

# INDIANA

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2003



Indiana Association  
for Health, Physical  
Education, Recreation  
and Dance

*Active  
Lifestyles:*



*Changing  
the Shape  
of Indiana*

Affiliated with American Alliance for HPERD

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# JOURNAL

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# Indiana Journal

for Health, Physical Education, Recreation and Dance

Volume 32, Number 1

Winter 2003

Indiana Association for  
Health, Physical Education, Recreation and Dance

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## Indiana AHPERD 2002-2003

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# Message from the President

## Active Lifestyles: Changing the Shape of Indiana

Active Lifestyles:  
Changing the Shape of Indiana  
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Greetings to all members of IAHPERD!

With fresh memories of an enriching and challenging state conference, we extend thanks and congratulations to Dr. Mike Fratzke, IAHPERD Past President, and all of the Program Council. Well done! The sessions presented at the Westin Hotel in November sent us home with ideas and energy to share with others. What a wonderful opportunity our annual 2002 IAHPERD Conference gave us...to network with others, hear current research and practice, to honor outstanding professionals and students and to visit exhibits. On behalf of the Board of Directors we thank those who did the planning and organizing of the gathering. By our attendance at the conference, we have all played out, in part, its theme by sharing "Strength Through Collaboration".

As we look to the beginning of the year 2003, I hope we can shift our focus in another direction. The theme for 2003 will be "Active Lifestyles: Changing the Shape of Indiana". Since we are an association that serves many disciplines - Health, Physical Education, Recreation and Dance, there are many ways in which we can be active and make positive lifestyle changes. In our homes, work places, schools, studios, agencies we all make choices of how we spend our time — actively or not so actively. Let us choose activity and show by our example that active lifestyles do make a difference in promoting health and well-being.

IAHPERD will begin the new year in February by going to the Indiana State Capitol Building for the annual Legislative Summit. A group of professional, led by Elise Studer Smith will present our state senators and representatives with a packet of information advocating the importance of fitness, health, activity and physical education for the citizens of Indiana. Jump rope teams, elementary school children and a senior citizen group will perform throughout the day illustrating the many choices available in activity. Our state leaders will be invited to do a fitness buddy walk with youngsters and learn to use a pedometer. We hope to emphasize that active lifestyles can "change the shape of Indiana".

The Legislative Summit is just the beginning of good things to come in 2003. Later in February, the leadership team (a growing number of more than 50 people) will gather for an annual planning conference at McCormick's Creek State Park. There, many groups go to work to plan exciting programs for our

members. Some of the past results of this meeting have been Region Workshops on fitness, technology and elementary games. College/university students have planned leadership retreats for others and elected group members to attend Midwest and AAHPERD Future Professional Conferences. Committees have selected IAHPERD scholarship and award winners and have chosen winners of grant dollars in amounts ranging from \$50 to \$2,000. Contests for elementary and high school students have been created to help students think about healthy lifestyles. Ideas have been gathered for speakers for the following year's conference. These are only SOME of the many service projects, events, and ideas sponsored by IAHPERD. There will be more!

Watch for news of a project to promote active lifestyles among Indiana 4th-6th graders throughout the winter and spring months of 2003. In a collaborative effort with the Indiana Department of Education, the Indiana Governors Council on Physical Fitness, the National Institute for Fitness and Sport, the Firebirds and IAHPERD a "Spring into Action" Day will be held on May 7, 2003 in Indianapolis. It will be a celebration and an encouragement to be active! Participation packets and qualifying information will be coming to teachers in January. It will be a great way to put the "cap on" a semester filled with fitness activities. Hope your school will join others throughout the state to make this a terrific spring event. It coincides with ACES Day.

It is evident, IAHPERD is working for us and those we serve. Ours is a high energy profession! Even though we are all busy, each of us have a contribution we can make! We need every one of us! Please consider renewing and continuing your participation in IAHPERD events and services. Better yet - join our leadership group! Become a region representative, committee member, program council member or board member. Write a journal article. Present at a workshop or conference. Do a Jump Rope or Hoops event.

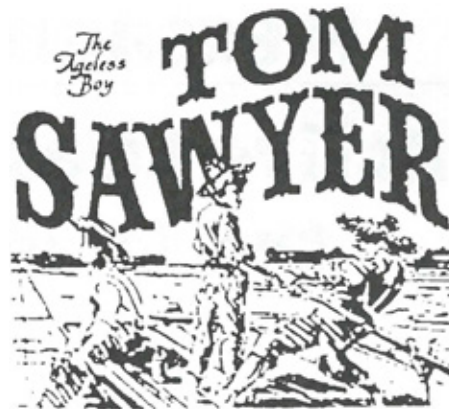
We have the opportunity to bring challenge, fulfillment and joy to those we serve. We can make a difference in the lives we touch daily. Share your vitality, ideas and time. Hope you'll stay connected with others in this profession. Check back next journal. There will be lots more to tell about great things happening in Indiana in 2003.

Active lifestyles begin with us. We can change the shape of Indiana.

Rebecca A. Hull

# NOTIONS From YOUR EDITOR...

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## Automated External Defibrillators in Sport, Physical Education and Recreation Settings: Emerging Litigation

by J.D. Spangler

*Atcovitz v. Gulph Mills Tennis Club, Inc.*  
Superior Court of Pennsylvania  
766 A.2d 1280  
January 16, 2001

Sudden cardiac arrest (SCA) causes approximately 250,000 deaths per year in the United States. It occurs when the heart stops beating or fails to function well enough to pump blood throughout the body. The potential for SCA to occur in sport and recreational settings has been well established. For example, two of the top five public places with the highest incidence of SCA are sport stadiums and golf courses (Becker, Eisenberg, Fahrenbruch, & Cobb, 1998). Sudden cardiac arrest also occurs in aquatic settings, fitness/wellness centers, outdoor recreational settings, amusement parks, and high school and college athletics. In fact, Cantwell (1998) documented that an average of 16 sudden cardiac deaths occur each year among high school and college athletes in the United States.

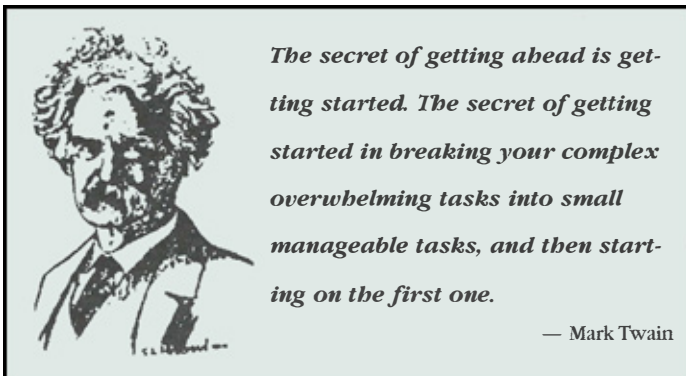
The single most important factor in saving the life of a person who has suffered SCA is time to defibrillation. The odds of a victim's survival from the onset of SCA decreases by 7 to 10 percent with each passing minute. Therefore, it is critical to provide defibrillation as quickly as possible. A device called an automated external defibrillator (AED) is gaining acceptance for the timely provision of emergency care (defibrillation) in sport and recreation venues. This device can determine whether the heart has stopped functioning and deliver, if needed, an electric shock to restore a normal heart rhythm. The American Heart Association and the

American Red Cross advocate publicly accessible AEDs, which cost between \$2,500 and \$5,000. The device is used in conjunction with cardiopulmonary resuscitation (CPR), and training can be accomplished in a four-hour course.

Recognizing the importance of AEDs as a lifesaving device, state legislatures have enacted laws to limit the liability for those who use or are otherwise responsible for the use of AEDs (Spengler & Connaughton, 2001). The following case is the first published decision to provide an interpretation of statutory language relevant to AEDs in a sport and recreation setting.

Facts of the Case In 1996, a tennis player, Jerry Atcovitz, suffered sudden cardiac arrest while playing at a tennis club in Pennsylvania. He survived the SCA but was permanently injured as a result. The tennis club did not have an AED on the premises at the time of the incident, nor did they have anyone on the staff who was trained in the use of an AED.

Complaint and Verdict Mr. Atcovitz and his wife brought a negligence lawsuit against the tennis club,



claiming that his injury could have been mitigated if the facility had had an automated external defibrillator available on the premises. The defendant tennis club claimed that state law prohibited club employees from using the device. They relied on statutory language that required AEDs to be used only by trained and licensed medical professionals. The club maintained that their employees were not trained and licensed medical professionals and therefore not permitted to operate an AED. Furthermore, the club argued that since their staff was not permitted to use AEDs, they were not required to have an AED on site. The trial court, on reviewing the statute, accepted the tennis club's motion for summary judgment and dismissed the case. The Atcovitzes appealed the decision of the trial court.

The Pennsylvania Superior Court agreed to hear the case and address the statutory provisions relevant to AED usage. The court addressed the state's Good Samaritan statute in determining whether the tennis club was required to have an AED on site. This statute provides immunity to trained users but also provides an exception. The exception provides immunity from civil damages to an untrained individual who uses an AED in good faith as a reasonably prudent person would under the same or similar circumstances. The court held that the exception made clear the legislature anticipated the use of AEDs by laypersons and did not restrict their use to trained medical professionals. Thus, the court did not agree that the tennis club was not required to provide an AED and reversed the trial court's order of summary judgment for the defendant. The case was remanded to the lower court for trial pending an appeal to the Pennsylvania Supreme Court.

### Definition of Terms

**Automated external defibrillator (AED)**—A battery-driven device that analyzes the heart's rhythm through electrodes and, if needed, administers an electric shock through the chest wall of a person who has suffered a cardiac arrest.

**Sudden cardiac arrest**—An event in which the heart abruptly and immediately stops. It is not the same thing as a "heart attack" or "massive heart attack," in which the heart is severely deprived of oxygen but still beating. However, a heart attack could progress to cardiac arrest (Weitzman, 2001).

**Good Samaritan statute**—Legislation that provides limited immunity for a volunteer rescuer who does not worsen the condition of a person in distress while attempting to render assistance.

### Risk Management Tips

- The party responsible for the AED site should understand the requirements for medical oversight, training and usage, and immunity provisions provided by state law.

- The party responsible for the site should consider potential expenses involved in the implementation of an AED, such as insurance premiums, personnel training, and the cost of acquiring and maintaining an AED.
- Location and storage of the AED should be considered.
- The AED should be properly maintained.
- Documentation of certification, inservice training (e.g., emergency action plan rehearsals), and maintenance should be kept.
- The responsible party should determine the amount and type of coverage provided by its insurance carrier if an AED is implemented.
- AED liability issues should be discussed with a qualified attorney who understands applicable state laws.

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—J. O. Spengler, assistant professor, Department of Recreation, Parks and Tourism, and Daniel Connaughton, assistant professor, Department of Exercise and Sport Sciences, University of Florida, Gainesville, FL 32611.

### Disclaimer

The comments regarding the case presented here are generalized thoughts and not hard law. The cases in Law Review are illustrative of situations that can happen and how the courts have responded to the circumstances. The generalized thoughts may not apply or be proper in all states and jurisdictions and under all circumstances. Finally, it is important to understand that the tips provided may not apply in your state or jurisdiction.

# State of the Profession



## PLAYGROUND SAFETY

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In April 2000, The Robert Wood Johnson Foundation hosted participants from science, medicine, public health, aging services, communications, academia, and the government at a conference to review current situations related to the need to increase physical activity in the aging and to discuss effective interventions in this area. The participants concurred that the issue, inactivity in Americans 50 and above, was under-addressed, complex, difficult to undertake and lacked leadership, communication channels and resources.

As an outcome of that meeting, representatives from AARP, the American College of Sports Medicine, American Geriatrics Society, Centers for Disease Control and Prevention, National Institute on Aging and the Robert Wood Johnson Foundation formed a steering committee to plan a conference which would focus upon the development of a national "blueprint" to guide the work of organizations involved in physical activity among people age 50 and older. That conference, held October, 2000, provided a forum for organizations to discuss and strategize on the topic.

On May 1st, 2001 the coalition of national organizations released the document, *The National Blueprint: Increasing Physical Activity Among Adults Ages 50 Or Older*. This document outlined broad strategies which should serve as a guides for organizations, associations and agencies to inform the public and support plans for increasing activity levels.

The first section of the document provides background information on physical activity and health of Americans over age 50. The second section addresses the barriers to increasing physical activity in this population. Along with the barriers, strategies for addressing the problem are suggested. These strategies are divided into five areas: research, home and community, workplace, medical systems, and public policy. Crosscutting strategies is another category along with marketing and communications are integrated throughout the recommendation.

The category of research strategies to increase the activity level of seniors specifies steps needed in research which are focused upon medical, social, behavioral, policy and marketing research. Implementation of these strategies through program development, implementation and evaluation appears most effective. The home/community strategies focus upon how people live and carry out normal daily tasks. Workplace strategies center upon the worksite as a community resource. Strategies for medical systems focus upon education and continuing education. Public policy and advocacy strategies include strategies for coordination and collaboration among organization and associations that share priorities and objectives.

The following action steps are suggested in the document to implement the plan. These are:

1. Organizations should collaborate with other groups that share an interest in those strategies,
2. Organizations, associations and agencies should focus on activities that they can reasonably expect to accomplish,
3. Organizations need to undertake detailed tactical planning to delineate the specific actions that are needed to achieve the strategies,
4. Organizations need to allocate money and people to help support coalition and collaborative efforts,
5. Health organizations and government agencies must encourage the exchange and dissemination of best practices, and
6. Evaluation should be a key tool in all implementation steps.

The American Association for Active Lifestyles and Fitness (AAALF) which is a national association under AHPERD has received money from the CDC in connection with the implementation phase of the Blueprint to begin workshops centering on active programming for seniors. This project (TESA) began it first two workshops in August 2002 in Illinois and Minnesota.

# Participant Evaluations of an Intensive Lifestyle Management Course In a Higher Educational Setting

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## Abstract

The purpose of this investigation was to evaluate participant perceptions and receptivity of a Lifestyle Management course in a higher educational setting. Twenty-eight participants completed the study and were enrolled in the Lifestyle Management course. The participants experienced high-level wellness in the intensive one-week, nonresidential course. Upon completion of the course the participants completed a course evaluation designed to assess the quality and receptivity of the course content and activities. The highest rated evaluation items were nutrition/eating well, exercise/physical activities, morning exercise group, walking, aerobic and nurturing spirituality. The lowest rated evaluation items were massage, screening/assessments, personal value/goal setting, weight/exercise machines, and restaurant class. The average scores for all the evaluated items were within the very good to excellent categories. A series of 3-way AVOVAs revealed a significant main effect for degree regarding the recipe modification seminar, exercise/physical activities and morning exercise group. Participants with a high school degree rated the recipe modification seminar, exercise/physical activities and the morning exercise group as more valuable experiences than participants with a graduate degree ( $p < .01$ ).

## Participant Evaluations of an Intensive Lifestyle Management Course In a Higher Educational Setting

The world today is filled with people immersed in trying to be more productive, obtain a promotion, and achieve financial security. This type of lifestyle often creates an imbalance in a person's life (Travis & Ryan, 1988). Quite often, this imbalance leads to a lack of exercise, poor nutritional choices, and unmanaged stress. This imbalance is not limited to adults with established careers and social networks but is also experienced by young adults enrolled in college and beginning their professional careers.

In society today, choosing desirable health behaviors such as regular physical activity and a low-fat diet are not practiced to the degree they should be. According to the United States Department of Health and Human Service Healthy People 2010 report (2000) only 22% of adults engage in moderate physical activity for 30 minutes five or more times a week, while nearly 25% of the population is completely sedentary. The average American derives approximately 37% of his or her total calories from fat, including 300-400 mg of cholesterol each day (Davidson & Maki, 1998). Furthermore, when individuals do attempt to modify their lifestyle behaviors, many are unable to maintain the adapted behavior. Adherence research regarding physical activity and low-fat diet report dropout rates up to 50% within the first six months (Carron, Hausenblas, & Estabrooks, 2003). Implementing and maintaining lifestyle changes into daily life are very difficult and have varying degrees of success (Dishman & Buckman, 1996; Winett, Southard, & Walberg-Rankin, 1993). With the aforementioned data, there appears to be a need to establish a primary prevention model of lifestyle management that will assist young adults in starting and maintaining healthy lifestyle behaviors. An intervention designed to target young adults with no apparent disease could be potentially beneficial in reversing the degenerative process in our current society.

There is a sound rationale for an early adulthood intervention for preventing chronic disease. Healthy People 2000 (United States Department of Health and Human Services, 1991) state that early adulthood is the time to build the foundation for chronic disease prevention through the promotion and maintenance of healthy lifestyles. These years are both an appropriate and important time to achieve this goal by providing individuals with a program designed to encourage them to increase their physical activity, lower the fat content in their diets, and manage stress more effectively. Young adults are beginning to evaluate and modify the beliefs, attitudes, values, and behaviors they acquired both in childhood and adolescence and establish more mature, adult, lifestyle behaviors. These early behaviors, such as

unhealthy snacking, irregular activity patterns, smoking, alcohol abuse, and reckless driving, are counterproductive to health (Elderman & Mandle, 1994). Young adults including college students place a high value on health and are aware of what constitutes a healthy diet and a good exercise program. However, as a group, fewer than 25% participate in regular physical activity and they consume a high-fat diet (up to 37% of calories from fat) (Megel et al., 1994).

Another rationale for early adulthood interventions is that young adults are already at risk for developing hyperlipidemia, and therefore chronic diseases such as coronary heart disease. Fatty streaks are developing in their coronary arteries (Cunane, 1993). Adopting desirable lifestyle behaviors early in life can significantly decrease the risk of developing coronary heart disease and other chronic diseases later in life (Cunane, 1993). Finally, by teaching wellness and lifestyle management courses in a higher educational setting there is an opportunity to impact many young adult lives in a positive and healthy manner.

The empirical literature addressing the negative effects of the major risk factors (i.e. sedentary lifestyle, diet, smoking, and stress) associated with chronic diseases has become abundant. However, there is a lack of empirical research involving a sample of relatively healthy (i.e. no apparent disease) young adults that examines their perceptions of an intensive wellness/lifestyle modification intervention. With the paucity of research evaluating intensive lifestyle modification programs, including participants with no apparent disease, there is a need to examine the quality and receptivity of an intensive lifestyle management program in a higher educational setting.

The purpose of this investigation was to explore the quality and receptivity of a one-week, non-residential, intensive lifestyle management course on the health behaviors of a young adult sample with no apparent disease. Receptivity and quality of the Lifestyle Management course activities and content, as measured by the course evaluation, were predicted to report no significant main effect difference between male and females, students and non-students, and the highest degree earned.

## **Method**

### *Participants*

The participants (n = 28) were enrolled in the one-week Lifestyle Management course at a university in the eastern region of the U. S. during the summer academic term. A higher portion of the participants were female (n = 20). The mean age was 23.8 (SD = 3.6) with 10 participants completing high school degrees, 13 completing undergraduate degrees, and 8 completing graduate degrees. All participants voluntarily completed the assessment and evaluation procedures. All participants received \$15.00 compensation for their participation in

the study with a majority also receiving university course credit by paying the appropriate university fees (n = 22).

### *Materials/Instrumentation*

The course evaluation was designed by the investigator to assess the attitudes and impression of the participants regarding the various topics and behaviors presented and experienced during the course. The participants rated the topics, sessions, and activities conducted during the Lifestyle Management course according to quality and personal importance. The responses were given on a five-point Likert scale (1 = "poor" to 5 = "excellent"). A demographic questionnaire, also developed by the researcher, was designed to gather information regarding age, gender, school status, and highest degree earned.

### *Intervention*

The intervention was an intensive one-week, non-residential course in lifestyle management. The course met from 8:00 AM to 7:00 PM Monday through Thursday, and 8:00 AM to 3:00 PM on Friday. Participants in the course experienced high-level wellness for one week, which included, but went beyond, diet and exercise. The Lifestyle Management course was closely reflective of and based on the student involvement theory (Astir, 1985) and the Transtheoretical Model (Marcus & Simkin, 1994; Prochaska, 1984; Prochaska & DiClemente, 1992). The course included formal education on the benefits of engaging in a healthy lifestyle. This incorporated lectures and discussions on exercise, nutrition, preparing healthy meals, disease prevention, stress reduction (journaling, yoga, massage, and meditation), personal lifestyle planning, nurturing spirituality and psychology of the mind-health realization. On a daily basis participants also experienced a healthy lifestyle by engaging in exercise, preparing lowfat mostly vegetarian meals, stress reduction techniques, and discussion groups to improve communication skills and develop emotional social support.

### *Design and Procedure*

This investigation employed a post-test quasi-experimental design. The independent factors were gender, student status, and highest degree earned. The dependent variables were the participants' ratings of the topics, sessions, and activities conducted during the Lifestyle Management course. Participants completed the demographic questionnaire Monday morning prior to beginning the Lifestyle Management course and completed the course evaluation Friday afternoon after the completion of the course. The course was held at a local retreat site which included a complete kitchen and large gathering area. In addition, the facility was in close proximity to a variety of indoor and outdoor resources including a health club, hiking and biking trails, and water activities.



### *Data Analyses*

A series of three-way Analyses of Variance (ANOVAs) were executed to determine significant differences between the independent factors (gender, student status, degree earned) and the dependent factors (evaluation items). A conservative level of probability was set at  $p < 0.01$  for all analyses.

### *Results*

The percentage and mean response for each evaluation item by all participants are presented in Table 1 from the highest rated item to the lowest. The five highest rated evaluation items for the Lifestyle Management course were: 1) nutrition/eating well, 2) exercise/physical activities, 3) morning exercise group, 4) walking, and 5) aerobics and nurturing spirituality (tied). The five lowest rated evaluation items were: 1) massage, 2) screening/assessments, 3) personal value/goal setting, 4) weights/exercise machines, and 5) restaurant class. The average scores for all course evaluation items were within the very good to excellent categories (see Table 1).

A series of three-way ANOVAs revealed no significant main effect for gender, school status, degree, or significant interaction effects  $GD > .01$  on any of the dependent variables listed in Table 1 except for the significant main effect for degree on the recipe modification seminar, exercise/physical activities and morning exercise group. Participants with a high school degree rated the recipe modification seminar, exercise/physical activities and the morning exercise group significantly higher than participants with a graduate degree (see Table 2 for tests of between-subject effects, means, and standard deviations).

## **Discussion**

As predicted, male and female, and student and non-student participants were not significantly different regarding the Lifestyle Management evaluation items. The hypothesis that predicted equality of evaluation items based on the highest degree earned was only partially supported. Participants with a high school degree rated the recipe modification seminar, exercise/physical activities and the morning exercise group as more valuable experiences than participants with a graduate degree. The differences by degree are mostly likely attributable to the additional education received by those with graduate degrees. With additional education and training it is likely that many of these individuals were well-versed regarding the concepts and methods of recipe modification, and previously experienced a variety of physical activities including exercising in the morning.

The similarity between males and females, students and non-students, and degree earned as measured by the course evaluation provides support that the

Lifestyle Management course was equally well received by most participants. The finding that the average scores for all course evaluation items were within the very good to excellent categories provides additional support for the high perception of quality and receptivity of the course. It is also important to note that four out of the top five rated evaluation items were related to physical activity. This indicates that young adults do value exercise and emphasizes the need to expand the opportunities for this group to be physically active.

The high-perceived receptivity of the course is most likely due to a combination of factors. Interventions based on sound theoretical models, as in this study, offer a solid foundation for introducing and evaluating interventions designed to modify lifestyle behaviors (Baranowski, Anderson, & Carmack, 1998). The perception of being too busy is commonly reported as a barrier to beginning and maintaining healthy lifestyle behaviors. One of the focal points of this course was to assist participants with planning these changes into their daily schedule by having the participants design a lifestyle plan. Furthermore, the environment and social support can be helpful components in increasing an individual's efficacy for adoption and maintenance of health behaviors (Carron, Hausenblas, & Estabrooks, 2003). The Lifestyle Management course environment was supportive, encouraging, and safe which often leads to open interactions and dialogue.

A limiting factor of this study, as with many initial studies, was a relatively small sample size. As a result, replication with a larger sample size is desirable. However, it is important to note that an intensive wellness course designed to assist young adults with modifying their lifestyle behaviors will most likely reduce the rate of success for lifestyle behavior change when the course size becomes too large. Therefore, replications of this study with a more diverse (i.e. variety of ethnicities, single mothers, chronically ill) but similar sample size would increase the external validity of the study.

Another limiting factor of the study was the self-selection of subjects into the Lifestyle Management course. This may have predisposed the participants to have a favorable view of the course. This limitation may be overcome in future research by utilizing an experimental design that randomly assigns participants to different groups.

The results of this initial study provide incentive to further explore the impact of an intensive lifestyle management course in a higher educational setting. Future studies evaluating the receptivity and impact of an intensive lifestyle management course will continue to be important in assisting with development of a primary prevention model for behavior change related to reducing major risk factors for chronic disease. The intensive lifestyle management model presented in this study

**Table 1***Lifestyle Management Course evaluations response frequencies and mean response*

Evaluation Items	Percentage Frequency of Responses (%)					Mean
	Poor	Fair	Good	Very Good	Excellent	
Nutrition/Eating Well	0.0	0.0	0.0	28.6	71.4	4.71
Exercise/Physical Activities	0.0	0.0	3.6	25.0	71.4	4.68
Morning Exercise Group	0.0	0.0	7.1	17.9	75.0	4.68
Walking	0.0	0.0	3.6	28.6	67.9	4.64
Aerobics (water/land)	0.0	0.0	7.1	25.0	67.9	4.61
Nurturing Spirituality	0.0	0.0	7.1	25.0	67.9	4.61
Personal Lifestyle Plan	0.0	0.0	3.6	35.7	60.7	4.57
Stretching	0.0	3.6	3.6	28.6	64.3	4.54
Stages of Change	0.0	0.0	0.0	46.4	53.6	4.54
Screening Results Seminar	0.0	0.0	7.1	35.7	57.1	4.50
Cooking Groups	0.0	0.0	3.6	42.9	53.6	4.50
Psychology of Mind	0.0	0.0	10.7	32.1	57.1	4.46
Cardiovascular Disease	0.0	0.0	10.7	32.1	57.1	4.46
Supermarket Tour	0.0	3.6	7.1	28.6	60.7	4.46
Introduction to Exercise	0.0	0.0	3.6	50.0	46.4	4.43
Recipe Modification	0.0	0.0	10.7	35.7	53.6	4.43
Mindfulness	0.0	0.0	10.7	39.3	50.0	4.39
Yoga	0.0	0.0	21.4	17.9	60.7	4.39
Pool	0.0	0.0	17.9	25.0	57.1	4.39
Journaling	0.0	0.0	10.7	42.9	46.4	4.36
Restaurant Classes	0.0	0.0	7.1	53.6	39.3	4.32
Weights/Exercise Machines	3.6	0.0	14.3	32.1	50.0	4.25
Personal Value/Goal Setting	0.0	7.1	10.7	35.7	46.4	4.21
Screening/Assessments	0.0	0.0	14.3	53.6	32.1	4.18
Massage	0.0	10.7	17.9	25.0	46.4	4.07

potentially represents a valuable paradigm that will assist in reversing the degenerative process in America by limiting the number of young non-diseased adults from becoming chronically diseased.

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**Table 2**

<b>Evaluation item</b>	<b>F</b>	<b>p</b>	<b>H.S. Degree Mean (SD)</b>	<b>Grad Degree Mean (SD)</b>
Recipe Modification	9.70	< .01	4.82 (.405)	3.67 (.516)
Exercise/Physical Activities	5.97	< .01	4.91 (.302)	4.16 (.548)
Morning Exercise Group	6.88	< .01	4.91 (.302)	4.00 (.594)

# An Examination of Content Knowledge Used by Inservice Physical Education Teachers in Indiana

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Legislators and the general public are demanding improvement in education. They recognize that one way to accomplish this goal is to improve the quality of teachers and therefore, teacher education. As a result of this movement, standards that reflect the content knowledge and competencies of qualified teachers have been written. For the most part, pedagogical skills needed for good teaching practices are very consistent across subject areas. A competent teacher has knowledge of numerous areas that impact learning such as: recognizing the developmental characteristics of the learner, planning for student learning, assessing learning in a variety of ways, creating a supportive learning environment, managing a classroom effectively, and reflecting on ways to increase instructional effectiveness and student learning at the conclusion of instruction. Although other differences exist, the greatest differences in teacher standards usually center on content knowledge. In other words, the content knowledge of an English teacher is very different than the content knowledge of a physical educator.

Several different professional associations have attempted to define the content knowledge

of physical education teachers. The National Association for Sport and Physical Education (NASPE) created a document in 1996 outlining the content knowledge necessary for beginning physical education teachers (NASPE, 1995). Content knowledge outlined in Standard 1 of that document included: critical elements and sequencing of basic motor skills; concepts of fitness; historical, philosophical, sociological, and psychological knowledge; anatomy, physiology, exercise physiology; and the relationship between physical activity and health. The National Board for Professional Teaching Standards (1999) also has identified competencies for physical education teachers. Under Standard II: Knowledge of Subject Matter, several areas were identified. These included, motor development and motor learning; exercise science (including knowledge about the organic, skeletal and neuromuscular structures and various components of fitness); physical activity and wellness; movement forms and concepts (including knowledge of basic movement themes, fundamental motor skills, fitness activities, traditional and non-traditional games, competitive and non-

competitive games, dance and rhythms, gymnastics, and sports); sociology and psychology of movement; history, philosophy, and current issues of physical education; legal and safety issues; and technology. Although several studies have looked at the acquisition of content knowledge (Rink, French, Werner, Lynn, & Mays, 1992; Rovegno, 1993; Siedentop, Dontids, Tsangaridou, Ward, & Rauschenbach, 1994), little research has been complete which identifies the content knowledge used by physical education teachers in the field.

## Methods

Using the Standards for Teachers of Health Education and Physical Education (Indiana Professional Standards Board, 1998) as a resource, the researchers developed a survey designed to assess how frequently inservice teachers used various elements of content knowledge when they taught. Teachers were asked to indicate how often they used various items listed using the following scale: often, sometimes, rarely, or never. A second part of the survey asked inservice teachers to rank the Indiana's Academic Standards for Physical Education (2000) in order of importance.

Invitations to participate in this study were mailed to 577 Indiana physical educators, which represented approximately 25% of the physical education teachers listed on the Indiana Department of Education website. This was a deliberate sample of elementary, middle, and high school teachers consisting of 292 males and 285 females. Teachers were given a password to access the survey online or they could request that a hard copy be mailed to them. A reminder postcard was sent two weeks after the initial letter was sent. One month after the reminder postcard, a second mailing containing the actual survey along with a self addressed stamped envelope was sent. The return rate from the two mailings was approximately 30%.

## Results

Table 1 lists the content knowledge that 67% physical education teachers completing the

survey used most often when they taught. Motivating students was considered most important. Also, the idea of making a positive behavioral and/or attitudinal change in students, an item closely related to motivating students, was ranked fourth highest. Several of the other top rated responses dealt with topics which concerned the planning and delivery of instruction: organizing resources to maximize student learning, planning developmentally appropriate lessons, presenting information effectively, and using a variety of teaching styles. The other two areas considered most important by teachers centered on being sensitive to student differences - ethnic, cultural, economic, ability, environment, gender, and students with disabilities. These latter items are areas which have gained increasing attention over the past few years and teachers are obviously sensitive to addressing those concerns on a regular basis when they teach.

As shown in Table 2, several of the science or theory courses (history of physical education, neuromuscular structures, sociology, physiology, and biomechanics) were used often by fewer than 33% of the teachers in this study. Many of the other areas receiving a low rating dealt with connecting to other subject areas or the community. Use of community resources received the lowest rating. Other areas receiving a low priority from inservice teachers included serving as a community or school resource, integrating with other subject areas, use of Gardiner's multiple intelligences to enhance learning, and encouraging communication skills.

Table 3 shows those items used often by more than 33% but fewer than 67% of the study's respondents. The items in this section concern a variety of topics. Five of the nineteen items concern assessment while three involve communication with colleagues and other professionals. Four of the sciences (motor learning, exercise physiology, anatomy, and psychology) are also found in this group. Planning, when dealing with non-subject related issues, is also in this group. Many teachers did not consider it critically important to plan lessons which used higher level thinking skills, despite the recent push in public education for this practice.

The final section of this survey asked teachers to rank the seven Indiana k-12 Physical Education Academic Standards in order of importance. A comparison of the results was done by multiplying all first place rankings by seven, all second place rankings by six, all third place rankings by 5, etc. After completing the calculations, scores were totaled. As shown on Table 4, Standard 7 was ranked first by the greatest number of people, while Standards 4 and 5 were second and third respectively. Standard 1 was ranked last by the greatest number of people, while Standard 2 was ranked sixth in importance.

### Discussion

Those involved in teacher education should take note of the relatively low use of the scientific principles by teachers in the field. Despite the fact that much of the core content of a physical education program centers on the sciences, inservice teachers indicated that very few of the areas are used often when they teach. A possible explanation for this is that teachers simply do not recognize that they are in fact using these content areas in their teaching. The sciences provide a basis for much of what we do regarding physical activity. Knowledge of the bones and muscles (anatomy) lets teachers know which body parts will be involved with various activities. Principles of exercise physiology helps get maximum benefit from fitness-related exercise. Without this scientific information, other areas that teachers indicated using more frequently would not be well understood. Since early physical educators were usually trained in the field of medicine, classes such as anatomy and physiology have historically been a part of a physical education curriculum. A possibility exists that as these core courses are taught, instructors fail to indicate their application in the real world of teaching and preservice teachers are not bridging the gap between theory and practice. If the latter is the case, those in the college ranks should move the content of those courses to an application level instead of merely covering a variety of facts and information. Assessments could be designed to determine how well stu-

dents can apply the content knowledge rather than the mere assessment of factual information that can be learned through rote memorization. Considering that the Indiana Content Standards for Physical Education and Health Teachers specifically address these areas, educators have determined that the material is worth knowing.

Several of the items receiving the greatest attention from teachers deal with the day-to-day issues related to teaching. While motivating students is something that teachers often do, approximately 35% of them indicated that they used principles of psychology often in their daily lessons. Teachers also identified that they spend a lot of time organizing and managing resources, something that, if not done, can greatly enhance the efficiency of their classes. Given that many teachers have large classes, this latter item is likely a high priority for them. Studies need to be done which look at the impact of large classes on teaching effectiveness and ask the following questions: Is there a critical mass, beyond which teaching is not possible and that a recreational "play without instruction" is the only viable solution? How many students can teachers realistically supervise and still teach while keeping everyone safe? Until questions like these are addressed, management issues will continue to be a huge concern for teachers.

Teachers responding did not use the items in this survey related to assessment often. Given the emphasis that assessment has had recently across the nation in most content areas, one assumes that the lack of state-mandated assessment in Indiana is a factor in teacher responses. Teachers must learn the role that assessment can play in increasing student motivation and learning. Additionally, assessment results can be used to document student achievement in physical education which is important when trying to explain the value of a physical education program to parents, administrators, and state officials.

The ranking of standards by teachers also merit examination. Standard 6, which deals with diversity, was ranked fifth in overall importance. As previously reported in this article, 81% of the teachers indicated that they met the laws pertain-

ing to students with disabilities often and 76% indicated that they often communicated in ways that were sensitive to ethnic, cultural, economic, ability, environmental, and gender differences. Given the high level of importance paid to those two items on the survey, one would assume that Standard 6, which deals with diversity, would be rated higher than fifth.

Teachers obviously want children to enjoy physical education (Standard 7) which is consistent with the high priority paid to student motivation and the development of positive student attitudes (Refer to Table 1). While Standard 7 received the highest ranking, Standard 1, which advocates the development of motor skill, was ranked last in importance. The results of this ranking raise the question of what teachers are doing to promote enjoyment in physical education classes. Most people who enjoy physical activity are fairly skilled. If developing skill competency and proficiency is ranked last by those completing this survey, one wonders if Placek's (1983) concern about physical education teachers planning "busy, happy, good lessons" holds true today.

Teachers must have discussions about the role of physical education in the schools. If students are to enjoy physical activity, which is obviously a high priority for the teachers in this study, then students must become more skilled (Rink, 2000). Siedentop, Mand, and Taggart noted in 1986 that:

"if physical education wants to continue to be a part of the school curriculum, students must also learn when they go to the gym, the pool, the fields, or the courts...Either physical education is going to be a school subject in which there is an honest attempt to improve performance and recognize achievement, or it will become a supervised recreation experience for which students need only participate" (p. 26).

If the latter becomes the content of physical education there will be little need to hire teachers to run the program. Paraprofessionals currently run many

non-school programs. If physical education becomes a recreational format, schools may eventually move to replacing teachers with recreation directors at a considerable financial savings or eliminate the programs entirely.

State conferences or journals might be a wonderful place to open the dialogue on this topic. Given the lack of state mandates in physical education in Indiana, the vision of what good physical education can and should be needs to be brought into focus. If the vision is blurry to those in the field, then it probably is unclear to non-physical education professionals who make decisions about the amount of physical education children should receive in schools.

## Conclusion

This survey has examined several issues about the content of physical education. When talking to inservice teachers, one has the sense that they feel that skill development and the teaching of various physical activities is of a high priority. However, results of this survey indicate that other issues are given a higher ranking than that of skill development. This discrepancy should be explored. Leaders in the field from this state should encourage additional discussion about the topics and findings of this survey. Only through these discussions, can the definition of a physically educated individual be clarified. This is the first step in ensuring that physical education will play an important role in the curriculums of Indiana schools. A united message about the nature of a quality physical education program will be a positive first step and critical to ensuring the importance of physical education in the schools for today's as well as future generations.

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**Table 1.**

Items from the Standards for Teachers of Health Education and Physical Education document that teachers reported using often when teaching

Item from standards document	Percent responding used often
Motivate students to participate to their fullest	94
Organize and manage resources such as time, space, facilities, equipment, and teacher attention to engage all learners in the activity	91
Plan developmentally appropriate lessons	85
Use strategies and techniques to develop positive attitudinal and/or behavioral changes in students	84
Meet the laws pertaining to students with disabilities	81
Communicate in ways that are sensitive to ethnic, cultural, economic, ability, environmental, and gender differences	76
Applies principles from motor development	69
Use techniques to present information effectively	67
Use a variety of teaching styles and uses them to make learning more effective	67

Note. All items reported were used often by at least 67% of teachers responding to the survey.



**Table 2.**

Items from the Standards for Teachers of Health Education and Physical Education document that teachers reported using often when teaching

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Item from standards document	Percent responding used often
Applies principles from physiology	33
Encourage students to express themselves through a variety of mediums (e.g. writing, speaking, performing)	31
Applies principles from biomechanics	29
Integrates other subject areas	26
Applies information about skeletal structures	25
Involve learners in self-assessment	24
Serve as a resource for the school and community on health-enhancing behaviors	23
Applies principles from sociology	23
Apply measurement concepts such as validity and reliability	22
Applies information about neuromuscular structures	19
Applies knowledge about history of physical education	12
Use Gardner's multiple intelligences to enhance learning	12
Use community resources to enhance learning	10

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Note: All items reported were used often by fewer than 33% of the teachers responding to the survey.

**Table 3.**

Items from the Standards for Teachers of Health Education and Physical Education document that teachers reported using often when teaching

Item from standards document	Percent responding used often
Applies principles from motor learning	64
Implement ongoing assessment strategies to monitor and promote student learning	62
Advocate to promote physical education in the school's program and/or curriculum	61
Use effective verbal, non-verbal, and multimedia communication techniques to engage students in the learning process	61
Plan and create lessons which meet the needs of physical, cognitive, sensory, and behavioral disabilities	60
Communicate learner's progress to students, parents, and administrators	60
Continually seek new resources and curriculum materials or ideas to keep the program dynamic	60
Applies principles about how the body systems adapt to physical activity	55
Encourage creativity	51
Seek to improve teaching and content knowledge through professional growth activities	49
Use a variety of formal, informal, and alternative assessment techniques to enhance knowledge and evaluate learner progress and performance	48
Use assessment to modify teaching and learning strategies	47
Use a variety of self-assessment techniques to reflect on and improve instruction	43
Interact with colleagues from other curricular areas to maximize student learning	39
Applies principles from anatomy	38
Use current research and professional literature to enhance the teaching /learning process	37
Plan lessons which challenge students to use higher level thinking skills (i.e. analysis, evaluation, synthesis)	36
Plan lessons which challenge students to use higher level thinking skills (i.e. analysis, evaluation, synthesis)	36
Communicate with and seek input from school colleagues, families, professionals, and the community through open houses, faculty meetings, newsletters or conferences	35
Applies principles from psychology	34

Note: All items reported were often by fewer than 67% of the teachers responding to this Survey but greater than 33% of those responding. **Table 4**

**Table 4**

## Frequency Ranking by Inservice Teachers of Indiana's Academic Standards for Physical Education

Standard	Rank order of importance							Composite Score	Overall Rank
	1	2	3	4	5	6	7		
1) Demonstrates competency in many movement forms and proficiency in a few movement forms.	16	19	18	13	20	31	60	550	7
2) Applies movement concepts and principles to the learning and development of motor skills.	17	20	14	25	15	59	27	559	6
3) Exhibits a physically active lifestyle	46	38	21	16	28	14	14	745	4
4) Achieves and maintains a health-enhancing level of physical fitness.	45	33	22	26	24	10	17	836	2
5) Demonstrates responsible personal and social behavior in physical activity settings.	24	28	40	32	25	22	6	789	3
6) Demonstrates understanding and respect for differences among people physical activity settings.	17	23	25	28	34	23	27	669	5
7) Understands that physical activity provides opportunities for enjoyment, challenge, self expression, and social interaction.	54	27	33	26	20	5	13	892	1

**E**xcellence is achieved through repetition of our strengths. By concentrating on our strengths and the quality of our work, our organization's message will become more potent over time. We will find that the power of our message to create political advocacy, to increase professional development, partnerships, and funding will grow stronger and more effective every day. Let us each soar with our strengths to personal, professional, and organizational excellence.

*JoAnne Owens-Nauslar, AAHPERD President*

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# IAAHPERD AWARDS



Betty Jones, Awards Chairperson, and Pat Zezula, Honor Award 2002.



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Genine Scott, and Lora Groombridge, Leadership Award 2002.



Donetta Cothran, Indiana Univeristy, and Betty Haver, Leadership Award 2002.



Becky Hull, President-Elect, and Sue Boronian, Pathfinder Award 2002.

# IAAHPERD AWARDS



Ed Shilling, IUPUI, and Paige Craigie, Dana Education of the Year 2002.



Jane Davis-Brezette, USI, and Rebecca Woodard, Outstanding Young Professional 2002.



Ed Shilling, IUPUI, and Jone Ann Lawler, Elementary Physical Education of the Year 2002.



Kim Duchane, new President-Elect, and Misty Minnear, MC, Outstanding Student of the Year.



Barbara Tyrell, President, and Marla Yoder, Anderson University, Jean Lee/Jeff Marvin Scholarship Winner 2002.

# IAAHPERD AWARDS



Barbara Tyrell, President, and Dustin Vincent, Ball State University, Jean Lee/Jeff Marvin Scholarship Winner 2002.



Barbara Tyrell, President, and Jennifer Anderson, USI, Jean Lee/Jeff Marvin Scholarship Winner 2002.



Barbara Tyrell, President, and Jill Brinkman, Tri State, Jean Lee/Jeff Marvin Scholarship Winner 2002.



Barbara Tyrell, President, and Dolores Wilson, Legacy Award Winner 2002.



Barbara Tyrell, President, with Harry Mosher, Legacy Award Winner 2002.

# IAAHPERD AWARDS



Barbara Tyrell, President, and JoAnn Price, Legacy Award Winner 2002.



Becky Hull, President-Elect, and Barbara Tyrell, President, passing the gavel.



Mike Fratze, Past-President, and Barbara Tyrell, President. Thanks, Mike!



JRH check presented to AHA. Pictured are: Cheryl Carlson, AHA representative, Karen Hatche and Elise Studer-Smith, South Presenters.



# AAHPERD NEWS

## PHILADELPHIA WILL HOST THE NATION'S LARGEST FORUM FOR HEALTH, PHYSICAL EDUCATION, RECREATION, DANCE AND SPORT PROFESSIONALS

*"The Cooking Cardiologist", Richard E. Collins, M.D., Among Featured Speakers*

### **RESTON, VIRGINIA - October 15, 2002 -**

Leading health and physical education academia, recreation and fitness professionals, government officials, and leading health technology developers will come together April 1-5, 2003 in Philadelphia, Pennsylvania, for the 118th National Convention and Exposition, hosted by the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), Eastern District Association (EDA) and the Pennsylvania AHPERD.

The conference includes 400 in-depth programs and dialogue sessions providing delegates with the most definitive forum for informational exchange, problem solving and networking. In addition, 300 exhibitors representing wide spectrums of the health and fitness education fields will be holding both static and live demonstrations, ensuring that this convention will be the largest, inclusive gathering of the health, physical education, recreation and dance industry anywhere in the United States in 2003.

"The investment in this conference and the promotion of the health and fitness education industry is substantial. This convention is about educating health and fitness professionals and the public on all aspects of leading a full and healthy lifestyle and discussing workable solutions to promote the entire industry," stated JoAnne Owens-Nauslar, AAHPERD President. Owens-Nauslar continued, "AAHPERD, the Eastern District Association and the Pennsylvania AHPERD planning committee is working hard to develop an agenda and activities that will engage the convention delegates in an active informational exchange on promoting America's wellness."

Alliance General Session keynote address will feature Richard E. Collins, M.D, also known as the "Cooking Cardiologist." Collins is the Director of the Alegen Heart Disease Reversal and Wellness Program in Omaha, Nebraska. In addition to his duties as director, Collins has written a book entitled "The Cooking Cardiologist," which features healthy cooking secrets and recipes that exclude fat. His goal for the book is to "educate people to not need a cardiologist."

During the weeklong event, attendees will be able to design a track from the over 400 sessions, and workshops, including an exciting array of hands-on activities dealing with every aspect of health and active lifestyles, fitness and aging, and state-of-the-art dance technology provided by the Alliance's seven member organizations. American Association for Active Lifestyles and Fitness (AAALF), American Association for Health Education (AAHE), American Association for Leisure and Recreation (AALR), National Association for Girls and Women Sport (NAGWS), National Association for Sport and Physical Education (NASPE), National Dance Association (NDA), and the Research Consortium.

Last year's exhibition hall boasted such names as the American Heart Association, American Red Cross, National Center for Health Education and the National School Fitness Foundation to name a few. This year's caliber of exhibitor is sure to exceed last years.

**Media Note:** Registration to AAHPERD 2003 is open to members and nonmembers in the HPERD profession. For additional information visit [www.aahperd.org](http://www.aahperd.org) or call 1.800.213.7193.

# The Marihuana Perception Inventory: Ten Years Later

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## ABSTRACT

This article reports the results of a ten-year follow-up on efforts to determine the factors that predicate the onset of marijuana use. The Marijuana Perception Inventory (MPI) has been shown to be a stable and reliable instrument, and one that is sensitive to perceptual changes after drug education programs. However, there have been a number of potentially significant changes at the national level that could impact young peoples' views of marijuana use. Because no reports of the MPI appear to have been published since 1990, and because of the potential value of valid and reliable scores, it seemed prudent to determine whether young peoples' perceptions of why youths and young people begin using marijuana have changed over the past decade. Such information could be valuable to drug educators in the design and delivery of relevant programs. Results of the current study indicate that while the factors structure of the MPI has changed substantially, it remains a reliable instrument.

## INTRODUCTION

Increases in some measures of marijuana use seen during the mid-1990s may have leveled off or even decreased. Nonetheless, in 2000, 15.6% of 8th grade students, 32.2% of 10th grade students, and 36.5% of 12th grade students reported past-year use, and 9.1%, 19.7%, and 21.6%, respectively, reported prior month use [1]. Additionally, analysis of the Youth Risk Behavior Surveillance System (YRBSS) found 1) 42.2% of high school students had used marijuana during their lifetime; 2) more than one fourth (26.7%) of these students had used marijuana at least once during the past 30 days; and, 3) there was a significantly increasing trend in lifetime marijuana use between 1991 and 1999 for this age group [2].

Similar prevalence of use exists for college students: of 18-24 year olds surveyed in 1995, 42.5% reported lifetime use, and 17.3% reported current use [3]. In addition, it appears that young people are initiating marijuana use at an earlier age [4]. Finally, the use of marijuana as a gateway drug to other, more serious drugs, such as crack-cocaine, may be becoming more prominent [4]. It seems obvious, then, that marijuana use continues to be a troubling public health issue, one for which, to date, no solution has been identified.

The MPI is an effort intended to identify factors that predicate the onset of use of marijuana. It was reasoned that such information could be useful to those involved in drug education programs. The instrument asks respondents why youths and young people begin using marijuana. Hoping to avoid potential contamination associated with self-reports [6], the MPI does not ask respondents about their own current or past use of marijuana. Such an approach gives respondents the opportunity to react to statements representing potential causes for the onset of marijuana use without concerns about identifying one's self as a user.

The MPI was developed during the late 1990s, and was tested on college samples, high school samples, and on a sample of parents [79]. Finally, in 1990, changes in Inventory scores after mandatory drug education classes were analyzed [10]. No subsequent published reports of research involving the MPI have been found.

## Confounding Variables

There have been at least two national events that may have altered perceptions of predicate factors identified initially in 1990: intensified study of behavioral risk factors including the use of marijuana among youths and subsequent media attention of study findings, and legalization of marijuana for medical use. In 1990, the Centers for Disease Control and Prevention

focused national attention sharply on risky behaviors through the Youth Risk Behavior Surveillance Survey (YRBSS), a national survey administered to, mainly, high school students. While other government-sponsored surveys had asked both adults and young people about the\* drug use, the YRBSS was the first to quantify and publicize the behavioral risks associated with drug.

The YRBSS was administered to high school students in 1990, 1991, 1993, 1995, 1997, and 1999; to a sample of college students in 1995; and, to a sample of alternative high school students in 1998. By 1999, 72,567 high school and college students had responded to the YRBSS [11 -16]. In addition, in 2000 alone, over 45,000 8th, 10th, and 12th grade students responded to the National Institute on Drug Abuse's Monitoring the Future study, which has been administered annually since 1975 [17]. Moreover, in 1999, 66,706 people were interviewed as part of the National Household Survey on Drug Abuse, another federal study [18]. It appears that the number of Americans who had their attention focused directly or indirectly on marijuana use as a result of a government-sponsored substance abuse survey between 1990 and 2000 exceeds 1 million.

The news media regularly reports the results of the various drug surveys [e.g., 19-22]. However, not only does there appear to be a recent increase in media coverage of these surveys, but the inconsistent focus and purpose of the surveys has led to confusing and seemingly-conflicting news stories since late 1999. Consider the following:

1. In November 1999, results of the Partnership for a Drug-Free America found that teens were viewing drugs as "uncool" [23];
2. In June, 2000, results from the YRBSS found that marijuana use among high school students increased consistently during the 1990s [24];
3. In September 2000, the National Household Drug Abuse survey found that illegal drug use continued to drop among young teens [25];
4. In November 2000, the Partnership for a Drug-Free America's annual report stated that teenage marijuana use had dropped for the third straight year [26]; and
5. In December 2000, according to NIDA's Monitoring the Future survey, teen marijuana use was unchanged from 1999 [27].

It is obviously impossible to state with any certainty whether or how these and other media reports have impacted perceptions of marijuana use.

However, confusion among public perceptions may be evidenced by findings from a Gallup Poll conducted in late-1998 and early 1999 that 56% of adults surveyed listed crack cocaine as their biggest drug concern, with marijuana being considered a problem by less than 10% of the sample [28].

Second, between 1978 and 1996, 36 states passed criminal code exemptions for the medical use of cannabis. However, by the end of 1996, 23 states had repealed such clauses, suggesting that during this period, public sentiment favoring legalization was not very strong. However, a 1995 national poll by the American Civil Liberties Union showed 64 percent of American voters strongly favored making marijuana legally available [29]. By mid-1996, national media coverage of efforts at the state level to re-legalize marijuana for medical use had begun to intensify [see, for example, 30]. By the end of March 2001, 14 states had enacted or re-enacted legislation that permitted physicians to prescribe marijuana for medical purposes or to allow a medical necessity defense: Arizona, Alaska, California, Connecticut, Hawaii, Louisiana, New Hampshire, Nevada, Ohio, Oregon, Vermont, Virginia, Washington, and Wisconsin [31, 32]. Given the geographic diversity among these states, the potential impact that media coverage has had on youths' perceptions of predicate factors cannot be ignored. Summary Because of 1) continued interest in marijuana use, 2) the potential value of identifying predicate factors, and 3) the possibility that perceptions have changed, we undertook to again study the psychometric properties of the MPI.

## METHOD

During the 2000-2001 Academic Year, the Marijuana Perception Inventory was administered via the Internet to 285 students in eight sections of an introductory health class at a midwestern university. Appropriate procedures concerning confidentiality and anonymity were followed. SPSS was used to analyze the data. RESULTS

### Demographics

Because the purpose of the study was to re-analyze the psychometric properties of the MPI, no demographic data were gathered. All participants were enrolled at the university and were at least 18 years old. Reliability

Chronbach's *alpha* was calculated to estimate the reliability of the instrument. Of the 285 respondents, 266 answered all 34 items and were included in the calculation. An alpha of .73 resulted, a level

that we judge acceptable, and one that is comparable to previous results. Reliability analysis for each of the five scales resulted in the following: Factor 1, unlabelled,  $\alpha=.68$ ,  $n=185$ ; Factor 2, Parental Failings,  $\alpha=.63$ ,  $n=188$ ; Factor 3, Rebelliousness,  $\alpha=.33$ ,  $n=187$ ; Factor 4, Institutional Weaknesses,  $\alpha=.56$ ,  $n=187$ ; and, Factor 5, Maturational Difficulties,  $\alpha=.66$ ,  $n=188$ .

#### Factor Analysis

Factoring was accomplished by principal components factor analysis with iteration; varimax rotation was used. Convergence occurred in 11 iterations. As in prior analyses, inclusion limit was again set to .33. A five-factor solution, with 30 of the 34 items included resulted. Table 1 shows the solution, sorted in factor order and factor loading.

**Table 1.** Factor Solution, Marijuana Perception Inventory ( $n=266$ ).

Item No. Items	Factors				
	1	2	3	4	5
4. Radio and TV commercials and programs make marijuana appealing.	.36				
25. Parents are too strict with their children.	.44				
22. Parents force their children into using marijuana because they are not firm enough.	.45				
10. Youths need to improve their self-image, and it can be done through marijuana.	.47				
33. There may be some hidden brain damage that causes one to take marijuana.	.67				
31. A person is born with a tendency to use marijuana as one way of facing life.	.74				
26. Parents don't trust their children to make decisions.		.42			
11. The schools have failed to treat the subject adequately.		.44			
5. Parents can't communicate with their children.		.46			
30. Parents don't love their children.		.48			
24. Parents are weak and afraid of their children.		.61			
14. Parents have failed to take an interest in their children.		.73			
1. There is a lack of discipline in the home.			-.40		
19. Marijuana is available to anyone who wants to buy it.			.43		
34. There are celebrities who admit to using marijuana, and they are very successful.			.44		
3. Experimentation is part of growing up.			.48		
2. Youths and young adults are curious about the unknown.			.52		
29. Youths and young people just enjoy taking marijuana.			.57		
9. Rebellion is part of growing up.			.63		
27. Parents use marijuana themselves.				.40	
13. Young people start taking marijuana because of the pressure placed upon them by their friends.				.42	
8. Parents don't tell their children not to use or to stop using marijuana.				.45	
15. Youths don't have all the facts about the potentially harmful effects of marijuana.				.46	
18. There aren't enough police to handle the situation.				.52	
7. Youths and young people get mixed up with bad company.				.54	
17. The legal controls are too lenient.				.54	
21. Youths are weak and cannot face the realities of life without a crutch.				.46	
6. Today's youths are looking for instant happiness.				.51	
12. Today's youths are spoiled and get everything their own way.				.64	
20. Today's youths do not appreciate what their parents are trying to do for them.				.70	
16. Too much pressure is placed on youths today, such as grades and material success.					
23. Marijuana provide a hiding place from facing daily problems.					
28. Youths enjoy using marijuana as one way of hurting their parents.					
32. Youths who take marijuana are emotionally ill.					

## DISCUSSION

There are two, significant differences between the present factor solution and the last one calculated in 1990: first, there is virtually no similarity between the two factor structures; in fact, only three items loaded on the same factors between the two solutions. Second, four of the items did not load at a level of .33 or higher. In the previous study, all 34 items loaded at this level or above. Despite these differences, a case can be made that four of the five factor labels seem appropriate. That is, we believe that factors two through five represent, respectively, Parental Failings, Rebelliousness, Institutional Weaknesses, and Maturational Difficulties.

It appears that perceptions concerning predicate marijuana use have changed over the past decade, perhaps dramatically so. Whether these changes are a function of increased media coverage and legalization efforts, or something else altogether cannot be determined. However, no matter the cause, the striking dissimilarity in the prior and present factor structures is troubling when viewed from the perspective of educational programming. It often takes years to develop, test, implement, and evaluate a drug education program. Throughout the process, designers must assume that issues such as changes in society's priorities are not going to affect the program's objectives. One goal for the MPI is to determine areas where respondents' perceptions are at odds with reality and tailor an educational program to modify that perception.

For instance, one factor that has emerged consistently from the MPI is Institutional Issues, which include questions about law enforcement and legal controls. These questions assume that marijuana use is illegal and that its illegal nature is accepted by society as appropriate. They also assume that the police place a high priority on enforcing controls on marijuana. If the assumptions underlying both of these questions are true, then misperceptions can be targeted through drug education. That is, if a respondent to the MPI believes that the onset of marijuana use is based in part on too little law enforcement and societal acceptance of legalized marijuana, the drug educator can craft objectives in an attempt to change these beliefs. However, if legal controls are, in actuality, lacking, or society does, in fact, appear to be moving to legalize marijuana, then misperceptions do not exist, and the results of the instrument will be of limited use to the educator. We are concerned that societal changes concerning marijuana over the last decade may,


indeed, have lessened the value of the MPI.

We do not suggest that the MPI or similar efforts should be abandoned. We continue to believe, albeit with insufficient data, that the approach taken with such perceptual instruments mitigates against the shortcomings of self-report surveys. However, perceptual instruments depend heavily on reflecting reality, and results from the current study demonstrate, clearly, that regular attention must be paid to determining whether changes in reality have an adverse effect on the instrument's psychometric properties.

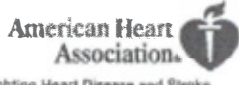
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Kids are capable of incredible feats. Jump Rope For Hearts<sup>SM</sup> and Hoops For Hearts<sup>SM</sup> are two school-based programs that help kids learn about being physically fit while helping people affected by heart disease and stroke.

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Jump Rope For Heart and Hoops For Heart benefit the American Heart Association and are cosponsored by the American Alliance for Health, Physical Education, Recreation and Dance.

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# Reprinted Article

## Convincing Your Principal About the Importance of Physical Education

by NASPE Public Relations Committee

Reprinted with permission Human Kinetics, Teaching Elementary Physical Education

This school year, the National Association for Sport and Physical Education (NASPE) invites you to use your creativity, enthusiasm, and love for your profession to let your principal know about the importance of physical activity and a quality physical education program. Here are several suggestions from NASPE's Public Relations Committee. Please share with us your success stories by emailing us at <pkun@aahperd.org> and we will publish them in NASPE News.

1. Invite your principal to visit physical education class each month.
2. Develop a calendar of physical activity events and seek the principal's endorsement.
3. Have a "Principal Feature" in your physical education newsletter.
4. Involve the principal in the staff fitness activities each month.
5. At the beginning of the school year, provide a physical education folder full of recent press articles, copies of curriculum, philosophy, goals for the year, etc.
6. Tell your principal about your interest in attending the state and/or national AAHPERD convention and ask if professional development money is available to help with the costs.
7. Involve the principal in technology you use within the physical education classes, i.e., have the principal wear a heart rate monitor all day.
8. Give the principal a copy of assessment tools/portfolios you use. Share assessment results with the principal.
9. Invite your principal to your state AHPERD conference.
10. Give your principal a copy of everything you do: projects, homework, etc. Share relevant articles about physical activity, fitness, and physical education.
11. Give a copy or brochure of NASPE's National Standards for Physical Education to the principal and tell him/her about how your program meets those standards.
12. Suggest a "Theme for the Year," which includes the entire school.
13. Invite school board members to visit your wonderful classroom; ask your principal to join them.
14. Share excitement and ideas you learned at your national, district, and state conferences with your principal and at staff meetings.
15. Show your principal a professional appearance and attire. "Walk The Talk!!"
16. Be visible to your principal by getting involved with your school, improvement council, staff meetings, and strategic planning committees.
17. Share with your principal a copy of NASPE's *Suggested Job Interview Questions for Prospective Physical Education Teachers*.
18. Volunteer to provide a main hall bulletin board for National Physical Fitness & Sports Month.
19. Place informational brochures in your school office.
20. Be sure you have attractive bulletin boards in your teaching area.
21. Sponsor a physical education workshop/conference at your school and invite and introduce your principal.
22. Highlight your program at a "Family Fitness Night" event and invite your principal.
23. Show examples about how your physical education program helps reinforce learning in various academic subjects.
24. Educate your principal about the differences among physical education, recess, physical activity, and sports.
25. Share new parents opinion surveys such as one recently published by the American Obesity Association that states, "Parents are strongly opposed to cutting back on physical education classes for academic classes."

# Reprinted Article

## For Use By Principals

### Suggested Job Interview Questions for Prospective Physical Education Teachers

#### A Quality Physical Education Program Will Keep Your School Fit to Achieve

Prepared by the National Association for Sport & Physical Education

##### Make Hiring a Key Aspect of Assuring a Good Program

According to NASPE's Physical Activity Guidelines, school children are encouraged to be physically active at least 60 minutes, and up to several hours per day. Assure that your students are taught the joy and reasons for being physically active by a professional!

##### Background

Hiring high quality professional staff is one of the challenges faced by principals. Another is having a general understanding of the standards, issues and trends relative to all the content areas that make up a comprehensive education including physical education. The National Association for Sport & Physical Education (NASPE) has developed guidelines and interview questions to help you to hire the best physical education faculty and contribute to the total education of your students.

Please share these suggestions with other principals in your school district as well as chairs of your departments of physical education. We hope the following will help you better assess your program and prospective faculty members.

##### Suggested Questions for Faculty in Physical Education

###### 1. What do you believe are the characteristics of an effective "physical education teacher?"

"A physical education teacher is someone who is able to integrate knowledge and understanding of human

movement and physical fitness, student growth and development, and current learning theories in order to facilitate student learning so that students become physically fit, competent movers and understand a range of movement forms."

###### 1a. What is an effective program?

###### 1b. What do you want your students to learn in your program?

\*Key concepts: has comprehensive knowledge about scientific and applied aspects of human movement and physical activity; uses developmentally appropriate activities; models sportsmanship; shows awareness of students' needs, applies effective teaching strategies; accommodates diversity; demonstrates professional commitment through involvement in professional organizations; serves as a positive role model of personal fitness and skill; uses appropriate assessment and evaluation; applies current technology. Students should learn health-related fitness, motor skills, how to be and stay active out of class, sport opportunities, various movement forms.

*\*(Key Concepts - the applicant may or may not answer the question in exactly this way, however, the interviewer can focus on the key words related to the concepts involved in the answer.)*

###### 2. The accepted definition of a "Physically Educated Person" from NASPE is the following:

- "Has learned skills necessary to perform a variety of physical activities."
- "Is physically fit."
- "Participates regularly in physical activity."



"Knows the implications of and the benefits from the involvement in physical activities."

"Values physical activity and its contribution to a healthful lifestyle."

## **2a. How would you help your children to become physically educated?**

\*Key Concepts: Competence in manipulative locomotor and nonlocomotor skills, involvement in life activities and various movement forms (sport, dance, gymnastics, aquatics), assesses, achieves and maintains personal physical fitness; understands how to be safe in physical activity; health-enhancing regular physical activity; variety of physical activity options; motor development; healthy lifestyle decisions; enjoyment.

## **3. What are the "Appropriate Practices" in physical education?**

"Those practices which recognize children's developmental status and changing capacities to execute motor skills." Teachers plan and implement instruction that maximizes each student's potential to develop in all domains in a safe, motivating environment.

\*Key Concepts: selection of movement concepts and motor skills; cognitive development; affective development; fitness; fitness assessment; maximum participation; variety of movement forms; management of competition.

## **4. How do you assess students in physical education?**

"Learning should be systemically assessed based on predetermined goals." Assessments should include a variety of forms that assess understanding and application of concepts and development of skills. Assessment should be ongoing part of learning and reflect authentic application of meaningful skills and knowledge.

\*Key Concepts: evaluation of students within psychomotor, cognitive, and effective domains; valid, reliable, and objective; formative evaluation in relation to individualized criteria; guide to instructional planning; criteria-based; focus on individual performance; should assist in grading; indicator of quality instruction.

## **5. How do you ensure the "safety and well-being" of all students?**

"The teacher should plan and direct all class activities in an environment that promotes the safety of all students."

\*Key Concepts: Physical maturation and skill development levels (size and strength); pertinent student medical information; continuous supervision in all activity areas and in the locker room; appropriate clothing

and shoes; safety aspects of physical activities is an integral part of instruction: emergency first-aid procedures; maintenance of all equipment and facilities.

## **5a. How would you accommodate students with a variety of special needs?**

\*Key Concepts: All students are not doing the same thing at the same time but a variety of levels, stations, equipment and activities. It is important to extend and adapt tasks to student needs.

## **6. What is your understanding of the National Standards for Physical Education that were developed by the National Association for Sport and Physical Education or of our state's standards for physical education?**

"The purpose of the National Standards was to clearly identify what a student should know and be able to perform as a result of a quality physical education program and to establish teacher-friendly guidelines for assessment." There are seven broad standards with benchmarks for grades K, 2, 4, 6, 8, 10, and 12.

\*Key Concepts: the standards address: motor skill competency; varied movement forms; understanding of movement & fitness; physically active lifestyle; health-enhancing level of physical fitness; responsible personal and social behavior in physical activity settings; respect for differences; opportunities for enjoyment, challenge, self-expression, and social interaction.

## **7. What are your plans for professional involvement and self-improvement?**

### **7a. Would you be willing to attend inservice trainings on your own time?**

### **8. Give an example of how you have been cooperative and flexible in a professional work environment.**

\*Key concepts: compromise, respect, for the good of the school.

### **8a. Give an example of how you have been a part of a decision making process.**

### **9. How do you think physical education contributes to the total curriculum?**

### **10. Do you have any additional information you would like to share with us?**

\*Key Concepts: interests, hobbies, certification, professional contributions and involvements, etc.

# 25 Benefits of Playing Sports

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1. Sports are FUN!
2. Girls and women who play sports have a more positive body image than girls and women who don't participate.
3. Girls who participate in sports have higher self-esteem and pride in themselves.
4. Research suggests that physical activity is an effective tool for reducing the symptoms of stress and depression among girls.
5. Playing sports teaches girls how to take risks and be aggressive.
6. Sports are where girls can learn goal-setting, strategic thinking and the pursuit of excellence in performance and other achievement-oriented behaviors - critical skills necessary for success in the workplace.
7. Playing sports teaches math skills.
8. Sports help girls develop leadership skills.
9. Sports teach girls teamwork.
10. Regular physical activity in adolescence can reduce girls' risk of obesity.
11. Physical activity appears to decrease the initiation of cigarette smoking in adolescent girls.
12. Research suggests that girls who participate in sports are more likely to experience academic success and graduate from high school than those who do not play sports.
13. Teenage female athletes are less than half as likely to get pregnant as female non-athletes. (5% and 11% respectively).
14. Teenage female athletes are more likely to report that they had never had sexual intercourse later in adolescence than female non-athletes.
15. Teenage female athletes are more likely to experience their first sexual intercourse later than female non-athletes.
16. High school sports participation may help prevent osteoporosis.
17. Women who exercise report being happier than those who do not exercise.
18. Women who exercise believe they have more energy and felt they were in excellent health more often than non-exercising women.
19. Women who are active in sports and recreational activities as girls feel greater confidence in their physical and social selves than those who were sedentary as kids.
20. Women who exercise miss fewer days of work.
21. Research supports that regular physical activity can reduce hyperlipidemia (high levels of fat in blood).
22. Recreational physical activity may decrease a woman's chance of developing breast cancer.
23. Women who exercise weigh less than non-exercising.
24. Women who exercise have lower levels of blood sugar, cholesterol, triglyceride and have lower blood pressure than non-exercising women.
25. Regular exercise improves overall quality of life.

# Reprinted Article

## Children's Goal Orientations and Motivation in Physical Education Settings

By William D. Russell, Eastern Illinois University, Charleston

Motivation has been a focal point of study within the academic literature (Ames, 1992), but has also represented the health literature in that lack of student motivation contributes to lower physical activity levels (Treasure & Roberts, 1995). In addition, physical educators continually struggle with the issue of delivering quality instruction to their students, while maintaining high student interest and motivation, especially for those students with an "I'm taking PE because I have to" orientation. Ames (1992) has suggested that a mastery-oriented climate maximizes enjoyment, perceived competence, and motivation in students. Specifically, a mastery-oriented physical education environment is one where the motor skills that are practiced are challenging and diverse, students are given some choice in the sport skill activities they do, teachers' recognition of students' skill development is private rather than public, sport skill tasks are cooperative, evaluation is based on individual improvement, and the teacher is flexible in adjusting the time needed to learn motor skills based on differences in students' personal capabilities. A performance-oriented climate, on the other hand, is characterized by class settings where all students do the same sport skill drills and activities (regardless of actual skill), students have no participation in decisions of what activities are done within the unit, recognition of student's performance is public and based on students' outperforming each other, and the time allotted for student learning is rigid and identical for all students.

Two particular theories within academics especially relevant to physical education settings are Competence Motivation Theory (Harter, 1978), and Achievement Goal Theory (Nicholls, 1984). According to Harter (1978), individuals who feel they are competent and high on internal locus of control in an achievement area will be more intrinsically motivated to remain involved and experience more enjoyment and motivation than individuals lower on these

characteristics. Specifically under this theory, a student who perceives he or she is highly competent in their basketball skills and feels he or she has control over how much they improve in this sport will display greater enjoyment and motivation during this particular sport unit.

Competence is also a key element in Nicholls' (1984,1989) achievement goal theory. According to Nicholls, individuals are motivated to demonstrate high ability and avoid showing low ability. Students may perceive their ability on the basis of two types of goals. For some students, success is evaluated through norm-referenced means (social comparisons such as: How well did I perform the 12 minute run compared to my classmates? Am I a better basketball player than other boys in the class?), while others consider competence to be a consequence of self-referenced goals (personal improvement; how much did I improve my 12 minute run time compared to my previous time? Have my basketball skills improved since the beginning of this 6-week basketball unit?). Goal achievement theory indicates that in achievement contexts like physical education, students bring either a predominantly task or ego-orientation to the class. When an ego goal orientation is emphasized, students tend to view success as a function of ability and the importance of effort is minimized. The student's self-evaluation of success at a motor skill (serving a tennis ball) is based on ability based on social comparisons (Did I serve better than my classmates?). Students with an ego-orientation will only be satisfied with their performance when they can display high ability, either by outperforming other students (e.g., shooting a higher percentage in basketball) or by equaling other students' performance with less effort (e.g., making as many tennis serves as others with fewer practice trials). On the other hand, ego-oriented students show less motivation when they self-evaluate their ability as lower compared to others. Because of this "dependency" on competitive outcomes for satisfaction, it

has been argued (Roberts, 2001) that ego-oriented students suffer a motivation loss in their physical education class if their social comparison of ability is unfavorable. In short, an ego-oriented student will not be motivated by having done more sit-ups on a fitness test compared to their own previous trial, but will only be satisfied if he or she has done more sit-ups than every other student in class. Students with this orientation will be less likely to view themselves as "successful" in physical education contexts because certain comparison markers (e.g., other students' abdominal strength) are out of the student's control. In addition, these students are more likely to experience anxiety as a function of whether they believe they can demonstrate their ability.

When students display a task orientation, success is based on a self-referent comparison, using individual skill improvement and effort as measures. This student will be more concerned with the question: "Did I make improvements on my basic tennis strokes on a pre-post unit comparison?" When the student is task-oriented, the goal is to develop mastery, improvement, learning, and success is realized when mastery of a motor skill or improvement has been attained. This is thought to be more instrumental to motivation, in that the student's evaluation of success is related to aspects over which he or she has direct control (i.e., by doing regular abdominal exercises three days a week, and trying harder in practicing serves, individual improvements can be made in abdominal strength and serving ability, respectively). As teachers, we need to remember that by providing emphasis on individual performance goals we get students to be more task-oriented in their approach to physical education.

### **Enhancing Motivation**

Recent research in physical education indicates that the motivation of students can be influenced by the perceived competence and perceived motivational climate within the classroom (Ferrar-Caja & Weiss, 2000; Papaioannou, 1997; Papaioannou & Kouli, 1999; Theeboom, DeKnop, & Weiss, 1995). Specifically, teachers' lessons and climates that emphasize a task orientation (self-referenced, individual skill improvement) were positive predictors of concentration, enjoyment, loss of self-consciousness (Papaioannou & Kouli, 1999; Papaioannou, 1997), improved learning climate, perceived competence (Dunn, 2000; Ferrar-Caja & Weiss, 2000) and increases persistence in challenging tasks (Solmon, 1996). From a motivational perspective, these factors maximize the likelihood that students of all abilities and

skill level will define success according to self-referenced criteria, will maintain a positive attitude toward physical education and remain physically active later in life after completion of their physical education curricula. The issue remains, however, on how to enhance our students' motivation in our sport and physical education programs.

Epstein (1989) argued that the achievement environment effects many motivational behaviors. Structural features are often developed by teachers' behaviors such as reinforcement, instruction and skill correction followed by praise, and helping students develop healthy attributions for their success and failure within specific sport skills. She coined the acronym TARGET to represent the Task, Authority, Recognition, Grouping, and Timing structures of the achievement context. Epstein (1989) explained that how the teacher or coach structures the context determines how the student perceives the climate as task or ego involving. Recent investigations have shown clear support for the TARGET model in enhancement of intrinsic motivation across both physical education settings (Dunn, 2000; Ferrar-Caja & Weiss, 2000; Papaioannou & Kouli, 1999; Solmon, 1996) and youth sport settings (Papaioannou, 1997; Theeboom, DeKnop, & Weiss, 1995).

Solmon (1996) compared differences in seventh and eighth graders' practice behaviors and perceptions of motivational climate in physical education classes that were manipulated to be either task or ego involved. In the task condition, instructors were directed to implement TARGET strategies by emphasizing individual challenge, short-term goals, individual skill improvement, and self-referenced success criteria. Students within the task involved condition completed a higher number of difficult agility trials per minute than students in the ego-oriented condition and teachers noted greater instances of arguments and cheating in the ego-oriented climate.

Further support for the TARGET model has been shown by examining the relationships among social factors, individual differences, intrinsic motivation, and effort and persistence in the physical education context. Ferrar-Caja and Weiss (2000) had female and male high school students complete measures of motivational climate, teaching style, perceived competence, self-determination, goal orientations, and intrinsic motivation. Higher perceived competence and task orientations directly predicted intrinsic motivation, and students who perceived their class as higher in learning climate reported higher task orientation, perceived competence and self-determination, which

subsequently led to higher intrinsic motivation, effort, and persistence. Papaioannou (1997) compared students' motivation within physical education classes based on age and sport experiences. Specifically, junior high students, whose lessons focused on skill development, were compared with high school students, whose lessons were competitive-based. Results indicated that junior high students scored higher in motivational measures of preference for challenge, interest in the lesson, and perceived usefulness of the lesson. It was concluded that the differences in the curriculum structure were the major cause of age differences in learning orientation.

Taken together, these recent findings within the physical education and sport contexts provide consistent support for the benefits of a TARGET model-mediated learning climate that focuses on task orientation and results in enhanced intrinsic motivation. By getting students to focus on and evaluate success by factors within their control such as individual improvement, effort, and motor skill learning, we maximize the chance that students will have greater motivation levels in our classes. The TARGET model is explained and examples are provided within each component that the physical educator may be able to use to foster task orientation in students, thus enhancing the quality of children's motivation in a physical education context.

### **The TARGET Model**

#### **Task**

A central focus of lessons is the design of tasks and learning activities. Within these tasks is information that children use to make judgments regarding their ability, effort, and competence satisfaction (Treasure, 1993). Tasks that involve more variety and diversity are more likely to facilitate an interest in learning. Therefore, to enhance task involvement, individuals should have different designated assignments and have choice of skills practiced. Thus, students develop a sense of ability that is not dependent on social comparison. For example, during a soccer unit, students could choose the size of ball they use and the teacher could set different dribbling and shooting tasks for students depending on their level of development or provide students with different ball handling options to move around a defender. Within a tennis unit, structuring the tasks and drills could be individualized by having students of lower skill practice from half-court and students with higher skill play

from the baseline. Another example would be getting children to set individual short-term goals. Students are then able to understand steps to learning more complex physical tasks, understand the skill as more manageable, focus more on their individual progress, experience success and become more confident in their ability. When task structures are valuable and matched with students' skill level, they develop a sense of their own ability that is not dependent on social comparison.

#### **Authority**

This is the degree to which the teacher or coach involves students in the decision-making process. Evidence suggests that students' feelings of perceived ability are higher in settings where they feel more autonomous regarding decision-making. Instead of telling students they will be doing a given drill to practice their overhead clear in badminton, have three or four different drills on clears presented to students and allow them to choose how they develop this skill. This enhances autonomy and decision-making and maximizes the chance that choices are guided by the child's interest. In order to enhance task orientation, students should (a) be given the opportunity to actively practice in the learning process by choosing the tasks they want to learn, (b) be expected to set up equipment and tests, and (c) monitor and evaluate their own performance during testing sessions. For example, during a basketball dribbling skills test, students could work together to set up the dribbling course correctly and then monitor the performance on each other by recording times on successive trials. Another example would be to provide students a choice of drills by which they could work on improving drops and overhead clears within a badminton unit.

#### **Recognition**

The use of rewards and incentives is one of the more obvious aspects of children's physical education settings. It seems that rewards are often more important than the activity itself. Although teachers often use rewards with good intentions, rewards can have a negative effect if they are perceived to be given on ability alone and may undermine any positive purpose if they are perceived as bribes or as controlling (Deci & Ryan, 1980). Perhaps most significantly, because rewards are often public, they invite social comparison. When recognition for accomplishment or progress is private between the teacher and the student, feelings of pride and satisfaction are more likely

to derive from self-referenced perceptions, and foster a task-involving motivational climate. Thus, by focusing on rewards on individual gains, improvement, and progress, all children can develop an appreciation of their abilities. Examples within this category include “effort” awards, awards given because the teacher “caught” the student doing something good, or based upon students reaching their individual fitness goal of 20 minutes within their target heart rate zone. This recognition system reinforces the notion that the “process” of physical activity and motor skill development is as important as the outcome. It is critical that physical educators recognize that types of rewards, their reason, and method of distribution determine whether children develop feelings of intrinsic satisfaction and continued interest in physical activity. This is most critical to those who are least likely to be recognized for their achievement or accomplishment. For example, a teacher who provides a tangible reward (i.e., ribbon) for any student able to improve upon previous fitness battery scores will elicit higher motivation than only rewarding the “most fit” student in the class.

### **Grouping**

Teachers often place students in groups of similar skill levels. However, by doing this, they invite social comparison and ego involvement from students. In contrast, teachers who promote movement between teaching groups and use heterogeneous groups allow students to see their ability is capable of change and reduces opportunity for students to compare themselves to others in the group. When students are part of a group with differing skill levels, they are more likely to focus on the specific skill contribution they are capable of, especially if there is continual transition among groups. Grouping also refers to the degree that activities are cooperative or competitive. For example, a cooperative volleyball bump drill allows two students to attempt as many hits as possible within a specified time period. A competitive bump drill requires students to outperform their partner and fosters an ego orientation, especially in students who perceive their ability to be low. Papaioannou and Kouli (1999) examined task structure and goal orientations on student motivation through either task-oriented or ego-oriented drills. They found that task-oriented volleyball drills (cooperative drills to achieve a certain score) resulted in students reporting higher self-confidence, lower anxiety, and higher enthusiasm for the lesson. The grouping aspect would also be relevant during skills testing as students could work in pairs, monitoring and record-

ing their own and their partner’s task-specific performance.

### **Evaluation**

How students are evaluated is one of the most important features of any achievement context. The issue is not simply whether children are evaluated, but what meaning the evaluation has for that student. Reward structures can have negative effects on motivation when they are normatively based, public, and linked only with ability assessment. These evaluation formats that emphasize social comparison and normative standards of performance evoke ego-orientations that result in children comparing their ability to peers and greater potential for dishonest behavior to achieve goals. This results in a decrease of student’s self-worth, intrinsic interest, and perceived ability. In short, it is not the mere availability of social comparison information that is problematic, but an overemphasis on this information (Treasure & Roberts, 1995).

In contrast, when evaluation is self-referenced, based on personal improvement, progress toward individual goals, participation, and effort, children are more likely to be task involved. This focus ultimately enhances the student’s improvement and skill mastery. In order to facilitate task involvement in physical education settings, evaluation should be based on self-tests that (a) allow for assessment based on effort and individual improvement and (b) are private. For example, when practicing a volleyball skill, students would be asked how many times they could perform consecutive forearm passes in a set time and record the number in a log. Students would then be afforded the opportunity to improve on pass numbers in subsequent attempts. Students could turn in logs to the teacher, thus the evaluations could be specific to each student. Similar motivational benefits are the basis for heart rate monitor use, in that this type of evaluation allows for a more objective estimation of a student’s effort and individual progress, rather than relying on normative comparison. In short, this type of evaluation empowers students to make more authentic and objective evaluations regarding their own skill and fitness improvements.

### **Timing**

Research from general education (Ames, 1992; Epstein, 1988) and physical education in particular (Ferrari-Caja & Weiss, 2000; Theeboom et. al., 1995) has indicated that the time allotted for completing tasks significantly influences children’s motivation. Given the effect physical and psychological develop-

ment on performance in physical activity during childhood and adolescence, the issue of time is more critical in physical education compared to the regular class setting. In order to promote task involvement in physical education, a teacher must consider the interaction between time and task design (Is there sufficient time allotted for task accomplishment?) authority (whether children are allowed to schedule the rate, order, or time for task completion?), grouping (whether instructional quality is equal across student groups?), and evaluation (whether there is time pressure on performance?). For example, some children need more time than others to develop the necessary motor skills to complete and participate in sports. Effective timing within the model means that the teacher is aware of these developmental differences and can tailor the rate, order, and time of completion of tasks. For example, within a tennis unit, students with poorer hand-eye skill coordination may require more unit time spent on groundstrokes and a slower progression through groundstroke drills before moving on to learn more advanced tennis strokes.

From an applied perspective, it becomes evident that teachers may be able to structure a learning climate in their classrooms that is conducive to enhancing overall student motivation patterns. Recent research has suggested that teachers can enhance intrinsic motivation and improve the learning climate by nurturing a task orientation through the structure of varied tasks, providing students authority for decision-making, the use of individual performance-based rewards, structuring the class into groups of similar abilities that focus on cooperative tasks, evaluation that is frequent and based on student's personal performance history, and appropriate timing of the pace at which motor skills are learned. In addition, in achievement activities where the overwhelming emphasis is on normative standards of performance, physical education teachers need to have the resources available that will guide them in their attempts to develop task involvement. The use of heart rate monitors to individualize aerobic fitness assessment and evaluation is a prime example of an effective resource. The recognition of the importance and application of the TARGET model represents an important step in facilitating mastery environments and available evidence supports such contexts enhance motivation and may counteract present low levels of motivation that students have with regard to engaging in physical activity.

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Paid Life (4)	3	3	7	5	4	1	1	0	0	24
Honorary Life (5)	0	0	4	1	1	2	1	0	0	9
Retired (7)	14	9	51	15	5	12	6	0	1	113
Subscriptions (6)	1	0	0	0	0	0	1	0	4	6
Affiliates (9)	1	0	2	0	0	1	0	0	0	4
Miscellaneous (8)	0	0	1	1	0	2	0	0	10	14
<b>Totals</b>	442	365	1,698	754	112	302	168	0	31	3,872
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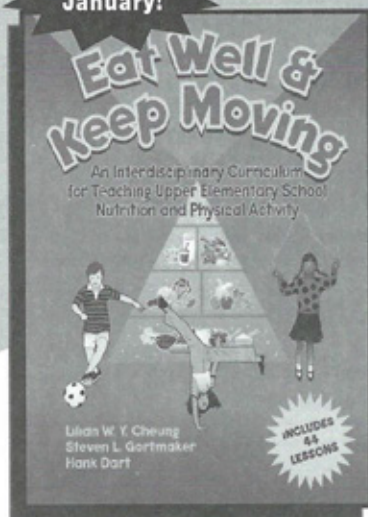
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