise. In general, however, the health educator should have knowledge of biological, social, and behavioral sciences; communication skills; special health concerns of the elderly, women, children and infants, and minorities; control of communicable and chronic diseases; mental health, stress management, substance abuse; nutrition and fitness; sex education; consumer issues; health delivery systems; and health administration and management.

In addition to knowledge of health content, the health educator should have knowledge of the methods of health education practice.

CREDENTIALING TRENDS

The need for trained health educators in the public schools was first articulated in 1921 by the eminent health educator Clair E. Turner who said,

Ultimately, I believe, we shall have a special health teacher who might be called a Health Supervisor. She will have all the
necessary training... and will supervise and unify all the health work for the group of schools consigned to her, relying upon the grade teacher for a part of the teaching in each room. At present there are few people with complete training for this work. (Sorensen, 1987)

Throughout the 1950s and 1960s professional preparation in health education grew at a slow rate, but between 1967-1982, the number of baccalaureate health education programs increased by 450%, and the number of master's and doctoral programs doubled (Veenker, 1985). Concurrently, the health field has experienced tremendous growth, and health education moved into the workplace along with exercise, leisure services, and fitness. Professional preparation programs in health education were developed to meet this new need for health educators.

Thus, although it is a relatively new profession, health education has taken steps to establish itself as a profession, including a Code of Ethics (Society, 1976). Lacking, however, until recently, has been a system of credentialing qualified health educators in all practice settings (school, community, medical care, business/industry, college/university).

CREDENTIALING PROGRAMS

Accreditation of College/University Health Education Programs

The Council on Education for Public Health accredits Master of Public Health (MPH) programs, which may be found either within or outside of schools of public health. Also, the National Council for the Accreditation of Teacher Education (NCATE) accredits academic programs that prepare teachers of health education.

While not accreditation, the Society for Public Health Education (SOPHE) and the Association for the Advancement of Health Education (AAHE) have a jointly sponsored process for approving undergraduate health education programs. The SOPHE/AAHE Baccalaureate Program Approval Committee reviews academic programs that prepare health educators to work in schools, community agencies, and health care organizations. Seven programs are currently approved.

Registration Programs

Registration has been a credential obtained by some health educators (Smith & Jensen, 1985). States still having voluntary registration programs for health educators include Florida, North Carolina, and Alabama (Varnes & Chen, 1988).
Licensure of Health Education Teachers

Most state education agencies offer licensure (which is commonly termed certification) specifically in the area of health education for those individuals who wish to teach health education in the public schools. A few states still offer a joint licensure/certification in health and physical education. Semester hours of credit in health education required to obtain licensure vary widely from state to state, generally ranging from 12-45 semester hours of credit in health education (Varnes, Bolin, Waters, & Beach, 1989). Requirements of a specific state must be obtained from that state education agency.

Certified Health Education Specialist (CHES)

In 1978 the National Task Force on the Preparation and Practice of Health Educators, Inc., began development of a national credentialing system in health education. This evolved into the National Commission for Health Education Credentialing, Inc., (NCHEC) in 1988. NCHEC now consists of a Board of Commissioners and three divisions, each having a board of seven directors: (a) Division for Professional Development, (b) Division for Certification of Health Education Specialists, and (c) Division for Professional Preparation.

NCHEC oversees the Certified Health Education Specialist credential. Approximately 1,600 specialists were certified in the charter certification phase during 1989. Through December 1991, CHES certification requirements were:

1. bachelor's degree in any major;
2. some work experience in health education; and
3. successful completion of certification examination.

As of January 1, 1992, CHES requirements are:

1. degree with a health education emphasis at or above the bachelor's level; and
2. successful completion of certification examination.

Certified Health Education Specialists must pay an annual maintenance fee and must complete continuing education contact hours every 5 years in order to be recertified. The certification examination is given annually (the first examination was administered in September 1990) and costs approximately $200.

The examination includes 150 multiple-choice questions covering the seven areas of responsibility for the entry-level health educator as delineated by the health education profession:
Assessing individual and community needs for health education (conduct surveys, analyze data, set priorities);
Planning effective health education programs (recruit resource people and organizations, formulate measurable objectives, design learning activities consistent with objectives);
Implementing health education programs (use a variety of educational methods, select methods appropriate for specific learners);
Evaluating the effectiveness of health education programs;
Coordinating provision of health education services (facilitate cooperation between program personnel and with other agencies; organize inservice training);
Acting as a resource person in health education; and
Communicating health and health education needs, concerns, and resources.

REFERENCES AND RESOURCES

American School Health Association, 7263 State Route 43, P.O. Box 708, Kent, OH 44240; 216-678-1601.
Association for the Advancement of Health Education, 1900 Association Drive, Reston, VA 22091; 703-476-3440.
the validity and levels of importance of the role delineation competencies as perceived by selected health educators in Illinois. *Health Education, 21*(3), 10-16.


DANCE EDUCATION

Dance is a field which offers opportunities in performance, recreation, education, and therapy. Credentialing programs in dance are available for dance educators and dance therapists, which are discrete fields of practice. This section and the next of the Trends and Issues Paper will examine credentials available in both areas.

SCOPE OF THE PROFESSION

Dance educators teach basic locomotor skills, movement exploration, rhythm, and dance techniques in such areas as ethnic dance, modern/jazz, ballet, choreography, and performance. Dance educators are employed in public and private schools, commissions for the arts, and in dance schools/academies. They work with individuals of all ages. Credentialing for dance educators has been primarily aimed at individuals working in public schools with children in kindergarten to grade 12.

COMMON BODY OF KNOWLEDGE

The dance educator should have knowledge of dance history, dance philosophy, dance notation, music, kinesiology, and exercise science, as well as skills in dance techniques (Hayes, 1980). Dance educators working in the public schools will be governed by requirements for dance knowledge and skills set by each state, and this varies considerably. States which do not require that dance be taught by a dance educator generally permit any certified teacher to teach dance, and inservice education through college/university dance departments may be provided for these teachers.

CREDENTIALING TRENDS

Traditionally, dance in the schools has been thought of as a component of physical education, and it is only recently that dance has begun to be accepted as a discipline separate from physical education. Credentialing of dance educators is in its infancy. A few states offer certification in dance, but the need for credentialed dance educators has been impeded by the lack of state mandates for dance as a subject required for high school graduation. At the present time only North Carolina mandates that every school offer dance as part of its curriculum, although 15 states have curriculum guides in dance (Gingrasso & Stinson, 1989).
CREDENTIALING PROGRAM

State Certification

State certification requirements for dance educators vary as widely as do certification requirements for elementary and secondary teachers. Two states—Michigan and North Carolina—recognize dance as a separate certifiable subject area, and in those states, dance educators are certified by graduating from a university program with a major in dance. Texas and Utah offer dance certification, but in those states dance may also be taught by teachers with physical education certification. A task force in Florida is attempting to get dance recognized as a distinct certification. In states without specific certification in dance, classroom teachers or physical education teachers may provide dance instruction.

REFERENCES AND RESOURCES


National Dance Association, 1900 Association Drive, Reston, VA 22091; 703-476-3400.
DANCE/MOVEMENT THERAPY

SCOPE OF THE PROFESSION

The American Dance Therapy Association (ADTA) describes dance/movement therapy as a form of psychotherapy which uses dance and movement as a treatment approach. In this context, dance is not used for education or recreation, but as a therapeutic modality.

Dance/movement therapists work in psychiatric hospitals, community mental health centers, licensed treatment facilities, special education settings, rehabilitation centers, and correctional facilities. They may work with clients/patients having social, emotional, cognitive, and/or physical problems.

COMMON BODY OF KNOWLEDGE

The dance/movement therapist has training in both dance and psychology. The individual needs knowledge of and experience in dance, movement observation, individual and group psychodynamics, and broad knowledge of human anatomy and kinesiology.

The ADTA regards a master's degree as the entry level to the dance/movement therapy profession. A liberal arts undergraduate background with studies in psychology is recommended, as well as extensive dance training.

CREDENTIALING PROGRAMS

Two levels of credentialing are available for dance therapists through the ADTA: Dance Therapist Registered (DTR) which is entry-level and Academy of Dance Therapists Registered (ADTR) which is advanced.

Dance Therapist Registered (DTR)

There are three routes to becoming a registered dance therapist (DTR):

1. Master's degree in dance/movement therapy from a program approved by ADTA—individuals graduating with a degree from an approved program and having a grade of B or better in all coursework applied toward registration may simply apply, using a current application form; OR
2. Master's degree in dance therapy from a non-ADTA approved program—these applicants must demonstrate coursework in dance therapy (15 credits); movement observation (6 credits); anatomy
and kinesiology, research methods, and psychology (15 credits of specific courses); some of the course requirements may have been met at the undergraduate level. In addition, the individual must have completed a 200-hour supervised clinical fieldwork, a 700-hour internship supervised by an ADTR, and 5 years of dance education/experience. Two recommendations are required; OR

3. Masters degree from a related area--applicants who do not have a dance/movement therapy degree must have taken graduate-level courses in dance/movement therapy which were taught by an ADTR. Additional coursework requirements include movement observation (6 credits), anatomy/kinesiology or kinesiology, five courses in psychology from a list specified by the ADTA, and research design and methods (3 credits).

In addition, the individual must have completed a 200-hour supervised clinical fieldwork, a 700-hour internship supervised by an ADTR, and 5 years of dance education/experience. Two recommendations are required.

Applicants for DTR must use a current application form, available from ADTA. The application fee is the same for members and nonmembers. Registration is maintained by paying an annual registry fee.

Academy of Dance Therapists Registered (ADTR)

The ADTR credential represents an advanced level of competence in dance/movement therapy and is intended for those individuals who plan to provide training in dance therapy and/or to engage in private practice.

Applicants for ADTR must already be Dance Therapists Registered (DTR) and provide recommendations from three mental health professionals familiar with their work. Two years of paid full-time employment in a treatment setting after earning the master's degree and within the past 7 years is required. The applicant should have had 24 hours of clinical supervision by an ADTR over the 2 years of full-time employment.

Registration is maintained by paying an annual fee.

REFERENCES AND RESOURCES

PHYSICAL FITNESS/CONDITIONING LEADERSHIP

SCOPE OF THE PROFESSION

Parks (1990) observes that, "The 'fitness industry' is enormous and highly diversified, and its essence cannot be captured in a single definition." Professionals in physical fitness include exercise leaders, strength and conditioning specialists, personal trainers, and aerobic dance teachers. The Directory of Professional Fitness Certifications (College and University, 1988), published by the National Association for Sport and Physical Education, lists 18 agencies that certify specialists in the various sectors of the fitness/conditioning industry. Three types of certifications are described below—those for aerobics leaders, for personal trainers, and for strength/conditioning specialists.

Aerobics leaders conduct group exercise classes for apparently healthy individuals or those who have controlled disease. Sometimes the exercise class is highly stylized and choreographed; often it is not. Music is almost always used. This is a hands-on profession which requires exercise leadership skills as well as basic knowledge of anatomy, kinesiology, exercise physiology, physical conditioning, nutrition, and weight control. Aerobics leaders do not have to be certified to practice their profession. However, the American Council on Exercise points out that 75% of health club owners prefer to hire certified instructors.

A new career path within fitness and conditioning, the personal trainer works one-to-one with clients in a fitness center or in a client's home. Personal trainers need knowledge of basic anatomy and physiology, exercise physiology, kinesiology, and health screening and fitness assessment. The personal trainer provides individualized instruction in an exercise regimen designed to meet each client's fitness needs.

Strength/conditioning specialists design and implement safe and effective strength training programs and have expertise in total body conditioning as well. Their objective is to instruct the participant, either individually or in a group setting, in proper exercise techniques to prevent injury. The strength and conditioning specialist may work in a health club; with a professional, college, or high school sports team; or at a YMCA or corporate health facility.

COMMON BODY OF KNOWLEDGE

Although credentialing organizations differ in their specific requirements, the following are areas of knowledge covered by most examinations:
basic exercise physiology; functional anatomy and kinesiology; basic principles of muscular strength, endurance, and flexibility training; weight management; first aid procedures and basic life support; health appraisal; techniques of leading physical activity; group leadership techniques; work with different age levels; injury prevention and recognition; and risk factors that would require medical consultation before participating in exercise. The leader should be able to take an exercise heart rate and resting blood pressure measurement. In addition, the personal trainer should have knowledge of individualized program design, fitness testing, and health screening.

Strength/conditioning specialists need to have broad knowledge of anatomy and physiology, particularly the structure and function of the cardiovascular, muscular, and nervous systems. Also important is a knowledge of exercise physiology, biomechanics, basic nutrition, motor behavior, fitness testing, sport psychology, and proper execution of exercises. The strength and conditioning professional should know proper spotting techniques and other aspects of exercise safety.

**CREDENTIALING TRENDS**

The fitness/conditioning field has expanded tremendously in the past decade, and there are possibly as many as 250 credentialing programs presently available for aerobics leaders, most of them certifications sponsored by national or regional organizations (Parks, 1990). In addition, many fitness centers offer their own in-house certification programs. There are no national standards for certifying aerobic dance instructors, although two organizations—the American College of Sports Medicine (ACSM) and the American Council on Exercise (ACE; formerly the IDEA Foundation)—have emerged as leaders. However, even these industry leaders have different standards for certification.

There is considerable interest among professional associations like the National Association for Sport and Physical Education (NASPE), ACSM, and ACE in promoting stringent certification standards so that the aerobic dance/exercise field becomes more professional and attracts highly qualified individuals. NASPE has also embarked on a project to disseminate certification information to the public so that aerobic exercise participants will be more aware of the qualifications of fitness instructors and choose sound programs.

The number of personal trainers providing one-on-one instruction in fitness has expanded dramatically since 1987. While many of these trainers are knowledgeable, some are untrained and inexperienced, leading to the same concerns expressed about poorly qualified aerobics leaders.
Presently only one national organization has a certification program specifically for personal trainers, the Personal Trainer Certification offered by the American Council on Exercise. The National Strength and Conditioning Association (NCSA) certification program is designed for the personal trainer working one-on-one and for those responsible for directing strength and conditioning programs for groups and teams. Certification from the ACSM may also be appropriate.

**CREDENTIALING PROGRAMS: AEROBICS LEADERS**

**American Council on Exercise (ACE) Aerobics Certification**

The American Council on Exercise is a nonprofit organization which lists its purpose as promoting safe and effective exercise to the public. ACE accomplishes its mission through consumer education, research, and certification of aerobics instructors and personal trainers worldwide.

In 1984 ACE (then known as the IDEA Foundation) established a committee of professionals who developed standards for aerobics instructors, leading to the publication of Guidelines for the Training of Dance Exercise Instructors. Following a role delineation study, ACE offered the first certification examination for aerobics instructors in May 1986. Today, the 3 and 1/2 hour written examination has been passed by almost 30,000 people, about 64% of those taking the exam. The exam covers:

- "core knowledge"—concepts of general physical fitness; physiology of cardiovascular endurance, muscular strength, muscular endurance, and flexibility; anatomy; kinesiology; injury prevention; basic exercise programming; and programming for populations such as the elderly and pregnant women (70% of content);
- emergency training, health screening, and legal issues (10%); and
- basic nutrition, nutrition and exercise, and weight control (20%).

Applicants for the exam must be at least 18 years old and have current certification in cardiopulmonary resuscitation (CPR). ACE publishes study materials for this exam and will provide on request a list of exam preparatory programs which it has accredited. Certification is good for 2 years and may be renewed by accumulating Continuing Education Credits at any of almost 1,200 classes.

**ACSM Exercise Leader Certification**

The American College of Sports Medicine (ACSM) is a nonprofit professional association that generates and disseminates knowledge about the motivation, responses, adaptations, and health of persons who participate in sport and exercise. ACSM members are from fields such as exercise physi-
ology, cardiac rehabilitation, physical fitness, athletic training, physical education, and physical therapy. Six professional certifications at various levels of knowledge and skills are available from ACSM.

Presently, ACSM offers the ACSM Exercise Leader™ certification, which is the entry-level certification for "hands-on" health and fitness professionals who teach and demonstrate safe and effective methods of exercise. The ACSM Exercise Leader™ has the basic knowledge and skills to motivate and communicate with participants, understand basic body functions and responses to exercise, apply principles of exercise and training to fitness programs, lead and instruct exercise programs, and answer basic questions about exercise science and refer others to appropriate sources of information. In addition to possessing the above knowledge and skills, candidates for the ACSM Exercise Leader™ certification should have some training in exercise science, at least 100 hours of hands-on leadership experience, and current certification in cardiopulmonary resuscitation. Candidates should be able to measure a resting blood pressure and monitor heart rate during exercise.

Candidates for the ACSM Exercise Leader™ certification must receive a passing grade on both a written and practical examination. The written examination is multiple choice and covers areas of core knowledge in exercise science:

- Functional anatomy and biomechanics--including basic anatomy of the musculoskeletal system, heart, cardiovascular system, and respiratory system; ability to identify major bones and muscle groups and major muscle groups used in common exercises; biomechanics terminology;
- Basic exercise physiology and basic principles of muscular endurance, strength, and flexibility training;
- Human development/aging--including anatomical, physiological, and motor changes that occur as a result of maturation; exercise precautions for youth and the elderly;
- Human behavior/psychology--including motivational techniques and communication skills;
- Pathophysiology/risk factors which may require consultation with medical or allied health professionals prior to participation in physical activity;
- Health appraisal and fitness testing--including use of health histories, informed consent and medical clearances, and assessment of body composition, flexibility, muscular strength and endurance, and cardiovascular endurance;
- Emergency procedures/safety--including basic first aid;
- Exercise programming—including determining appropriate intensity, duration, frequency, and progression of exercise; monitoring exercise intensity; class organization, procedures, and leadership; exercise program modifications in illness and pregnancy; and
- Nutrition and weight management.

ACSM's *Guidelines for Exercise Testing and Prescription* (1991) provides specific behavioral objectives for these areas of knowledge. A passing grade on the written examination is 67%.

For the practical examination, candidates spend 15 minutes at each of three different examination stations. All three stations must be successfully completed to receive a passing grade.

Applicants will receive a study packet from ASCM, which lists general and specific learning objectives covered by the examination, and a reading list. ACSM offers an optional 3-day workshop prior to the certification session for those who wish to review core knowledge areas and exercise leadership skills.

**CREDENTIALING PROGRAMS: PERSONAL TRAINERS**

**American Council on Exercise Personal Trainer Certification.**

ACE's Personal Trainer Certification examination was offered for the first time in May 1990. The examination is similar to ACE's aerobics certification: multiple-choice format and 3 and 1/2 hours in length. The examination content includes:

- Health screening of participants (10% of content);
- Fitness testing, including emergency procedures (17%);
- Individual program design and core exercise sciences (30%);
- Instruction in proper exercise techniques, motivation, equipment maintenance, first aid, and CPR (38%); and
- Professional, legal, and ethical issues (5%).

Applicants for the exam must be at least 18 years old and have current certification in CPR. Certification is good for two years and may be renewed by accumulating Continuing Education Units.

ACE publishes a study manual for this examination and can supply a list of organizations known to provide exam preparation. Since ACE does not yet accredit training programs for the Personal Trainer Certification, this list is provided as a service to exam candidates without the official endorse-
ment of ACE. ACE recommends 25-60 hours of supervised education and training with a qualified instructor before taking the examination.

CREDENTIALING PROGRAMS: STRENGTH AND CONDITIONING SPECIALISTS

Certified Strength and Conditioning Specialist (CSCS)

The 14,000-member National Strength and Conditioning Association (NSCA) includes strength and conditioning coaches of athletic teams, biomechanists, sports scientists, sports medicine clinicians, personal trainers, sport coaches, and teachers. The association began its certification program in 1985 following a role delineation study, which has been recently updated (Hayez, Barnhill, & Baechle, 1988). Approximately 1,500 CSCS candidates have been certified, a 60% pass rate.

The CSCS examination consist of approximately 190 multiple-choice questions in two sections: (a) scientific foundations of strength/conditioning and (b) practical/applied. The practical section of the examination includes case studies and technique and testing protocol in conjunction with analysis of a videotape. Applicants must pass both sections of the examination to be certified.

Applicants for the CSCS examination must possess a baccalaureate degree (BA or BS) and have current CPR certification. There is a reduced examination fee for NSCA members. Once certified, individuals must earn 6 Continuing Education Units over a 3-year period to maintain CSCS status.

NSCA sponsors a 2-day examination preparation workshop annually, just prior to its annual convention. The association also publishes additional study aids (see references and resources at the end of this section).

REFERENCES AND RESOURCES

The American College of Sports Medicine, P.O. Box 1440, Indianapolis, IN 46206-1440; 317-637-9200. Available:

Study Packet: Exercise Leader.
American Council on Exercise, 6190 Cornerstone Court East, Suite 202, San Diego, CA 92121-4729; 619-452-1-ACE. Available:

Aerobic Dance-Exercise Instructor Manual.
Personal Trainer Manual.
Real Questions.
Personal Trainer Exam Content Outline and Recommended Reading List.


National Association for Sport and Physical Education, 1900 Association Drive, Reston, VA 22091; 703-476-3410.

National Strength and Conditioning Association, P.O. Box 81410, Lincoln, NE 68501; 402-472-3000. Available: *Essentials of Strength Training and Conditioning Workbook and Audiotapes Techniques for Free Weight Training (video).*

PHYSICAL FITNESS ASSESSMENT

The previous section of this Trends and Issues Paper considered credentials available for individuals whose primary job responsibility is conducting fitness programs. Certifications described in this section are for professionals who may design and conduct exercise programs, but whose primary job responsibility is fitness assessment of program participants.

SCOPE OF THE PROFESSION

Fitness assessment professionals are employed in programs serving apparently healthy adult clients who do not require medical supervision during exercise. These individuals work in health clubs, corporate fitness programs, and wellness programs sponsored by hospitals or other agencies.

The primary job responsibility of the fitness assessment professional is to conduct fitness evaluations, screen participants for exercise participation, and design safe and effective exercise programs. The professional may lead exercise classes and/or may train and supervise aerobics leaders. He or she may also do basic health counseling.

COMMON BODY OF KNOWLEDGE

The professional whose primary job responsibility is fitness assessment should have knowledge of basic exercise science, nutrition, kinesiology, health risk appraisal, anatomy (particularly of the muscular and cardiovascular systems), and counseling and motivation. The competent fitness assessment professional should be able to estimate body composition using skinfolds and circumference measures; administer flexibility assessments; administer isotonic and isometric tests of muscular strength and common tests of muscular endurance; screen clients for cardiovascular fitness evaluation; use standard protocols to administer a continuous, multistaged submaximal test of physical work capacity; measure heart rate and blood pressure at rest and during exercise; recognize signs that a fitness test should be terminated; recognize signs that emergency procedures are needed; and administer appropriate first aid.

CREDENTIALING TRENDS

The American College of Sports Medicine (ACSM) is considered by many to be the "gold standard" in fitness certification, particularly at this level (Cinque, 1986). ACSM is a nonprofit professional association that generates and disseminates knowledge about the motivation, responses, adaptation, and health of persons who participate in sport and exercise.
ACSM members are from fields such as exercise physiology, cardiac rehabilitation, physical fitness, athletic training, physical education, and physical therapy. The association sponsors six professional certifications at various levels of knowledge and skills, including certifications at the postgraduate level. ACSM is the only organization certifying fitness assessment professionals.

CREDENTIALING PROGRAM

ACSM Health/Fitness Instructor Certification

Candidates for Health/Fitness Instructor certification must have a baccalaureate degree in an allied health field or 600 hours of full-time employment in a health/fitness setting in the past 2 years. Current CPR certification, medical clearance, and recommendations for individuals having knowledge of the candidate's experience are also required. Certification candidates need not be ACSM members, although members pay a lower examination fee.

Candidates must pass written and practical examinations, both of which may be taken on the same day. The written examination consists of multiple-choice questions based on objectives outlined in Guidelines for Exercise Testing and Prescription (American, 1991). Candidates are expected to be familiar with material from the ACSM Exercise Leader™ examination. In addition, the test covers the following areas:

- Functional anatomy and biomechanics—including biomechanical principles of various physical activities and blood pressure measurement;
- Exercise physiology—including calculating energy cost in METs and physiological principles underlying physical fitness;
- Human development/aging—including differences in exercise prescriptions for children, adults, and the elderly;
- Human behavior/psychology—including strategies for exercise adherence, behavior change strategies for weight control, and stress management techniques;
- Pathophysiology/risk factors underlying the major chronic diseases, role of physical activity in modifying the lipoprotein profile, and effects of common drugs on exercise testing and prescription;
- Health appraisal and fitness testing—including use of health histories; informed consent and medical clearances; assessment of body composition, flexibility, muscular strength and endurance, and submaximal and maximal cardiorespiratory fitness; calibration of a cycle ergometer and motor driven treadmill;
Emergency procedures/safety--including reduction of risks associated with exercise and immediate treatment of injuries;

Exercise programming--including design and implementation of individual and group exercise programs; modification of exercise programming for participation at altitude, different ambient temperatures, and pollution; and exercise modification in various disease states;

Nutrition and weight management--including knowledge of the exchange system, determination of recommended body weight, and strategies for weight management; and

Program administration--including record keeping and development of educational programs.

The 4-station practical examination tests candidates on:

- evaluation of health-risk status of a potential exercise participant;
- assessment of body composition, flexibility, muscular strength, and endurance; and
- administration of a continuous, multistaged submaximal test of physical work capacity using either a treadmill or bicycle ergometer (stations 3 and 4).

ACSM offers an optional 4-day workshop for those who wish to have a review. Prior to the workshop, participants should develop skills in blood pressure and heart-rate monitoring, experience in exercise class leadership, and knowledge of anatomy and physiology. All examination applicants will receive a study packet from ACSM and a reading list.

REFERENCES AND RESOURCES

American College of Sports Medicine, P.O. Box 1440, Indianapolis, IN 46206-1440; 317-637-9200. Available:
Study Packet: Health/Fitness Instructor.

