

the GAHPERD JOURNAL

Georgia Association for Health, Physical
Education, Recreation and Dance
Volume 42 Number 2 Fall 2009



PE teacher Jeanne Huck will oversee the running program at Chalker Elementary School, GA

Chalker Elementary School Receives Grant to Combat Childhood Obesity

(See article page 4)

The Department of Health, Physical Education, and Sport Science at Kennesaw State University offers a Master's degree in Applied Exercise and Health Science. This graduate level professional program prepares students to engage in a variety of leadership positions in the increasingly challenging health and fitness fields. Graduates will demonstrate an in-depth understanding of complex problems associated with fitness and health promotion as well as possess the knowledge and skills to develop, implement, supervise, and evaluate effective exercise and health promotion programs.

Deadline for program admission: April 1, June 1, December 1

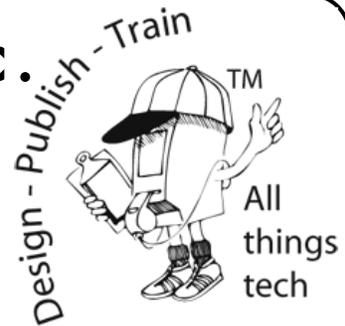
To apply go to: www.kennesaw.edu/graduate/admissions

For more information, please go to:
<http://www.kennesaw.edu/hps/graduate/>

or contact:

Dr. Ping H. Johnson, Coordinator
Kennesaw State University
Department of Health, Physical Education, and Sport Science
1000 Chastain Road, MB# 0202
Kennesaw, GA 30144-5591
(770) 423-6216
pjohnso2@kennesaw.edu

Bonnie's Fitware Inc. Technology in Physical Education



Do you want to get better at using all kinds
of technology in physical education?

Sign up now for our seminar!

Atlanta, GA - 4/19/10

Charlotte, NC - 4/21/10

Columbia, SC - 4/22/10



**Can't attend -
order our book,
video, or take an
online course.**

www.pesoftware.com

GAHPERD

Georgia Association for Health, Physical Education
Recreation and Dance
520 Greenridge Circle
Stone Mountain, GA 30083

Non Profit
Organization
U.S. Postage
PAID
Marietta, GA
Permit No. 871

GAHPERD Vision Statement

The Georgia Association for Health, Physical Education, Recreation and Dance envisions a society in which an active, healthy lifestyle is valued and practiced by all Georgians. GAHPERD takes a leadership role in promoting the professions it represents by broadening public perceptions and values, through dynamic services, creative products, innovative programs and on-going research. As a leader in the state, GAHPERD seeks to unite with professional and community organizations to achieve the vision of a healthy Georgia.

GAHPERD Mission Statement

GAHPERD is a nonprofit organization for professionals and students in related fields of health, physical education, recreation and dance. GAHPERD is dedicated to improving the quality of life for all Georgians by supporting and promoting effective educational practices, quality curriculum, instruction and assessment in the areas of health, physical education, recreation, dance and related fields.

Contents

Volume 42 Number 2 Fall 2009

Columns, News, & Departments

- 2 President's Message
- 3 Calendar of Events

Features

INNOVATION STATION

- 17 Kangaroo Club Banners and Sign
- 18 Easy Steps to Teaching Tennis
Simplifying Serve and Strokes
- 20 Weight Training for the Youth
Population

Refereed Articles

- 7** **Increasing Moderate to Vigorous Physical Activity in Physical Education**
Tony Pritchard
Starla McCollum

- 10** **A Study of Physical Activity Behaviors, Knowledge, and Attitudes of College Alumni: Implications for Promotion of Physical Activity on College Campuses**
Charles Darracott, III
Shirley H. Darracott

Editorial Board

Dr. Joanne Chopak-Foss
Georgia Southern University

Dr. Mitchell Collins
Kennesaw State University

Dr. Daniel R. Czech
Georgia Southern University

Dr. Tom Ford
Columbus State University

Dr. Barbara Funke
Georgia College & State University

Dr. Lynne Gaskin
University of West Georgia

Dr. Tarin Hampton
Spelman College

Dr. Barry Joyner
Georgia Southern University

Jon Krieger
Palmer-Stone Elementary School

Dr. Karen Kurz
Berry College

Dr. Jim Lidstone
Georgia College & State University

Dr. Bryan McCullick
University of Georgia

Dr. Anthony Parrillo
Georgia Southern University

Dr. Bud Reiselt
North Georgia College & University

McKinley Thomas
Mercer University School of
Medicine

Pat Tinklepaugh
Dacula Middle School

The GAHPERD Journal

The GAHPERD Journal is published three times per year (Winter, Spring/Summer, and Fall) by the Georgia Association for Health, Physical Education, Recreation and Dance, a non-profit organization. Membership in the Association entitles one to receive all journals and newsletters for that year. Subscriptions of \$30 per year are available to libraries and institutions. Single issues are \$12 each. Requests for missed issues will be honored for eight weeks following the publication date. The GAHPERD Journal is listed in the Physical Education Index.

Views and opinions expressed herein are those of the authors and not necessarily those of GAHPERD. GAHPERD assumes no responsibility for and will not be held liable for any claims made in advertisements. Guidelines and prices for advertising are available from the Editor.

GAHPERD prohibits discrimination on the basis of race, color, religion, creed, sex, marital status, sexual orientation, national origin, disability, or veteran status in the treatment of participants in access to, or content of its program and activities.

For membership information, contact:
Jacqueline T. Harbison, Ed.D.
GAHPERD Executive Director
731 Oak Mountain Rd., NW
Kennesaw, GA 30150
Phone: 770-794-8527
Fax: 770-794-8565
Email: jacqueharbison@comcast.net
Web: www.gahperd.org

The GAHPERD Journal is printed by:
Canterbury Press
Marietta, Georgia

Editor

Mike Tenoschok
Mt. Paran Christian School

PRESIDENT'S CORNER

Cecil Marrett
GAHPERD President

I am so excited that I can hardly contain myself. Just think we get to impact peoples lives in a way that no one else can. We get to help them make lifestyle changes that not only have the potential to increase their life span, but also improve the quality of their life in the span. And on top of that we get paid for doing it! Man life is good! Now I know that almost everyone that is reading this either has been or will be furloughed this year and I will be the first to say that this hurts, however we still are honored to be able to do what we do everyday. As an elementary physical education teacher, I teach in the world that is the place to go. Now my daily challenge is what I do to impact lives once they arrive in my class. While we all work in different areas of the field, we all impact each life we touch. I mean just think of it this way, if you are not in public education, people are paying to come hear what you have to say about their health and how to improve it. On the college and University level, people are paying to come and have you teach them how to influence other people. Man life really is good!

I guess some of you are wondering where all of this positive energy about physical education and all of the other areas of our association comes from. Well I can say that with out a doubt it comes from being around positive people who love what they do. My favorite place to get my energy has to be our annual convention. This year's convention promises to be great. We as a board

have put a great deal of time and energy into planning and preparation into this year's convention and now we need you to make it great. What do we need from you? We need you. Plan on attending this year's convention and if you are a regular attendee, pay someone's registration fee that has never come to the convention. I know your finances are tight, I am in a single income family right now, but if they are a member and you pre-register it is only an extra \$90. Man that sounds like a lot, but is it worth helping your colleagues become a better teacher?

Thanks you for allowing me to serve as the President of such a great group of people. I have had a great time representing you over the past eleven months. I hope I have been able to help you shine in your area. Our state has accomplished much this year and it is all because of your hard work as educators and practitioners in your field.

See you on November 1st at the convention.

Cecil Marrett
GAHPERD President



CONVENTION HOUSING INFORMATION

November 1-3, 2009

The 2009 GAHPERD Convention will be at the Marriott Atlanta Northwest, 200 Interstate North Parkway, Atlanta, GA 30339. The location is convenient and easy to access. The website has a map and directions as well as other information. The room rates for the convention are:

Single, Double or Quad - \$99.00 per night, plus tax of 14%
for a king or two doubles, regardless of number of occupants

To make your reservations, go to the website (www.gahperd.org) and follow the link listed for room reservations, or call 1-800-MARRIOTT and refer to the GAHPERD convention or mention group code PEDPEDA. Call soon to get your reservations for the convention. ***The deadline for room reservations is October 1, 2009.***

Georgia Association for Health, Physical Education, Recreation, & Dance

Calendar of Events

IMPORTANT DATES

<i>October 31-Nov. 3, 2009</i>	GAHPERD Convention, Atlanta Marriot NW (Cobb)
<i>February 10-14, 2010</i>	SDAAHPERD Convention, Myrtle Beach, SC
<i>March 16-20, 2010</i>	AAHPERD Convention, Indianapolis, IN
<i>November 6-9, 2010</i>	GAHPERD Convention, Desoto Hilton Savannah
<i>February 16-20, 2011</i>	SDAAHPERD Convention, Greensboro, NC
<i>March 15-19, 2011</i>	AAHPERD Convention, San Diego, CA
<i>October 22-25, 2011</i>	GAHPERD Convention, Atlanta Marriot NW (Cobb)
<i>March 13-17, 2012</i>	AAHPERD Convention, Boston, MA
<i>November 10-13, 2012</i>	GAHPERD Convention, Desoto Hilton Savannah

GAHPERD Publication Information

General Information

When submitting information for publication in the GAHPERD Journal or GAME Newsletter:

- Send information to Mike Tenoschok
mtenoschok@mtparanschool.com
- Submit electronically as an attachment to e-mail
- Information should be word-processed (Microsoft Word, size 12 Times font preferred)
- Any photographs submitted should be an actual photograph, not a photo cut from another publication.
Electronic transmissions are encouraged.

Due Dates for Materials and Publication Dates:

<u>Due Date</u>	<u>Publ. Date</u>	<u>Publ.</u>	<u>Season</u>
Jan. 1	Feb. 15	GAME	Winter
Feb. 1	March 15	Journal	Spring
April 1	May 15 (Conv. info)	GAME	Spring
June 1	July/August	GAME	Summer
Aug. 1	Sept. 15 (Pre-Con) *	Journal	Fall
Sept. 1	October 15	GAME	Fall
Nov. 15	Dec. 15 (Post-Con) *	Journal	Winter

PRESS RELEASE

Atlanta, August 31, 2009

Chalker Elementary School Receives Grant to Combat Childhood Obesity***ING Run For Something Better School-Based Running Programs Help Students Learn Healthy Lifestyle Changes During Peak Physical Development Years***

ING today announced Chalker Elementary School (Kennesaw, Georgia) as one of 50 recipients of a \$2,000 grant to help students combat childhood obesity. Through its ING Run For Something Better School Awards Program, financial services leader ING, in partnership with the National Association for Sport and Physical Education (NASPE), is helping to introduce fifth- through eighth-grade students across the country to the benefits of running through school-based running programs.

Chalker Elementary School will receive \$2,000 in funding to support its new ING Run For Something Better program, offering students a minimum of an eight-week running program that will conclude with a culminating running event in celebration of the students' achievements. NASPE has developed unique running lesson plans, based on the National Standards for Physical Education (NASPE, 2004), and specifically targeted for fifth- through eighth-grade students. These activity plans, coupled with other program materials such as distance logs and a running journal, will aid in the development of running skills and preparation for a culminating running event.

"We are pleased to offer schools a grant that encourages healthy lifestyles changes, personal development, goal-setting and group participation," said Rhonda Mims, president of the ING Foundation and senior vice president, Office of Corporate Responsibility and Multicultural Affairs. "ING is committed to making it easier for schools to not only close the gap in student achievement, but also advance student physical well being through ING Run For Something Better."

Grant awards were available in all states to public elementary or middle schools for running programs that targeted fifth- through eighth-grade students. Over 300 schools applied for the ING/NASPE School Awards Program. A NASPE review board consisting of 100 teachers and education administrators reviewed all applications.

Nearly one-third of U.S. children and teens are now overweight or obese. Inactive and obese children risk multiple consequences including reduced bone strength, Type 2 diabetes, cardiovascular disease, high cholesterol levels and asthma. If addressed at an early age, many of these conditions can be avoided. NASPE Executive Director, Charlene Burgeson, said "NASPE is appreciative to ING Run For Something Better for helping our efforts to promote the importance of children's physical fitness and provide teachers and coaches with resources they need to create fun and practical running programs for their students."

2010 Southern District AAHPERD Convention Hotel Information

Sheraton Myrtle Beach Convention Center Hotel
2101 North Oak Street
Myrtle Beach, SC 29577

Room Rate: \$125.00

Reservations via the website:

<http://www.starwoodmeeting.com/StarGroupsWeb/res?id=0907021309&key=9B46>

Or, call: 1-843-918-5000

DEADLINE: January 9, 2010

Be sure to use the reservation code: SDAA20



Opposing Substitution and Waiver/Exemptions for Required Physical Education

A Position Paper from the National Association for Sport and Physical Education

It is the position of the National Association for Sport and Physical Education (NASPE) that all K-12 students should take all required physical education courses and that no substitutions, waivers, or exemptions should be permitted.

Physical education is an essential and integral component of a total education. The National Standards for Physical Education define what a student should know and be able to do as a result of a quality physical education program. The unique goals of physical education are the development of physical competence, health-related fitness, cognitive understanding, and a positive attitude toward physical activity so that individuals can adopt and maintain physically active and healthy lifestyles (NASPE, 2004a).

Standard Three of the National Standards for Physical Education states that “a physically educated person participates regularly in physical activity” (NASPE, 2004a, p. 11). This standard connects what is done in physical education class with the lives of students outside of the classroom. The standard addresses the use of skills and knowledge learned in physical education class for participation in physical activities of one’s choosing. National recommendations state that school aged children and youth should participate in at least 60 minutes per day of moderate to vigorous physical activity (NASPE, 2004b; Strong, et al., 2005; USDHHS & USDA, 2005). Physical education provides a portion of the recommended time, but typically cannot provide all of it. For that reason, as well as for the development of positive lifestyle behaviors, ensuring that students are participating in physical activity outside of physical education class is a primary goal of physical education.

Classes and activities that provide physical activity (e.g., marching band, ROTC, cheerleading, school and community sports) have important but distinctly different goals than physical education. Any opportunity for students to participate in sustained periods of meaningful physical activity can be valuable for their health and fitness, but these activities do not provide the content of a comprehensive, standards-based physical education program and thus should not be allowed to fulfill a physical education requirement.

In cases where the general physical education course cannot meet the needs of a student because of a permanent physical or cognitive disability or religious

© May 2006

National Association for Sport and Physical Education, an association of the American Alliance for Health, Physical Education, Recreation and Dance

reasons, the student should participate in required physical education through adapted physical education classes provided by the school/school district.

References

National Association for Sport and Physical Education. (2004a). *Moving into the future: National standards for physical education* (2nd ed.). Reston, VA: Author.

National Association for Sport and Physical Education. (2004b). *Physical activity for children: A statement of guidelines for children ages 5-12* (2nd ed.). Reston, VA: Author.

Strong, W. B., Malina, R. M., Blimkie, C. J. R., Daniels, S. R., Dishman, R. K., Gutin, B., Hergenroeder, A. C., Must, A., Nixon, P. A., Pivarnik, J. M., Rowland, T., Trost, S., & Trudeau, F. (2005). Evidence based physical activity for school-age youth. *Journal of Pediatrics*, 146(6), 732-737.

United States Department of Health and Human Services & United States Department of Agriculture (2005). *The dietary guidelines for Americans, 2005* (6th ed.). Washington, DC: Author.

Resources

American Association for Active Lifestyles and Fitness. (2004). *Including students with disabilities in physical education*. Reston, VA: Author.

National Association for Sport and Physical Education. (2000). *Appropriate practices for elementary school physical education*. Reston, VA: Author.

National Association for Sport and Physical Education. (2001). *Appropriate practices for middle school physical education*. Reston, VA: Author.

National Association for Sport and Physical Education. (2004). *Appropriate practices for high school physical education*. Reston, VA: Author.

National Association for Sport and Physical Education (NASPE)

1900 Association Drive

Reston, VA 20191

(p) 703-476-3410

(f) 703-476-8316

<http://www.naspeinfo.org/>

Suggested Citation:

National Association for Sport and Physical Education. (2003). *Opposing substitution and waiver/exemptions for required physical education* [Position paper]. Reston, VA: Author.

REFEREED ARTICLE

Increasing Moderate to Vigorous Physical Activity in Physical Education

By Tony Pritchard and Starla McCollum

Georgia Southern University

ABSTRACT

Children are becoming more obese, so what can a physical educator do to combat this trend? One answer is to increase Moderate to Vigorous Physical Activity (MVPA) during physical education lessons. Currently, most students are not provided with the recommended amounts of physical activity in physical education. In fact, researchers have found that less than 10 percent of physical education lessons spend the time in MVPA (Simons-Morton, Taylor, Snider, Huang, & Fulton, 1994; Stratton, 1996). The purpose of this article is to provide physical education teachers suggestions on how they can increase MVPA in physical education lessons.

Unfortunately, children are becoming more obese in this country. The prevalence of overweight among children aged 6-11 has more than doubled increasing from 7% in 1980 to 18.8% in 2004 (Ogden, Flegal, Carroll, & Johnson, 2002; Ogden, Carroll, Curtin, McDowell, Tabak, & Flegal, 2006). The rate among adolescents aged 12 to 19 has more than tripled, increasing from 5% to 17.1% (Ogden, Carroll, Curtin, McDowell, Tabak, & Flegal, 2006). Children and adolescents who are overweight are more likely to be overweight or obese as adults (Casey, Dwyer, Coleman, & Valadian, 1992; Guo, Roche, Chumlea, Gardner, & Siervogel, 1994; Ferraro, Thorpe, & Wilkinson, 2003). Several factors, including poor nutrition and physical inactivity, are contributing to this epidemic. The Centers for Disease Control and Prevention (CDC) reported that 35.8% of high school students participated in at least 60 minutes per day of physical activity on 5 or more of the 7 days preceding the survey (CDC, 2006); 77% of children aged 9-13 reported participating in free-time physical activity; and 39% reported participating in organized physical activity (CDC, 2003).

With these disturbing facts facing physical education professionals, what is the goal of physical education? The National Association for Sport and Physical Education ([NASPE], 2004) states that the goal of physical education is to develop physically educated individuals who have the knowledge, skills, and confidence to enjoy a lifetime of healthful physical activity. To achieve this goal, schools must offer quality physical education. NASPE (2001) recommends elementary schools should provide 150 minutes of physical education per week and 225 minutes per week for secondary schools. When in physical education class, students should be spending 50% of that time in moderate to vigorous physical activity (MVPA, [U.S. Department of Health and Human Services, 2000]). NASPE (2004) defines moderate

physical activity as activity performed for relatively long periods of time without fatigue. Vigorous physical activity is activity that expends more energy or performed at a higher intensity than brisk walking. One must ask the question: Are my students receiving the recommended amounts of physical activity in physical education classes? Unfortunately, researchers have found that less than 10 percent of physical education lessons spend the time in MVPA (Simons-Morton, Taylor, Snider, Huang, & Fulton, 1994; Stratton, 1996). Class time was spent more in off task behavior and management. A review of literature revealed students spent only 27 to 47% of physical education time in MVPA in middle/high school (Fairclough & Stratton, 2005) and 34% in MVPA during regular elementary physical education classes (Fairclough & Stratton, 2006).

Why is it important to achieve 50% MVPA in physical education class? With so little time in MVPA during physical education, it is difficult for students to acquire the recommended daily physical activity levels to achieve any health benefits. The U.S. Departments of Health and Human Services and Agriculture (2005) recommend that young people (ages 6-19) engage in at least 60 minutes of physical activity on most, preferably all, days of the week. Wallhead (2007) describes how one mechanism to help combat childhood obesity is for physical educators to promote MVPA to get overweight students to achieve a healthier lifestyle. The purpose of this article is to provide strategies to increase MVPA during physical education.

Minimize Management and Waiting Time

One of the easiest ways to ensure students have more time for physical activity in physical education classes is to decrease management and waiting time. Management is defined as "Teacher is engaged in carrying out a non-subject matter task" (Hawkins & Wiegand, p. 279, 1989). Examples of management include setting up equipment, taking roll, collecting papers, etc. If the teacher has high management time, it is minimizing the time students can be engaged in physical activity time. Waiting time is defined as "Student has completed a task and is awaiting the next instructions or opportunity to respond" (Hawkins & Wiegand, p. 281, 1989). Examples of waiting time includes students having to wait in line for a turn, student arriving at a station and waiting for further instruction from the teacher, and standing on a sideline waiting to get into a game. The authors propose two very simple strategies to minimize management and waiting time.

Get started quickly. A traditional physical education class would begin by having students to line up when they enter the gym or after they get dressed for participation. The teacher would take roll and see who is dressed out (e.g., middle/high school students). Instead of wasting this time, have students to perform an instant activity whether it is a warm-up routine or some other instant task. For example, during a sport education season where students perform different roles, the fitness trainer can lead his/her team in a warm-up. Another example would have students to jump rope for the first five to ten minutes as a warm up or perform other fitness activities. While students are performing this initial task, the teacher can check the role and perform any other management duties. Students are active from the very beginning of class, which is different from the traditional physical education lesson where the teacher wastes time to take roll.

Piece of equipment for each student if possible. One of the easiest ways to minimize waiting time is to ensure that each student or pair of students has a piece of equipment. By having a piece of equipment for every student, lines are avoided, thus waiting time for students can be decreased.

Design Movement Tasks to Increase MVPA

When designing learning tasks, teachers need to think of the organization of the tasks to ensure students are receiving appropriate MVPA while working on skills. The following sections are examples of how to organize learning tasks that will enhance the MVPA during skill practice.

Poly Spot Shuffle. Some tasks may require a partner, so how can a teacher increase MVPA in these tasks? One possible answer would be the poly spot shuffle. The organization of the task would require students to touch a poly spot a certain distance away then return to the ready position before performing the next skill attempt. For example, if a teacher is teaching the underhand clear in badminton, the teacher would set up the task so one student is the performer and the partner is the feeder. The feeder hits or passes a shuttle so the performer must execute an underhand clear. After the performer hits the underhand clear, the performer must go touch a poly spot that is off to the side and return to the base position before the feeder hits the next shuttle for the next attempt. This movement task will increase MVPA, plus teach the badminton strategy of returning to the base position.

This poly spot shuffle can be implemented in other types of movement skills such as basketball passing, and soccer passing. The teacher would have four poly spots forming a square. Student A would pass to student B then go and touch the poly spot and return to base position. Student B would perform the same movement when student A returns to original poly spot. This would enhance MVPA while working on skill development plus students would learn to move without the ball.

Move to open space. Very similar to the poly spot shuffle, the tactic of move to the open space can be utilized to enhance MVPA. The set up for this type of task is the same as the poly spot shuffle with four poly spots forming a square. The difference is the addition of a defensive player in the middle of

the square. The student with the ball must pass to a teammate who must move to an open poly spot so the defensive player cannot steal the ball. This task can be used with throwing (e.g., throwing a football or Frisbee), passing with the hands (e.g., basketball chest or bounce pass), or passing with the feet (e.g., soccer pass or passing with a hockey stick). If the offensive team makes five passes, then the defensive player can rotate with an offensive player. This task not only works on MVPA but it is also working on the tactical problem of moving to open space.

Poly Spot Shuttle. Most teachers will organize skill practice with partners and have the students stay in one spot. For example, if the movement task is throwing to a partner, the paired students would stand a few feet apart and pass the object to one another. This task organization will work on skill, but does very little for MVPA. When working on skills that usually require a partner, have students to get into groups of three. The goal of the task would be to pass to the next student and run to that spot and get in line to receive the object. Students continuously pass and move during task practice time. This movement strategy enhances MVPA while working on skill development. The teacher could challenge students to see how many correct passes they can get in a certain time period. This organization could be used for several different skills whether a student is working on dribbling a basketball, passing a football, or passing a floor hockey puck. It also allows for accommodation of larger numbers of students and limited equipment without sacrificing skill practice and activity time.

Timed Movement Tasks (Time Challenge). Described by McNamee, Bruecker, Murray, and Speich (2007), time challenges allow students to see how many times they can perform a task in a specific time limit. For example, the teacher would ask the students “how many catches can you make in 20 seconds?” Once the time limit is up, the teacher would ask students to perform the same movement task and see if the students can improve on their scores. This type of task can increase MVPA and motivate students to continue practicing to improve skill performance. The time challenge can be combined with the poly spot shuttle, poly spot shuffle, or move to open space organization described earlier.

Time challenges are fun for students, but the teacher should ensure that students are competing against their own score and not competing against the other groups. This will ensure that a task-oriented climate is being enhanced instead of the ego-oriented climate. A task-oriented climate focuses on each student’s improvement by defining success as it relates to the student’s past experiences (Nicholls, 1989). An ego-oriented climate occurs when the teacher compares a student’s scores to other students. The task-oriented climate allows students to concentrate on competing against themselves thus producing a less stressful environment (Blankenship, 2007). By having less stress, students will enjoy physical activity, thus want to participate at a higher physical activity intensity to beat their own personal scores.

Teachers must be careful not to be so concerned with MVPA that the quality of the skill practice is neglected. This type

of time challenge is based on the term “fluency.” Fluency is defined as the combination of accuracy and speed that characterizes a competent performance (Binder, 1988, 1990). Other terms of fluency are automatic (Haughton, 1972) and second nature (Binder, 1990). Fluency can be the answer to increasing MVPA, while increasing skill competence. By having more time challenges in a physical education lesson, teachers will be increasing the fluency of a student’s performance. Students learn that combination of accuracy and speed enhances skill development so it becomes automatic while increasing MVPA.

SUMMARY

Obesity in this country is still on the rise and the school population is not immune to it. If we are to combat this trend, physical educators must plan to improve MVPA levels in physical education. Increasing MVPA in physical education should be one of the goals for every physical education teacher. However, we must still enhance skill development while improving MVPA. By utilizing tasks that enhance both MVPA and skill development, student learning will be achieved while spending at least 50% of a physical education lesson in MVPA.

REFERENCES

Binder, C. (1988). Precision teaching: Measuring and attaining exemplary academic achievement. *Youth Policy*, 10(7), 12-15.

Binder, C. (1990, September). Closing the confidence gap. *Training*, 46-56.

Blankenship, B. T. (2007). The stress process in physical education. *Journal of Physical Education, Recreation, and Dance*, 78(6), 39-44.

Casey, V. A., Dwyer, J. T., Coleman, K. A., & Valadian, I. (1992). Body mass index from childhood to middle age: a 50-year follow up. *American Journal of Clinical Nutrition*, 56, 14-18.

Centers for Disease Control. (2003). Physical activity levels among children aged 9-13 years-United States, 2002. *Morbidity and Mortality Weekly Report*, 52 (SS-33), 785-788.

Centers for Disease Control. (2006). Youth Risk Behavior Surveillance-United States, 2005. *Morbidity and Mortality Weekly Report*, 55(S-5), 1-108.

Fairclough, S., & Stratton, G. (2005). Physical activity levels in middle and high school physical education: A review. *Pediatric Exercise Science*, 17, 217-236.

Fairclough, S., & Stratton, G. (2006). A review of physical activity levels during elementary school physical education. *Journal of Teaching in Physical Education*, 25, 239-257.

Ferraro, K. F., Thorpe, R. J., & Wilkinson, J. A. (2003). The life course of severe obesity: Does childhood overweight matter? *Journal of Gerontology*, 58B(2), S110-S119.

Guo, S. S., Roche, A. F., Chumlea, W. C., Gardner, J. D., & Siervogel, R. M. (1994). The predictive value of childhood body mass index values for overweight at age 35 years. *Clinical Nutrition*, 59, 810-819.

Haughton, E. C., (1972). Aims: Growing and sharing. In J.B. Jordan & L.S. Robbins (Eds.), *Let’s try doing something else kind of thing* (pp. 20-39). Arlington, VA: Council on Exceptional Children.

Hawkins, A., & Wiegand, R. (1989). West Virginia University Teaching Evaluation System and Feedback Taxonomy (Chapter 26). In P. Darst, V. Mancini, & D. Zakrajsek (Eds.). *Analyzing physical education and sport instruction* (2nd edition.). Champaign, IL: Human Kinetics.

McNamee, J., Bruecker, S., Murray, T., & Speich, C. (2007). High-activity skills progression: A method for increasing MVPA. *Journal of Physical Education, Recreation, and Dance*, 78(7), 17-21, 32.

National Association for Sport and Physical Education. (2004). *Moving into the future: National standards for physical education* (2nd ed.). Reston, VA: Author.

National Association for Sport and Physical Education. (2001). *Shape of the nation report: A survey of state physical education requirements*. Reston, VA: Author.

Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge, MA: Harvard University Press.

Ogden, C. L., Flegal, K. M., Carroll, M. D., & Johnson, C. L. (2002). Prevalence and trends in overweight among U.S. children and adolescents, 1999-2000. *Journal of the American Medical Association*, 288, 1728-1732.

Ogden, C. L., Carroll, M. D., Curtin, L. R., McDowell, M. A., Tabak, C. J., & Flegal, K. M. (2006). Prevalence of overweight and obesity in the United States, 1999-2004. *Journal of the American Medical Association*, 295, 1549-1555.

Simons-Morton, B. G., Taylor, W. C., Snider, S. A., Huang, I. W., & Fulton, J. E. (1994). Observed levels of elementary and middle school children’s physical activity during physical education classes. *Preventive Medicine*, 23, 437-441.

Stratton, G. (1996). Children’s heart rates during physical education lessons: A review. *Pediatric Exercise Science*, 8, 215-233.

U. S. Department of Health and Human Services. (2000). *Healthy People 2010* (2nd ed.). Washington, DC: Author.

U. S. Department of Health and Human Services and U.S. Department of Agriculture. (2005). *Dietary Guidelines for Americans, 2005* (6th ed.). Washington, DC: U.S. Government Printing Office.

Wallhead, T. (2007). Teaching K-12 students to combat obesity. *Journal of Physical Education, Recreation, and Dance*, 78(8), 26-28.

REFEREED ARTICLE

A Study of Physical Activity Behaviors, Knowledge, and Attitudes of College Alumni: Implications for Promotion of Physical Activity on College Campuses

By Charles R. Darracott, III, Ed.D. and Shirley H. Darracott, Ph.D.

Augusta State University

The college years present, perhaps, the last formal setting to systematically promote physical activity and health as the late adolescent moves into young adulthood. Sparling (2007, 2003) advocated a multifaceted approach for combating obesity on campus with quality physical education and fitness classes playing a central role. Nearly all (96%) American colleges and universities that responded to a survey by Hensley (2000) reported having either a required or elective physical education program. The percentage of institutions with required college physical education programs (RPEP) was 63%. Based on previous surveys this percentage remained relatively stable (60-67%) during the 1980's and 1990's. Information on RPEP percentages and curricular offerings for the first decade of the 21st century is not available.

In times of curricular change or a tight fiscal environment, kinesiology departments have defended required college physical education programs as a vehicle for addressing physical activity and health concerns on campus. There have been few published studies that address the impact of college RPEP on adult physical activity and health. A review of studies published prior to 2000 (Darracott, 2000), indicated that college physical education programs/courses contributed to knowledge about physical activity and fitness, confidence in planning an exercise program and a positive attitude towards physical activity and fitness. The impact of such programs on physical activity behavior was less evident. At best, some programs appeared to impact the mode or frequency of physical activity and were more pronounced in females.

In one of the few studies since 2000, Sparling and Snow (2002) surveyed alumni who took a required 2-credit course in health and wellness either in a lecture only or lecture/physical activity format. Two-thirds of the alumni stated they enjoyed exercise and almost 80% indicated they were confident in setting up their own fitness program. Nearly 85% of alumni who exercised regularly as college seniors were as active or more active at the time of the survey, whereas, about 81% of those who were non-exercisers as college seniors reported the same or lower levels of activity as alumni. The relationship between exercise patterns in the senior year and as alumni (mean age 29) was very strong. These authors suggested physical activity patterns as a college senior are resistant to change and called for physical activity programs targeting sedentary collegians.

Our study was designed to investigate the impact of a required physical education activity program on knowledge,

attitudes, and behaviors of college alumni. We included a greater variety of physical activity items in our questionnaire than previous studies examining the impact of a physical education program/course on alumni. The alumni in this study had been out of college 8-12 years -- slightly longer than cited in other literature.

METHOD

Selection of Participants

Participants were selected from the alumni of two private, coeducational liberal arts colleges in the southeastern United States. The colleges had similar freshman class profiles (see Tables 1 and 2) and each had an enrollment of less than 1000 students. College B alumni were taller and heavier than their College A counterparts (see Table 3).

Table 1: Comparison of the two institutions (averages for fall 1980, 1981, 1982).

	College A	College B
Enrollment	529	833
Tuition/Fees (\$)	6410	4730
SAT	941	801
Male/Female ratio %	52.4/47.6	57.8/42.2
% non-white	7.7	10.3

Table 2: Characteristics of the respondents

	College A	College B
Respondents/questionnaires mailed	191/309 61.8%	184/321 57.3%
Females (%)	50.3	43.2
Males (%)	49.7	56.3
Varsity athletes (%)	15.3	20.3
Non-white (%)	9.0	4.4
Age (yr)	32.7 (1.0)	33.9 (3.4)
Predominant occupations (%)	Physician/dentist- 16.8% Manager 10.5% Attorney 9.9%	Accounting/ banking- 13% Sales 12% Manager 11.4%

Table 3: Self-reported physical characteristics of the respondents.

	All	College A			College B		
		Total (n = 191)	Males (n = 95)	Females (n = 96)	Total (n = 184)	Males (n = 104)	Females (n = 79)
Height (cm)	173.2±10.2	172.8±10.2	179.9±8.8	165.9±5.8	173.5±10.6	180.6±7.1	164.1±6.1
Weight College (kg)	68.9±14.4	66.3±13.8	75.6±10.5	57.2±10.2	71.3±15.1	78.9±13	61.1±11.4
Weight Survey (kg)	74.4±16.7	71.8±15.3	81.4±12.4	62.2±11.5	77.0±17.7*	85.6±15.8	65.6±13.1
BMI Survey (kg.m⁻²)	24.6±4.1	23.9±3.7	25.1±3.0	22.6±3.8	25.3±4.3*	26.1±4	24.4±4.6

Note: One subject from College B did not report gender.

All values represent mean + standard deviation.

* $p < .0001$, College B v College A.

College A. College A is a two-year, liberal arts college operated as a unit of a private university. The university also contains a four-year undergraduate college located on a separate campus. Approximately 90% of the graduates from the two-year program at College A continue on to the affiliated senior liberal arts college. For the purpose of this study, all alumni who had earned a 2-year degree from College A and continued on to graduate from the affiliated senior college in 1984, 1985, and 1986 were included in the sample (n = 299). In addition, the first 10 College A graduates listed on a mailing list from the senior college class of 1987, were selected for inclusion in the sample in order to more closely match the number of alumni available from College B. Thus, surveys were mailed to 309 College A alumni. At College A, a one-credit physical education course was required every semester/quarter during the freshman and sophomore years. Each student was required to select an aquatics course as part of this requirement. In every course, students were required to participate in physical activity outside of regular class time. Neither College A nor the affiliated senior college offered a physical education or recreation major.

College B. College B is a private, four-year liberal arts college. All alumni who graduated in 1984, 1985, and 1986 and whose last names began with A-T, were selected (n = 321). College B had no physical education requirement. Elective physical education courses could be selected and a recreation major was offered. Fifty-eight percent of the respondents in this sample had elected at least one physical education course. Recreation majors comprised 3.5% of respondents.

Data Collection Procedures

Questionnaire. The initial version consisted of items adapted from three questionnaires used in previous studies. It was first tested on a group of 300 college students. Several revisions were made during which the questionnaire was reviewed by 10 faculty and/or staff members from a variety of disciplines (physical education, social science, mathematics, humanities). In these revisions, items from one of the previously used questionnaires were discarded and items adapted from two additional questionnaires found in the literature were added.

The instrument that resulted from this process consisted of three main sections: (1) relative importance of the college experience on knowledge, attitudes, interest, and participation in exercise/activity; (2) current physical activity patterns; (3) current attitudes, behaviors, and knowledge about health. The items in these sections were face-valid items selected from four questionnaires used in earlier studies and included Likert-scaled, forced choice and open-ended formats. The use of previously validated items forms the basis for the validity of this questionnaire.

The first section of the questionnaire consisted of five Likert scaled items. This section was adapted from a questionnaire used by Adams and Brynteson (1992) in a study of four private Christian colleges. The second section, concerning physical activity attitudes and behaviors, consisted of seven items and was adapted from questionnaire items used by Paffenbarger (Paffenbarger, Blair, Lee, & Hyde, 1993) in studies of Harvard Alumni. Three items included in this section concerned activity from the regular daily routine. One item concerned participation in muscular fitness activity, two items concerned exercise intensity, and in the final item of this section, alumni were asked if they felt they exercised enough to keep healthy.

The third section, concerning health attitudes, behaviors and knowledge, consisted of both forced choice items and items in which the respondent reported a numerical value. Items were adapted from a questionnaire used by Pearman, Valois, Sargent, Saunders, Drane and Macera (1997), the National Health Interview Survey (National Center for Health Statistics, 1989), and the Harvard Alumni Health Study (Paffenbarger, Blair, Lee, & Hyde, 1993). The final section of the survey included items to assess standard demographic variables.

Data collection. Data were collected using guidelines of Windsor, Baranowski, Clark, and Cutter (1984). The first contact with subjects was by a postcard mailed to alumni of both institutions indicating that they would be receiving a questionnaire. A week later, all alumni received a questionnaire plus a cover letter from the Dean of the College

(College A) or the Director of Development (College B). Approximately two weeks after the questionnaire mailing, nonrespondents were sent a reminder postcard. After another two weeks passed, those still not responding were sent a second questionnaire. Stamped envelopes addressed to the authors were included in each questionnaire mailing. The overall response rate was 375/630 (59.5%). The response rates for College A and B were 191/309 (61.8%) and 184/321 (57.3%) respectively (see Table 2).

RESULTS

Contribution of College Experience to Knowledge, Attitudes, and Activity Habits

Five Likert-scaled items focused on the contribution of the college experience to current knowledge, attitudes and activity habits. Responses to these items were analyzed using five separate two-way ANOVA's (sex by institution) and effect sizes were calculated (Thomas and Nelson, 1999, p.109). College A alumni perceived their college experience as being more important than College B alumni in contributing to their knowledge about health and physical fitness, $F(1, 373) = 10.24, p = .002$ (see Table 4). College A alumni also perceived their college experience to have contributed greater in respect to (a) a positive attitude toward physical activity $F(1, 373) = 6.97, p = .009$, and (b) to their skill and interest in a lifetime sport/activity $F(1,373) = 4.20, p = .04$. No institution or gender effects were found for the contribution of the college experience to: current physical activity habits $F(1,373) = 3.11, p = .08$. College A alumni, however, placed greater importance on physical activity as an important aspect of maintaining health $F(1,373) = 5.75, p = .02$.

Table 4: Perceived value of the college experience (including physical education courses) in contributing to knowledge, attitudes, skill, interest, habits, and values.

	College A		College B	
	M	SD	M	SD
Knowledge about health and physical fitness	2.98**** ES = .36	1.03	2.62	1.21
A positive attitude toward physical activity	3.14*** ES = .25	1.05	2.83	1.26
Your skill and interest in a lifetime sport/activity	2.94* ES = .19	1.20	2.70	1.34
Your current exercise and physical activity habits	2.71	1.12	2.50	1.27
Importance of regular activity in maintaining your health	4.45** ES = .25	0.79	4.26	0.88

Note: *Significantly different from College B ($p = .04$).

**Significantly different from College B ($p = .02$)

***Significantly different from College B ($p = .009$)

****Significantly different from College B ($p = .002$)

Current Physical Activity

Two-way analysis of variance (sex by institution) was used to determine differences between groups in blocks walked per day, flights of stairs climbed per day, and perception of effort during a typical exercise session. Other forced choice items in this section were analyzed using a Chi square technique.

Unstructured physical activity. Differences in blocks walked per day $F(1,365) = 2.80, p = .10$, and flights of stairs climbed per day $F(1,362) = 0.55, p = .46$, were not significant between institution or gender groups (see Table 5). Institutional differences were found in usual pace of walking ($O^2[1, N=371]=9.22, p<.03$). Institutional differences were greatest ($O^2[1, N=172]=8.09, p<.004$) between female alumni with 62.6% of College A females usually walking at a fairly brisk or brisk pace compared with 41.1 % of College B females choosing such a pace (see Table 6). Usual pace of walking was similar for males from the two institutions ($O^2[1, N=198]=0.015, p<.904$) with 51.1% of College A and 51.9% of College B males choosing the faster walking paces.

Structured exercise. A statistical difference was not found in the muscular strength/endurance activity of the two institutional groups ($O^2[1, N=370]=0.04, p<.84$). No difference was found in the percentage of alumni who engaged in vigorous activity at least once a week for a duration long enough to work up a sweat, get the heart thumping or get out of breath ($O^2[1, N=371]=0.75, p<.38$).

Exercise intensity. There were both institutional and gender differences (see Table 5) in the answer to the question: when you are exercising in your usual fashion, how would you rate your perception of effort? College A alumni had a higher mean rating on Borg's scale (1982) of self-assessed perceived exertion, $F(1,358) = 6.07, p = .01$. Males had a higher rating than females $F(1,358) = 13.46, p = .0003$. While the gender by institution interaction fell just short of significance ($p = .11$), it is interesting to note that College A women (5.3) reported a higher intensity of regular activity as compared to College B women (4.5).

Health Attitudes, Behaviors and Knowledge

Forced choice items in this section were analyzed using the Chi square technique. Other items were analyzed using a two-way (institution by sex) analysis of variance. Over a third of the alumni (38.2%) believed they exercised enough to keep healthy, while 61.5% thought they should get more exercise. Only one subject chose the option, "I don't know." No institutional differences were found on this item ($O^2[1, N=369]=0.95, p<.33$).

Blood Pressure. Over half (57.8%) the alumni knew their blood pressure. Females were more likely than males ($O^2[1, N=369]=3.82, p<.05$) and College A alumni compared to College B alumni ($O^2[1, N=370]=10.54, p<.001$) were more likely to know their blood pressure (see Table 6). College A females were more likely to know their blood pressure than College B females ($O^2[1, N=172]=5.03, p<.03$).

Cholesterol. About a third (36.2%) of the alumni reported knowing their total cholesterol level based on a blood test. College A alumni were more likely to know their total cholesterol level ($O^2[1, N=365]=5.85, p<.02$). The mean reported total cholesterol value for the 137 alumni who knew their values was 176.7 ± 41.3 mg/dl.

Smoking. Alumni were considered to have been smokers if they had smoked at least 100 cigarettes in their lifetime. A third of the alumni (32.8%) had been smokers, first started smoking cigarettes fairly regularly at age 17.7 ± 3.5 years and smoked 12.8 ± 9.7 cigarettes per day over the entire time they had smoked. At the time of the survey 12.5% of the alumni were smoking an average of 9.2 ± 9.7 cigarettes per day. Of those alumni who had been smokers, 60.2% stopped smoking at the average age of 25.7 ± 5.2 years. Nearly twice

the percentage of College B alumni (42.4%) compared to College A alumni (23.6%) had been smokers ($O^2[1, N=375]=15.08, p<.001$). Smokers from the two institutional groups started smoking regularly at about the same age (College A: 17.8 ± 3.3 years; College B: 17.7 ± 3.7 years). The average number of cigarettes smoked per day was 10.9 ± 7.1 for College A alumni and 13.8 ± 10.8 for College B alumni. Examination of current smoking habits between the institutional groups indicated that 16.3% (13.5% of males, 20.2% of females) of College B alumni were smokers while 8.9% (5.3% of males, 12.5% of females) of College A alumni were smokers. A higher, although not statistically different, percentage of female alumni (16.0%) reported a current smoking habit compared to 9.5% of male alumni smokers ($O^2[1, N=374]=2.70, p<.10$).

Table 5. Self-reported physical activity measures.

	All		College A (RPEP)			College B (no RPEP)		
	Men	Women	All	Men	Women	All	Men	Women
Blocks walked/day	12.7 (13.9)	12.8 (14.5)	11.6 (12.4)	11.6 (13.1)	11.5 (11.6)	13.9 (15.7)	13.7 (14.5)	14.4 (17.3)
Stairs climbed up/day	7.1 (10.4)	6.5 (6.1)	6.5 (9.1)	7.2 (11.4)	5.8 (6.0)	7.2 (8.2)	7.1 (9.5)	7.4 (6.2)
RPE when exercising (0-10)	5.6** (1.8)	4.9 (1.8)	5.5* (1.7)	5.7 (1.7)	5.3 (1.8)	5.1 (1.9)	5.5 (2.0)	4.5 (1.7)

Note: Values represent the mean and (standard deviation). ** $P<.0002$ all men v all women.
* $p<.02$ College A v College B.

Table 6. Self-reported physical activity, health knowledge and health behaviors.

	All		College A (RPEP)			College B (no RPEP)		
	Men %	Women %	All %	Men %	Women %	All %	Men %	Women %
Chose brisk as usual pace of walking	51.5	52.9	56.92** C = .15	51.1	62.8**	47.0	51.9	41.0
Wt. Training 2x/wk	42.1	36.0	39.7	40.0	39.4	38.7	44.1	32.0
Vigorous PA > 1x/wk	83.8	84.5	85.7	85.1	86.3	82.4	82.5	82.3
Knowledge of blood pressure	53.3	63.4*	66.1**** C = .17	61.3*	71.0**	49.5	46.2	54.4
Knowledge of blood cholesterol	34.9	37.9	42.2** C = .13	44.0**	40.4	30.0	26.9	34.7
Smoked 100 cigarettes in life	29.2	37.1	23.6**** C = .20	19.0***	28.1***	42.4	38.5	48.1
Can definitely do something to prevent ill health	90.9	93.1	94.2~	94.7~	93.8	89.6	87.4	92.4

~ $p<.10$, College A v College B and College A men v College B men.

* $p<.05$, all women v all men and College A men v College B men.

** $p<.03$, College A v College B, College A women v College B women, College A men v College B men.

*** $p<.006$, College A men v College B men and College A women v College B women.

**** $p<.001$, College A v College B.

Height and weight. College B students were heavier and taller than College A students (see Table 3). The mean body mass index (BMI) for the alumni sample was 24.6 ± 4.1 . The mean BMI values for the two alumni groups were 23.9 ± 3.7 and 25.3 ± 4.3 for College A and College B alumni respectively. Fewer of College A alumni (14.1%) than College B alumni (24.6%) were overweight using the Healthy People 2000 criteria of BMI > 27.8 for men or BMI > 27.3 for women.

Personal responsibility for health status. Most alumni (92%) believed that a person of their age could definitely do something to significantly reduce the risk of ill health, while 6.7% believed they could perhaps do something and 1.3% believed that the risk of ill health was largely a matter of chance. Although not a significant difference ($p=.097$), a greater percentage of College A alumni (94.2) believed they could definitely do something to prevent ill health compared to College B alumni (89.6).

DISCUSSION

The purpose of this study was to determine if alumni who have completed a required physical education program differ in attitudes, physical activity habits, and health behaviors from alumni who have not participated in such a program. Data were collected with regard to three major research questions. Do alumni differ in their perceptions of the impact of their college experience on current physical activity habits, attitudes, and beliefs? Do these alumni differ in their current physical activity habits? Are these alumni different in their health behaviors, knowledge and attitudes?

Perception of the College Experience

In comparison to College B, the undergraduate experience of College A alumni may have had a greater impact on alumni knowledge about health and physical fitness. The effect size was moderate ($ES=.36$) suggesting that these differences may have been due in part to the participation in a RPEP by College A alumni. This finding is in agreement with other alumni studies which found an apparent impact of a RPEP or course on knowledge about physical activity/fitness or health (Slava, Laurie, & Corbin, 1984; Rasmussen, 1980; Adams & Brynteson, 1992; Brynteson and Adams, 1993; Pearman et al., 1997; Sparling & Snow, 2002).

It appears that the RPEP experienced by the College A alumni also contributed in some part to the development of a positive attitude toward physical activity, skill and interest in a lifetime sport/activity, and the attitude that regular physical activity is important in maintaining health. The effect size in each case was small indicating that other factors such as occupation and socioeconomic status have an impact on attitudes toward physical activity. It is interesting to note that both the 8-credit program from studies by Adams and Bryntesen (1992, 1993) and the 4-credit program in current study required students to participate in exercise outside of class meeting times and required a physical education course each semester/quarter in residence for at least the first 2 years of college. Perhaps the inclusion of a physical activity requirement for an extended time period in both structured and unstructured settings was a factor in the development of a positive attitude toward physical activity.

It should be noted, however, that nearly 17% of College A

alumni compared to less than 2% of the College B alumni were physicians or dentists. Thus, it is difficult to determine whether occupational choice or the RPEP influenced the value College A alumni placed on their college experience and the health benefits of physical activity.

Physical Activity

In the present study, there was not a significant difference in unstructured physical activity (blocks walked or stairs climbed per day) between the alumni groups. There were also no differences in the percentages of alumni who engaged in weight training at least twice a week and at least one bout of vigorous physical activity per week. College A alumni reported a higher intensity (degree of effort) when they were exercising in their usual fashion. College A alumni were also more likely to choose a faster walking pace than their College B counterparts. These effect sizes were small suggesting that the college experience was just one component in the intensity differences between the alumni groups. An examination of Tables 5 and 6 indicate these differences were seen primarily in females. This is similar to the findings of Sallis et al. (1999) in which females but not males appeared to be impacted by a college physical activity promotion course for seniors.

Health Behaviors, Knowledge and Attitudes

Knowledge of blood pressure and Cholesterol. The finding that College A alumni were more likely than College B alumni to know their blood pressure and cholesterol levels is consistent with the findings by Pearman et al (1997) in their comparison of a college requiring a fitness/wellness course with a reference institution having no health or physical education requirement. A confounding factor in the present study is that more College A alumni may have known their blood pressure and total cholesterol level because a greater percentage of these alumni reported working in the medical field compared to their College B counterparts. Also, the College A sample was made up of a higher percentage of females than the College B sample. Female alumni probably had more contact with the medical establishment than males during their first 10 years out of college due to pregnancy and childbirth.

Institutional and gender differences in smoking. The institutional difference in smoking may be partially explained by the larger percentage of alumni from College A who were working in health care fields. Fewer College A alumni were classified as overweight, therefore, smoking as a weight control method may have been more important to the College B alumni. Society's idea of "thin is beautiful" may be partially behind the finding that more women alumni smoked than male alumni.

Weight. Weight gain from college until the time of the survey was similar when comparing within gender groups between the two institutions. A greater percentage of the College B alumni were classified as overweight using the BMI criteria from the Healthy People 2000 document (US DHHS, 1991). College B alumni were taller and heavier than College A alumni both during college and at the time of the survey. Because of these differences and the cross-sectional nature of the study, conclusions as to the effect of the RPEP on BMI are limited.

Overall health. About 6% more of the College A alumni classified themselves as in excellent health compared to College B alumni. The cause of this difference is uncertain. Possible reasons include a difference in health status at the time of starting college, an improved health status of College A alumni due to the number of College A alumni working in the medical field and possibly the effect of the RPEP to which the College A alumni were exposed. About 4.5% more of the College A alumni felt that they could do something to significantly reduce the risk of ill health. This again may reflect a difference in occupation between the two alumni groups or possibly the impact of the required PEA program.

SUMMARY OF FINDINGS

The RPEP appeared to have a positive effect on selected knowledge and attitudes of College A alumni. This is supported by statistically significant differences noted for both men and women when comparing the two alumni groups. These results are similar to the findings of Adams and Bryntesen (1992), Pearman et al (1995), and Slava, Laurie, and Corbin (1984).

The impact of the RPEP on alumni physical activity behavior was less than desired and found primarily in the frequency, intensity, or type of activity. Smoking behavior and knowledge about blood pressure and blood cholesterol appears also to be impacted by the RPEP, although the influence of other variables such as occupational choice may be strong. The results of the present study suggest that female alumni are impacted by the RPEP to a greater degree than male alumni.

Regarding the positive findings, we recognize that there are possible alternative explanations other than the RPEP which could account for differences in the alumni groups. The present study, along with the other alumni studies cited (Slava, Laurie, and Corbin, 1984; Adams and Bryntesen, 1992; Pearman et al, 1997; and Sparling and Snow, 2002) are cross-sectional, therefore, results should be examined with caution. On the other hand, because there are many barriers that can potentially get in the way of a sedentary individual's adoption of a physically active lifestyle, even small differences between groups may be meaningful. Slava, Laurie, and Corbin (1984) suggest that people who have developed inactive lifestyles over an extended time period are not going to become active just because they learn the facts about exercise and fitness. Furthermore, these investigators suggest that attitudes and behaviors which have become somewhat fixed by college age are difficult to change. Using this logic, any changes found in the present study which might be explained by a program which is 1/32 (4 of 128 credits) of the total college academic requirement should be viewed as important.

Promotion of Physical Activity on Campus

A significant percentage of young people in the United States are enrolled in colleges and universities. These students will be our future leaders and policy makers, therefore, their habits, beliefs, and attitudes will influence norms and values in years to come (Leslie, Sparling, & Owen, 2001). Encouraging students to be physically active and healthy can produce benefits to society as well as the individual.

Physical activity patterns of senior college students have been found to be trait-like in many individuals indicating that most regular exercisers and non-exercisers will continue their activity habits into their young adult years (Sparling & Snow, 2002). About 15 to 20% of college students are sedentary, reporting exercise participation less than 1 day/week and another 40% are irregular, exercising only 1-2 days/week (Sparling, 2003). Further promotion of physical activity on campus appears warranted.

Today there are significant forces working against an active lifestyle on campus. Use of computers, the internet, automobiles, and other technologies have caused students to spend increasingly more time sitting and less in leisure-time physical activity (Leslie, Sparling, & Owen, N., 2001). Although forces on campus seem to encourage a sedentary lifestyle, steps have been taken to increase physical activity. Since the 1980's a number of institutions have built new, attractive campus recreation facilities. During this time master planners have also designed and implemented "walkable campuses" in which vehicles are parked on the periphery and access to buildings is by foot.

The enhancement of required and elective physical education offerings also play key role in increasing physical activity levels of students. The increasing diversity of college enrollments has provided challenges for physical activity instructors. We have taught college physical activity classes that include former professional and college athletes, older non-traditional students, those unable to walk a mile continuously, and everything in between. Providing a diverse menu of courses for various ability levels and interests can counteract this challenge (Sparling, 2003). Sparling (2003) urges the customization of physical education courses to target different segments of the student population (chronically sedentary women, previously active men, etc) with particular emphasis on those who are sedentary (Sparling & Snow, 2002). Implementing strategies for a homogeneous group may be more effective than trying to match strategies to a number of individuals in a diverse group (Leslie, Sparling, & Owen, 2001).

Sparling (2003) also suggested assigning well-trained, proficient instructors to physical activity sections. Courses that are well-taught, in which the students have fun, will have full enrollments. A study at a large state university found that the primary reason students enroll in physical activity courses is to learn a new activity or to improve their skills and have fun (Leenders, Sherman, & Ward, P, 2003). Physical activity instructors could also be trained to teach behavioral skills. Instructors for the Project GRAD course (Sallis, et al, 1999) taught students behavior change skills such as self-monitoring, goal setting, problem solving, and relapse prevention to help them adopt and maintain physical activity.

Overcoming the prevailing pattern of sedentary behavior in college students will require a campus-wide team that represents key campus units (Sparling, 2007). Sparling (2007) suggests this team should include the president's office, campus planning, campus recreation, the counseling center, food services, student health, student government,

and selected academic departments. The key factor, he says, is strong institutional commitment.

REFERENCES

Adams, T. M., and Brynteson, P. (1992). A comparison of attitudes and exercise habits of alumni from colleges with varying degrees of physical education activity programs. *Research Quarterly for Exercise and Sport*, 63, (2), 148-152.

Borg, G. A. V. (1982). Psychophysical bases of perceived exertion. *Medicine and Science in Sports and Exercise*, 14, 377-381.

Darracott, C.R. (2000). The impact of college basic physical education programs and fitness/wellness courses: A review. *Georgia Association for Health, Physical Education, Recreation, and Dance Journal*, 33 (2). 15-19.

Hensley, L.D. (2000). Current status of basic instruction programs in physical education at American colleges and universities. *Journal of Physical Education, Recreation, and Dance*, 71, (9), 30-36.

Leenders, N.Y.J.M., Sherman, W.M., & Ward, P., (2003). College physical activity courses: Why do students enroll and what are their health behaviors? *Research Quarterly for Exercise and Sport*, 74, 313-318.

Leslie, E., Sparling, P.B., & Owen, N., (2001). University campus settings and the promotion of physical activity in young adults: Lessons from research in Australia and the USA., *Health Education*, 101, 116-125.

National Center for Health Statistics, Massey, J. T., Moore, T. F., Parsons, V. L., & Tadros, W. (1989). *Design and estimation for the National Health Interview Survey, 1985-1994* (DHHS Publication No. PHS 89-1384). Hyattsville, MD: US Department of Health and Human Services, Public Health Service, CDC (Vital and health statistics; series 2, no. 110).

Paffenbarger, R. S., Blair, S. N., Lee, I-M., and Hyde, R. T. (1993). Measurement of physical activity to assess health effects in free-living populations. *Medicine and Science in Sports and Exercise*, 25, (1), 60-70.

Pearman, S. N., Valois, R. F., Sargent, R. G., Saunders, R. P., Drane, J. W., and Macera, C. A. (1997). The impact of a required college health and physical education course on the health status of alumni. *Journal of American College Health*, 46, (2), 77-85.

Rasmussen, J. (1980). *An appraisal of present exercise habits of recent graduates from Oral Roberts University and two other colleges*, (Doctoral Dissertation, University of Alabama, 1980).

Sallis, J.F., Calfas, K.J., Nichols, J.F., Sarkin, J.A., Johnson, M.F., Caprosa, S., Thompson, S., & Alcaraz, J.E. (1999). Evaluation of a university course to promote physical activity: project GRAD. *Research Quarterly for Exercise and Sport*, 70, 1-10.

Slava, S., Laurie, D. R., and Corbin, C. B. (1984). Long-term effects of a conceptual physical education program. *Research Quarterly for Exercise and Sport*, 55, (2), 161-168.

Sparling, P.B. (2003). College physical education: An unrecognized agent of change in combating inactivity-related diseases. *Perspectives in Biology and Medicine*, 46, (4), 579-587.

Sparling, P.B. (2007). Obesity on campus. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*, 4, (3), 1-4. Available from: www.cdc.gov/pcd/issues/2007/jul/06_0142.htm

Sparling, P.B., & Snow, T.K.. (2002) Physical activity patterns in recent college alumni. *Research Quarterly for Exercise and Sport*, 73, (2), 200-205.

Thomas, J. R., and Nelson, J. K. (1996). *Research Methods in Physical Activity* (3rd ed.). Champaign, IL: Human Kinetics.

United States Department of Health and Human Services, Public Health Service. (1991). *Healthy people 2000: National health promotion and disease prevention objectives*. (DHHS Publication No. 91-50212). Washington, DC: Author.

Windsor, R. A., Baranowski, T., Clark, N., and Cutter, G. (1984). *Evaluation of health promotion and education programs*. Palo Alto, CA: Mayfield.

**Have Fun...Teach Healthy Habits...
Benefit Your Community**

Students love the excitement of Jump Rope For Heart and Hoops For Heart events, and schools love knowing that students are learning healthy habits and community values. The benefits of physical activity, healthy eating, and staying away from tobacco are just a few topics that these educational programs cover, all while raising funds to fight heart disease and stroke. Students learn about heart health while learning to jump rope or play basketball, satisfying the National Association for Sport and Physical Education (NASPE) Standards of Physical Education.

JUMP
ROPE FOR HEART

HOOPS
FOR HEART

**Learn how your school can support cardiovascular research and save lives.
Call 1-800-AHA-USA1 or visit americanheart.org.**

DID YOU KNOW?

- Obesity among our nation's youth has tripled in the last two decades.
- On average, American children and adolescents spend nearly 4 hours watching television every day.
- Obesity and physical inactivity are major risk factors for cardiovascular disease.
- Overweight adolescents have a 70 percent chance of becoming overweight adults.
- Some experts predict that, for the first time in history, because of inactivity and obesity-related illnesses, children's life spans will be shorter than their parents'.
- A number of studies have demonstrated that increased physical activity is linked to better school performance.

©2007, American Heart Association. Also known as the Heart Fund. 06-0614 06/07

INNOVATION STATION

Kangaroo Club Banners and Sign

By Michael Wilson, Donna Harvey and Kevin Walsh

Woodland Elementary Charter School, Sandy Springs, Georgia



The Kangaroo Club is a warm-up during our jump rope unit for first through fifth grade. The students are given time to practice before the “contest” begins. The teacher will call, “ready, set, jump” and proceed to time the students. The time limits are as follows: 1st grade gets to jump for 30 seconds, 2nd for 1 minute, 3rd for 1 minute 30 seconds, 4th for 2 minutes, and 5th for 2 minutes and 30 seconds. If a student misses a jump, he/she will stop and sit down, while the rest of the students continue to jump until time is called. If any students jump for the entire time limit, they sign their first name to the Kangaroo Club Banner. If a student has already joined the club, he/she places a small check next to their name. The students enjoy it so much that we usually keep it going through the next unit, allowing all students another chance to join the club.

INNOVATION STATION

Easy Steps to Teaching Tennis Simplifying Serve and Strokes

By Chip and Shirley Darracott

Dept. of Kinesiology and Health Science, Augusta State University

SERVE

1. Stance:
 - a. Racquet pointing to target
 - b. Feet lined up, line connects toes of each foot and points toward the target.
 - c. “Bubble gum on the bottom of front foot” to keep from stepping on the baseline.
 - d. Ball at throat of racquet
 - e. Weight back, front heel up or front toe up
2. Arm Action:
 - a. Throwing a ball
 - b. Throwing a racquet (an old one you don’t use anymore!)
 - c. Serve trainer (long socks with one or two tennis balls inside)
 - d. “Racquet arm loose like cooked spaghetti”.
 - e. “Little circle, big circle” (in serve stance with ball at throat make a little circle then go into the serve motion which is the “big” circle)
3. Toss:
 - a. Place ball on high shelf
 - b. Put chewing gum on ball, stick ball on ceiling
 - c. Statue of Liberty
 - d. Catch ball in ice cream cone
4. Rhythm:
 - a. Hum lightly with increasing intensity and loudness during motion, grunt at point of contact
 - b. Like a baseball pitcher’s windup, start slow and build
 - c. Coach toss: (student starts motion then coach tosses).
 - d. “Down-back-up-toss-hit-balance” (cue words to go through the motion step by step).
5. Simplified serve with no windup
 - a. Stance with racquet held like waiter’s tray
 - b. Racquet ready to brush hair
6. Spin Serve
 - a. Continental grip. Hold racquet loosely, act like you are hammering a nail in the court to acquire grip
 - b. Turn shoulders more sideways to net in stance
 - c. Place toss so that you need to arch your back to hit
 - d. Hit “up and out”

- e. Have a tall player stand behind the baseline and hold the racquet up high as possible simulating the point of contact. A long string is attached to the racquet face (used to visualize the line-of-flight of the ball). Coach touches the string on the service line on the opposite side of the net. The string will touch the net unless the player is 6’ 8” or taller! Hitting down won’t work!
- f. Think of brushing the racquet face up across the ball from 8 to 2 o’clock (right-hander). You can draw a clock on the ball using a sharpie. You can also draw a smiley face. Have them brush the racquet from one corner of the smile, across the nose, to the opposite eye.
- g. Early attempts may hit the side fence

GROUNDSTROKES

1. Lead up strategies for ground strokes that keep players moving while learning (you can do some of these in a gym without a net).
 - a. Ups (hitting the ball up to about eye level off the racquet face. Try to keep ball from bouncing on court.)
 - b. Downs
 - c. Ups alternating sides of racquet
 - d. Up then bounce. (Let the ball bounce on the court between ups).
 - e. Add partner for “rally”: partner hits the “up” after the bounce
 - f. Add net if available for tiny tennis. (players stand close to the net inside service line).
 - g. Players gradually move back as they are able to sustain a rally.
2. Cue words/ Mental pictures for groundstrokes:
 - a. Ready position: “Bouncy feet, happy feet” or “dancing feet”; Both hands on racquet, knees slightly bent
 - b. Take back for forehand groundstroke: point racquet at fence, take “picture” of opponent with the butt of the racquet, show fingernails (non-racquet balance hand) on forehand.
 - c. Take back racquet so grip is on left pocket for backhand (right-handed player).
 - d. “Show your uniform number” (on the back of your shirt) or “show your back” on backhand preparation. (This emphasizes the shoulder turn as player gets in position).

- e. “At point of contact you should be able to balance a penny on the side of your racquet frame” (the racquet should be perpendicular with ground, not slanted down or up).
- f. “Keep the ball on the racquet through the hitting area.” (Visual: line up 6 tennis balls on ground). During the swing, think of keeping the racquet on the ball through this distance.
- g. “Low to high”, “brush the dog.” Use a giant stuffed dog in a seated position for the demonstration. During your swing have the side of the racquet first make a light brushing contact with the dog just above the tail. Continue the swing brushing up the back to the head.
- h. “Finish high”, “Finish looking over your arm” (on the forehand).
- i. Toss to players positioned at the baseline. Have them hit over a string 3 or more feet higher than the net and into the court on the other side. (Players must take full swing and may not open the racquet face as they would for a lob). This usually helps them have a low-to-high swing and sometimes facilitates a topspin shot. (Great drill for forehand and two-handed backhand).
- j. “Take your racquet back while moving to the ball”. (Start your backswing on your first step).
- k. Movement: “shuffle steps” or “baby steps” as you get near the ball.

VOLLEY

1. Lead up strategies:
 - a. Diagonal step and catch (Velcro paddles can be used as “mitt”). Right-handed player steps with the left foot for forehand volley.
 - b. Hold racquet at the throat in ready position and bump the ball to the tosser (keep wrist firm).
 - c. Move hand halfway down racquet as players progress. When technique looks good have players put hand on grip.
2. Verbal picture/ cue words:
 - a. “Present the racquet”.
 - b. Umpire “safe” motion for backhand
 - c. Karate chop for backhand
 - d. Hand outside the bus window on forehand.
 - e. “catch on glove” for forehand.
 - f. Volleying in front of the glass grocery store window... Don’t break the glass! (This and the next cue are designed to minimize the backswing).
 - g. Demonstrate the volley with a string attached to the coaches racquet face and net (this prevents a backswing). Helper tosses to coach at about eye level.
 - h. “Volley at eye level”. If the ball is a little low, bend the knees and lower the eyes!

FUN ACTIVITIES

Jail – Players line up on one side of court. They are given a set number of ball tosses to attempt to hit over the net into the

court. If they are not successful they go to jail (opposite side of the court). The players get out of jail by catching the ball (on fly or one or two bounces depending on age) and return to the playing line. When playing line gets down to one player, that player can win by hitting the ball into the court without it being caught. If the last player makes an error, there is no winner and everyone gets out of jail and lines up again.

Around the World – Half of the players line up on each side of the court in a single line with the first player in a ready position. Other players must keep a safe distance behind the first player. Coach starts by tossing a ball to the first player in one line. He/she hits the ball over the net into the opposite court. First player in line plays the ball back over the net. The object is to keep a rally going. After each hit the player runs to the end of the line on the other side of the court. When an error is made, the person responsible is eliminated. Players who are eliminated can move to another tennis station. This is a real challenge when it gets down to three or four players. When you are down to the last two, they maintain their side of the court and rally. (With good players, have them spin around once between shots).

Sharks and Minnows – Sharks are the catchers and minnows are the hitters. One child is picked to be the minnow and stands on one side of the court. The other students are sharks. Sharks go to the other side of the court. The minnow throws or lightly hits the ball to the sharks, who get one bounce before they have to catch it. The shark who catches the ball gets to be the next minnow. Younger children may need two bounces. Another option is to let the sharks hold a small cone to catch the ball.

TIPS FOR SAFETY AND SUCCESS IN GAMES AND DRILLS

1. Use spots to position players waiting in line.
2. Keep lines short. Use partner toss drills, non-racket activities to keep everyone moving.
3. Keep extra balls picked up at all times (on serving, do not pick up balls until all have finished serving).
4. Caution players to hit ONLY the ball with the racquet (one of our camp participants broke a car window by hitting a rock with the racquet).
5. Modify the rules, boundaries, and equipment to accommodate skill level (even beach ball can be used!)
6. Have players “hug their racquet” when it is not their turn to hit the ball.
7. Make it fun!

Acknowledgements: These cues, games, and drills are drawn from a number of coaches we have worked with or seen at clinics through the years. The following is an incomplete list: Paul Scarpa, Jim Leighton, Gery Groslimond, Don Schroer, Dennis Van Der Meer.

INNOVATION STATION

Weight Training for the Youth Population

By John Evans

Head Strength Coach, Walton High School

ABSTRACT

Throughout the years, coaches, parents, and physicians have been looking at the possible benefits and the safety of weight training among the adolescent population. Most will agree that with the proper supervision and design of a program for children, the safety and benefits outweigh the risk. This review will examine the myths associated with this type of training and also explore the safety and benefits, as well as program design to minimize injury and maximize the benefits.

A REVIEW OF THE LITERATURE

The safety, benefits and also the possible risks associated with the strength training for adolescents has been a topic that has generated much interest over the past decade. Parents, coaches, doctors, and scientists all want what is best for the children in today's society, but in the past have been unable to come together as to what is safe for children in regards to strength training. The aim of this review is to focus on dispelling the myths about the safety and benefits of adolescent weight training and the facts will help dispel them. It will also focus on the safety and benefits as well as program design. According to Benjamin and Glow (2003), current published literature demonstrates that the benefits of strength training far outweigh the potential risks (p. 21).

This review will help show that with proper attention to detail in regards to safety, instruction, and design, weight training can be beneficial to all different types of young people. Not only can athletes benefit from a well designed and implemented program, but also those children that are not as active. "Unfortunately, misplaced fears and lack of understanding of the true effects of early training are doing many young people a great disservice" (Goss, 2002, p. 39). Hopefully after reading this review, one will see that the myths associated with adolescent weight training are just that, myths. This review will also aim to show the many safety and benefits of a properly designed program.

Myths That Won't Quit

Myth: Children Will Experience Bone Growth Plate Damage As A Result of Weight Training

Unfortunately for coaches and teachers this is the hardest selling point to get across to parents. When "established training guidelines are followed and proper nutrition is adhered to, participation in regular training programs will have a favorable influence on growth at any stage of development but will not affect the genotypic maximum"(Faigenbaum, Corbin, Pangrazi, and Franks, 2003, p. 31). Parents sometimes hear one thing and they don't want to go against what they have been told by someone they have trusted and listened to for years. Some people in the world of strength training have heard of the old story of how young Chinese

boys and girls were carrying heavy loads of rice and were short in stature. This old wise tale has been the cause of fear that lifting heavy loads will cause stunted growth. What most parents and personal trainers don't know is that according to Faigenbaum (2006), a growth plate fracture has not been reported in any respective youth resistance training research study which was competently supervised and appropriately designed (p. 14).

A study by the National Institute of Arthritic and Musculoskeletal and Skin Disease along with the National Institutes of Health (2001) reported that about 85% of growth plate fractures heal without any lasting effect. Whether an arrest of growth occurs depends on the following factors:

1. Severity of the injury – If the injury causes the blood supply to the epiphysis to be cut off, growth can be stunted.
2. Age of the child – The younger bones have a greater ability to remodel.
3. Which growth plate is injured – Some growth plates, such as those in the region of the knee, are more responsible for extensive growth than others.
4. Type of growth plate fracture – There are six types of fractures to growth plates. Type IV, V, and VI are the most serious. (p.14-15)

There are many scientific studies that have been done that show the safety and efficiency of adolescent weight training. Goss (2002) states that it has never been shown scientifically or clinically that the periodic imposition of large forces by weight training on the growing body causes damage to the epiphysial plates (p. 40). Goss (2002) also reports in her findings that premature closing of the epiphysial plates is related primarily to hormonal influence, not injury (p. 40). There is a growing body of evidence to dispel the myth that weight training will stunt ones growth. An article by Washington, et al. (2001) for the American Academy of Pediatrics, states that strength training programs do not seem to adversely affect linear growth (p. 1472). It is impossible to exclude injuries from happening during weight training, but no matter how viewed, the majority of the research on adolescent weight training shows that it is safe and will not stunt a child's growth. Injuries that have been documented generally have occurred in an unsupervised and unsafe environment.

Myth: Weight Training Is Unsafe For Children

There are many types of programs that are out there that are very beneficial for all children. This is a very misleading argument for parents. With the increase of childhood obesity on the rise and also the increase of more and more activities that keep children inside in front of the television or computer. It is unfair to children to say that weight training is unsafe.

When children are asked to go outside to play and participate in activities that can cause severe damage to their bodies, why not prepare their bodies to withstand the forces that they will put on them in regular everyday activities as well as sporting activities? In their report for the American College of Sports and Medicine, Faigenbaum and Kang (2005) state that the risk associated with strength training are not greater than other activities in which children regularly participate (p. 5).

Weight training, when done properly, can offer many benefits such as improved body composition and can also influence their cardiovascular health. In an article by Faigenbaum (2001), he states

In addition to enhancing motor skills and sports performance, regular participation in a strength training program has the potential to positively influence several measurable indices of health for children. It helps strengthen bone, facilitate weight control, enhance psychosocial well-being, and improve one's cardiovascular risk profile (p.24).

Weight training can also provide many benefits that are not observable. According to Homeier and Dowshen (2005), strength training can also help fortify the ligaments and tendons that support the muscles and bones and improve bone density, which is the amount of calcium and minerals in the bone (p. 1). This can be especially beneficial later in life, especially for girls in delaying the onset of osteoporosis. "The large increase in bone density reported in children and adolescents involved in high impact training, and the likelihood that residual benefits are maintained into adulthood, supports the notion that the growing years may be an optimal time in life for exercise to reduce the risk of osteoporosis" (Bass, 2000, p. 73). According to the literature that is available and what it says. Wouldn't it be beneficial for children to participate in an activity that could affect their life after puberty has been reached?

Myth: Weight Training is only for Young Athletes

Another myth that is placing a very narrow band around the use of weight training as a tool to increase one's healthy lifestyle Kraemer and Fleck (2005) write in their book that resistance exercise might not affect the length of bones in your body, but it could have an affect on the aging process by combating the potential for osteoporosis (p. 21). It is well documented and observable what weight training can do for athletes but because most people associate weight training with athletic success a very big disservice has been done to the general population that don't pursue athletics. This is not to say that there are not any young people who aren't athletes and have experienced success with strength training. Many lifestyle choices by students have changed because of success with weight training. Children of all abilities can benefit from training (Faigenbaum, 2006, p. 14).

One of the largest impacts of strength training outside of athletes is with overweight children and also with girls. The use of strength training can have a huge lasting impact on these children that will carry over into adulthood. Faigenbaum (2001) writes,

Although genetics strongly influences peak bone mass,

it seems that the prevention of skeletal frailty in senior populations may depend not only on reducing bone loss during adulthood, but also on maximizing Bone Mineral Density (BMD) during childhood and adolescence with exercise and proper nutrition. An increase of only three to five percent of BMD may reduce one's fracture rate by 20 to 30 percent (p.25).

Why not encourage young people to participate in some form of resistance training? If done properly and proper guidelines are followed, it can be safe and beneficial to not only athletes, but also those wishing to change their lifestyle. It appears that overweight and obese youth enjoy resistance training because it is not aerobically taxing and it gives all participants a chance to experience and feel good about their performance (Faigenbaum et al., 2003, p. 3).

Myth: Children Can't Increase Strength Because They Don't Have Enough Testosterone

Children who strength train don't have overly huge muscles but do have much better strength and coordination as a result." This can be attributed to the intrinsic muscle adaptations as well as improvements in motor skill performance and the coordination of the involved muscle groups could be partly responsible for training – induced strength gains in children" (Faigenbaum, et al., 2003, p.12). It is easy to understand that children don't have enough testosterone in their bodies to illicit muscle hypertrophy or the increase in size. According to Faigenbaum et al. (2003), it is believe that neural adaptations are primarily responsible for training induced strength gains during childhood (p. 12).

Safety and Benefits of Adolescent Weight Training

The safety and benefits of a properly designed and implemented strength training program for the individuals involved far outweigh the potential risk. "Regular participation in a resistance training program provides youth with an opportunity to be exposed to safe, effective, and fun training methods that can be carried over into adulthood" (Faigenbaum et al., 2003, p.1). It will be beneficial for kids if teachers and parents can get them involved in a program that when done properly will increase their chances of developing a healthy lifestyle.

Potential benefits of properly designed and implemented program according to Faigenbaum et al. (2003, p.2) are outlined in the following table:

Table 1: Potential Benefits of Youth Resistance Training
<ul style="list-style-type: none"> • Increased muscle strength • Increased muscular power • Increased local muscular endurance • Increased bone mineral density • Increased cardio respiratory fitness • Improved blood lipid profile • Improved body composition • Improved motor performance skill • Increased resistance to injury • Enhanced mental health and well-being • Stimulates a more positive attitude toward lifetime physical activity

The evidence that a well run resistance training program for youth is effective is overwhelming when you look at what is out there. Kraemer and Fleck (2005) state that

Scientific studies, review papers, and clinical observations all reported that properly designed resistance training programs can improve the strength development of prepubescent children and adolescents beyond the gains of normal growth and development (p. 1).

The use of resistance training in schools and after school programs is on the increase. This movement to get students more active is to help offset the alarmingly high numbers of childhood obesity. Children of all ages, shapes, sizes and genetic makeup can benefit from a properly run program. They can experience a safe and fun environment in which it is easy to see the results of hard work. Children of all levels and abilities that experience a good time and see results tend to develop a healthier lifestyle that carries over into adulthood. This can have a resounding effect on their lives as adults.

With the increase of youth sports and activities on the rise, along with this comes an increase in injuries. This increase in injuries is mainly due to the fact that children are not preparing their bodies for the forces that are being exerted on them. “According to the American College of Sports Medicine, an estimated 50% of all injuries could be prevented if the emphasis was placed on developing fundamental fitness abilities prior to sports participation” (Faigenbaum et al., 2003, p. 3). This is an alarming statistic to think about. Parents tend to want their kids to participate in a wide variety of activities and sports but they do them a terrible disservice when they don't help them prepare for the rigors of participation.

You don't have to recreate your childhood dreams of being the greatest at everything you attempted in sports or activities with friends through your child. They can experience success and positive results from programs that are designed to meet their needs. With support from some major organizations, there is much potential for success. Kraemer and Fleck (2005) write that the American Academy of Pediatrics, the American College of Sports Medicine, and the National Strength and Conditioning Association all support strength training for kids – if done properly (p. 16). Faigenbaum (2001) also writes that a stronger musculoskeletal system will enable children to perform daily activities with more energy and may increase their resistance to sports related injuries (p. 24). There have also been studies done and reviews written to show that weight training is safer than most activities and sports for children. One review by Benjamin and Glow (2003) show that injuries associated with weight training in preadolescents and adolescents found that weight training is safer than many other sports and activities (p.19).

There is potential risk of injury with weight training. Most injuries that occur do so either because of poor technique, or lack of supervision. It is not wise to purchase a weight set for a child and turn him loose on it with an old college workout manual. If children are to experience the true effects of resistance training, put them with someone trained to do this type of work. They will have resources available that most parents do not and they can also design a program that will be safe and beneficial to all involved.

Program Design for Adolescent Weight Training

Program design and implementation is the key to making the pieces to the puzzle work and fit together. It is possible to be the best coach, teacher, professor, or personal trainer but if the time is not taken to design a program especially for children, mistakes and injuries could result. Faigenbaum (2006) writes

One of the most serious mistakes in designing a youth training program is to prescribe a training intensity that exceeds a child's capacity. It is always better to underestimate the physical abilities of a child rather than overestimate them and risk negative consequences such as dropping out or injury (p. 14).

This is true in sports and exercise today. People want to find a quick fix and often do not want to go about things slowly and the right way.

“If the appropriate training guidelines are followed, regular participation in a youth strength training program can increase bone mineral density, enhance motor performance, and better prepare young athletes for the demands of practice and competition. By getting children active at an early age, strength training can foster healthy habits that may last a lifetime” (Benjamin and Glow, 2003, p. 12).

Through proper use of resistance training for children, a lifetime of healthy habits can be fostered. If approached the incorrect way, a terrible disservice might be done and the child might be discouraged from participation in an activity that will benefit them now and into adulthood. The biggest problem with resistance training and injuries come from programs that place demands on children that they are incapable of handling. Each child is different and may have a different agenda for participating. The program must be made to fit the uniqueness of each individual involved. The following guidelines from Kraemer and Fleck (2005) are a must to making a safe and beneficial training program for any program.

1. Proper program design. Do not impose a program designed for adult on a child.
2. Supervision by a knowledgeable adult. Supervision is required at all times by either a parent or a coach to help prevent injury and overexertion.
3. Better physical preparation to prevent sports related injury. All athletes should participate in a general strength training program.
4. Physical and emotional maturity. When you introduce resistance training to a child, keep in intellect their physical and emotional maturity. There is no standard age at which a child can start. Make sure it is appropriate and safety guidelines are followed.
5. Ability to follow directions and perform exercised safely with proper form (p. 13).

The following tables by Faigenbaum and Westcott (2000) help provide exercises that can be done with 7 to 9 year olds (p.143) in Table 2, 10 to 12 year olds (p.148) in Table 3, and 13 to 15 year olds (p. 156) in Table 4.

Table 2 : Dumbbell Exercises (7 - 9)

Exercise	Sets	Reps	Frequency
Dumbbell Squat	1	10-15	2X weekly
Dumbbell Lunge	1	10-15	2X weekly
Dumbbell Step-Up	1	10-15	2X weekly
Dumbbell Bench Press	1	10-15	2X weekly
Dumbbell One-arm Row	1	10-15	2X weekly
Dumbbell Lateral Raise	1	10-15	2X weekly
Prone Back Raise	1	*	2X weekly
Trunk Curl	1	*	2X weekly

* Do as many as you can with body weight

Table 3: Dumbbell Exercises (10 - 12)

Exercise	Sets	Reps	Frequency
Dumbbell Squat	1 - 2	10-15	2 - 3X weekly
Dumbbell Step-Up	1 - 2	10-15	2 - 3X weekly
Dumbbell Bench Press	1 - 2	10-15	2 - 3X weekly
Dumbbell One-arm Row	1 - 2	10-15	2 - 3X weekly
Dumbbell Incline Press	1 - 2	10-15	2 - 3X weekly
Dumbbell Incline Bicep Curl	1	10-15	2 - 3X weekly
Dumbbell Tricep Kickback	1	10-15	2 - 3X weekly
Prone Back Raise	1 - 2	*	2 - 3X weekly
Trunk Curl	1 - 2	*	2 - 3X weekly

*Do as many as you can with body weight

Table 4: Dumbbell Exercises (13 - 15)

Exercise	Sets	Reps	Frequency
Barbell Squat	1 - 2	8 - 12	2 - 3X weekly
Dumbbell Step-Up	1 - 2	8 - 12	2 - 3X weekly
Barbell Bench Press	1 - 2	8 - 12	2 - 3X weekly
Dumbbell One-arm Row	1 - 2	8 - 12	2 - 3X weekly
Dumbbell Overhead Press	1 - 2	8 - 12	2 - 3X weekly
Dumbbell Incline Bicep Curl	1 - 2	8 - 12	2 - 3X weekly
Dumbbell Tricep	1 - 2	8 - 12	2 - 3X weekly
Overhead Extension	1 - 2	8 - 12	2 - 3X weekly
Dumbbell shrug	1 - 2	8 - 12	2 - 3X weekly
Bar Dip	1 - 2	*	2 - 3X weekly
Chin Up	1 - 2	*	2 - 3X weekly
Prone Back Raise	1 - 2	*	2 - 3X weekly
Trunk Curl	1 - 2	*	2 - 3X weekly

*Do as many as you can with body weight

Whether you are starting out new or continuing with an old program, there are no short cuts. You must first make sure that the program fits the need of the child doing it. Don't involve them in something that might discourage them from participation for something that can be very beneficial. "Parents, teachers, and coaches should realize that resistance training is a specialized method of conditioning that can offer many benefits, but at the same time can result in injury if age – appropriate training guidelines are followed" (Faigenbaum et al., 2003, p.6).

REFERENCES

Bass, S. L. (2002, August). The prepubertal years: A uniquely opportune stage of growth when the skeleton is most responsive to exercise. *Sports Medicine*, 30(2), 73-78.

Benjamin, H., & Glow, K. (2003). Strength training for children and adolescents. *Physician & Sportsmedicine*. 31(9), 19-26.

Goss, K. (2002). Is weight training safe for kids?. *Bigger Faster Stronger*. Spring, 39-42.

Faigenbaum, A. D., & Westcott, W. (2000). *Strength and power for the young athlete*. Illinois: Human Kinetics.

Faigenbaum, A. D. (2001). Strength training and children's health. *The Journal of Physical Education, Recreation, and Dance*. 72(3), 24-30.

Faigenbaum, A. D. (2006). Plyometrics for kids: facts and fallacies. *NSCA's Performance Training Journal*. 5(2), 13-15.

Faigenbaum, A. D., & Kang, J. (2005). Youth strength training: facts, fallacies, and program design considerations. *ACSM's Certified News*. 15(4), 4-6.

Faigenbaum, A. D., Corbin, C. B., Pangrazi, R. P., & Franks, D. (2003). Youth resistance Training. *President's Council on Physical Fitness and Sports: Research Digest*, 4(3), 1-7.

Homeier, B., & Dowshen, S. (2005). Strength Training and Your Child. *Kidshealth*, Retrieved 3/12/2007, from http://kidshealth.org/parent/nutrition_fit/fitness/strength_training.html

Kraemer, W. J., & Flack, S. J. (2005). *Strength training for young athletes*. Illinois: Human Kinetics.

National Institute of Health, (2001, October). National Institute of Arthritis and Musculoskeletal and Skin Disease. Retrieved March 10, 2007, from NIAMS Web site: http://niams.nih.gov/hi/topics/growth_plate/growth.htm

Washington, R. L., Bernhardt, D. T., Gomez, J., Johnson, M. D., & Martin, T. J. (2001). Strength training by children and adolescents. *Pediatrics*. 107(6), 1470-1472.

GAHPERD '09 Convention Schedule at a Glance

Saturday, Oct. 31, 2009

4:00 - 6:00 PM

Pre-convention Seminars

7:00 - 9:00 PM

1st General Session and
Dance Kaleidoscope

Sunday, Nov. 1, 2009

7:00 AM

GA AHPERD 5K Fun Run

Co-sponsor - Big Peach Running

9:00 - 11:00 PM

Social and Dance

10:00 AM - 5:00 PM

Registration

Monday, Nov. 2, 2009

7:00 - 8:00 AM

Morning stretch, walk,
run, jog on your own

11:00 AM - 2:00 PM

Exhibitor Set up

8:00 - 8:50 AM

Field Day Technology, Geocaching,
Tai Cha Foundations, Working to Eliminate
Childhood Obesity, Changing the Shape,
How to ...Bike Rodeo

12:00 PM - 5:20 PM

Dance Kaleidoscope Practice

12:00 - 12:50 PM

Strut your Stuff, Tactical Games, Positive
Field Experience, Encouraging & Coaching
Running, Inclusive Slanty Rope

9:00 - 9:50 AM

Activities Done Outside School Time,
Learning & Loving LaCrosse,
Weight Training,
ACSM President -
General Division Speaker,
Best Practices II: Health Education

1:00 - 1:50 PM

Rhythmic Challenges, The Nuts and
Bolts of CE, Diversity in PE, Best Practices
1 - Great Activities Promote Lifestyles

10:00 - 10:30 AM

Visit Exhibits

2:00 - 3:00 PM

Exhibits Gala

10:30 - 11:20 AM

Lead-up games in GRIDS,
Teaching Outside the Box,
Optimal Use of Lay Coaches,
Creating Balance, Sponsorship Bridge,
HIV/AIDS & Our Youth

3:00 - 6:30 PM

Exhibits Open

3:30 - 4:20 PM

Teaching Stations, Line Dances, Sports
Nutrition, Preparing for a GTA Position,
Fat Boy Chronicles,
Mountain Bike Skills Clinic

11:30 - 1:20 PM

Dr. Bud Reiselt-Health & PE Luncheon,
Jennifer Medina - Dance Artist,
Dr. Dana Brooks -
AAHPERD President &
Future Professionals/Luncheon,
See It, Believe It, Teach It: Speed Stacks,
Adaptive Physical Education & Inclusion,
Exercise and Sport Science
programs to assist coaches

1:30 - 2:20 PM

Best Practices in Elementary Physical
Education, Teaching Gymnastics,
Fitness Stacking, What is Wiki?,
Using the HECAT

2:30 - 3:20 PM

Using Ning, Rainy Day Games,
Exercise Adherence, Teen Pregnancy

3:30 - 4:20 PM

Visit Exhibits

4:30 - 5:20 PM

PE2the MAX, Spice Up
Physical Education, Golf Online,
Georgia Coaches, The PE-Nut Model

7:00 - 9:00 PM

2nd General Meeting and
Awards Banquet

Tuesday, Nov. 3, 2009

6:30 - 7:30 AM

Morning Exercise

8:00 - 9:50 AM

Jump Rope for Heart and
Hoops for Heart Breakfast

8:00 - 8:50 AM

G.R.I.D. System - Lead-up Games,
Kids + Yoga = Serenity & Flexibility,
Equipment Ideas for Adaptive PE,
Who is Better Qualified?, Puberty

9:00 - 9:50 AM

Jennifer Medina - Dance Artist,
Alternative Programming,
Food Group Frenzy,
Going Brazilian: Bikinis,
Waxing Using the HECAT

10:00 - 10:50 AM

Town Hall Meeting

11:00 - 11:50 AM

Using Dartfish, Adaptive Physical
Education & Inclusion, It's HOT!,
Best Practices III: New Health Standards

12:00 - 12:50 PM

GRAND FINALE

&

FINAL GENERAL SESSION



**Mark your
calendars for
GAHPERD '10 in
Savannah
Nov. 6-9, 2010!**

NATIONAL ASSOCIATION FOR SPORT AND PHYSICAL EDUCATION SALUTES NEW WHITE HOUSE OFFICE OF OLYMPIC, PARALYMPIC AND YOUTH SPORT

RESTON, VA, July 1, 2009 --The National Association for Sport and Physical Education (NASPE) calls for national standards for sport coaches to be a key component of President Barack Obama's new Office of Olympic, Paralympic and Youth Sport in the White House. Saluting the administration's plans to enhance opportunities and access for youth participation in sport, NASPE urges the new Office of Olympic, Paralympic and Youth Sport to educate the American public about the importance of caring and professionally trained coaches so that all young athletes have quality sport experiences.

"Over 50 million children under the age of 18 participate in organized sport programs," said NASPE President Steve Jefferies. "Parents across the country send their children to practices and events with the expectation that adult supervision will bring positive sport outcomes, maximal learning and skill development. Yet horror stories persist about dramatic increases in winning-obsessed parents, sport injuries, over-specialization of young athletes, and children quitting sports because they simply aren't fun anymore."

NASPE looks forward to working with the Office of Olympic, Paralympic, and Youth Sport and other organizations such as the National Council for the Accreditation of Coaching Education (NCACE), www.ncaceinfo.org, to promote the importance of properly trained coaches. This new White House office provides an unprecedented opportunity to enhance policies and programs that will support sport organizations in their efforts to improve the sport experiences of athletes and promote health and wellness. A coalition of the United State Olympic Committee (USOC), National Collegiate Athletic Association (NCAA), National Federation of State High Schools (NFHS) and NASPE, NCACE promotes the development of coaching education programs and requirements based on the National Standards for Sport Coaches (NASPE, 2006), www.naspeinfo.org/coachingstandards.

From establishing the first position paper on Standards for Youth Sport Coaches (1984) to publishing the second edition of the National Standards for Sport Coaches (2006), NASPE is an advocate for quality sport programs. In 2008 NASPE published the National Coaching Report, which provides a baseline of what is being done to train coaches at the youth and interscholastic sport levels. Sport officials, State Board/Department of Education administrators, legislators and parents can now view the requirements set forth by state at www.naspeinfo.org/coachingreport.

NASPE

The preeminent national authority on physical education and a recognized leader in sport and physical activity, the National Association for Sport and Physical Education (NASPE) is a non-profit professional membership association that sets the standard for practice in physical education and sport. NASPE's 16,000 members include: K-12 physical education teachers, coaches, athletic directors, athletic trainers, sport management professionals, researchers, and college/university faculty who prepare physical activity professionals. The mission of NASPE is to enhance knowledge, improve professional practice, and increase support for high quality physical education, sport and physical activity programs. It is the largest of the five national associations that make the American Alliance for Health, Physical Education, Recreation & Dance (AAHPERD).

New Survey Reveals Health-Related Fitness as Primary Focus of Middle and High School Physical Education Programs

LAKE SUCCESS, N.Y., Aug. 11 /PRNewswire/ -- With growing concerns among parents and policymakers about the rise in childhood obesity - heightened by the recent CDC report showing that obesity rose 37% between 1998 and 2006 - approximately two-thirds of middle and high school physical education teachers say that health-related fitness is the primary focus of their programs, according to a new survey conducted by the National Association for Sport and Physical Education (NASPE) and Polar.

The national survey of K-12 physical education teachers revealed that, in contrast to middle and high schools, at the elementary school level, 53% of the programs have an emphasis on motor skills and movement forms. Movement is critical to child growth and development while motor skill competency provides a foundation for successful and enjoyable participation in a variety of physical activities.

“The goal of physical education is to develop individuals who have the knowledge, skills and confidence to enjoy a lifetime of physical activity,” said NASPE Executive Director Charlene Burgeson. “Because the role of middle and high schools is to prepare adolescents to make good choices and become responsible adults, the focus on health-related fitness is appropriate and important.”

Technology is also playing an important role in today’s PE classrooms. According to the survey, 51% of teachers said technology increases student motivation.

“With today’s tech-savvy students, incorporating technology, such as heart rate monitors and exergames, into physical education programs is a great way to engage and motivate students,” said Jeff Padovan, President, Polar USA. “Technology is also helping teachers and schools to collect valid, reliable data that can be used to assess and monitor student progress.”

In fact, 59% of teachers said that technology enhances communication with school and district administrators about student performance and achievement. Additionally, 60% said technology provides data for assessment and grading.

A variety of technologies are being incorporated into classroom instruction. For instance, 70% of PE programs use pedometers; 51% use fitness assessment tools such as TriFit, a system that allows teachers to analyze individual student health and fitness; 39% use heart rate monitors; and 32% use exergames such as Dance Dance Revolution and Wii Fit.

“As physical educators, it’s our responsibility to provide students with the skills and knowledge they need to lead healthy, physically active lives,” Burgeson explained. “To achieve this, we need resources and support to create a motivating environment and offer a variety of sports and activities that meet the needs and interests of all students.”

Physical education programs are offering diverse activities such as dance (70%), disc sports (69%) including Frisbee golf, tennis (56%), lacrosse (31%), yoga (28%) and rock wall climbing (22%).

“There is no quick fix to reversing childhood obesity,” Padovan said. “We must take a multi-pronged approach that focuses on nutrition, prevention, regular physical activity and a comprehensive physical education program. By giving our schools and communities the tools and resources they need, we’ll be better prepared to address this issue and educate our children - helping them to lead longer, healthier lives.” The survey was conducted by Polar, the leading manufacturer of heart rate monitors and fitness assessment technology with a 10-year history of providing high-tech tools to schools across the country and NASPE, the preeminent national authority on physical education and a recognized leader in sport and physical activity. A total of 1,375 physical education teachers participated in the survey between May 28 and June 15, 2009. Of this, 1,164 K-12 physical education teachers completed the survey.

Have you moved?

Have you changed schools? Has your e-mail address changed? Help us stay in touch!

Please fill out the form below with the information that has changed.

Name

Mailing Address

Phone (home) (work)

Email Address

Fax Number

Return this form to:

Dr. Jacque Harbison

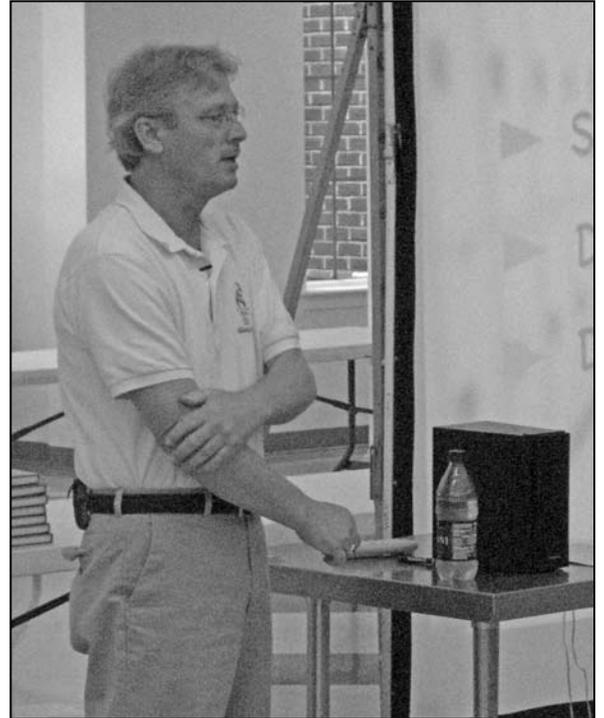
731 Oak Mountain Road NW, Kennesaw, GA 30152; Phone: 770-794-8527

GAHPERD GUEST SPEAKERS

GAHPERD is pleased to announce that several special guests will be in attendance at the 2009 Convention. The current AAHPERD President, Dr. Dana Brooks, will be the General Session speaker on Monday evening, and will speak to the Future Professionals earlier in the day. Dr. Mindy Millard-Stafford, President of The American College of Sports Medicine, is a guest of the General Division and will speak on Monday. Jennifer Medina is the guest artist for the Dance Division and will present programs on Monday and Tuesday. Mike Buchanan will present a program on “The Fat Boy Chronicles” on Sunday. Don’t miss these, and many other, outstanding presenters at the 2009 Convention.



Dr. Bud Reiselt, Georgia DOE



*Mr. Mike Buchanan, author
“The Fat Boy Chronicles”*



Dr. Dana Brooks, AAHPERD President



Jeanne Huck, Chalker Elementary School