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Tradition, Transition, Transformation

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Contents

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Tradition, Transition and Transformation

President's Message

Hello IAHPERD members,

I would like to take this opportunity to share a few thoughts with all of you as my term as President ends. At the risk of sounding cliché or from appearing too similar to my predecessors, I forward the following:

(a) Thank you! Thanks to all the P-16 HPERD professionals and pre-service professionals (students) who continue to offer meaningful, relevant, and intentional programming to the populations they serve. This made my efforts of advocacy easy and effective.

(b) Thank you! For those P-16 HPERD professionals who gave their time, energy, and expertise to IAHPERD and the association's mission to promote healthy living, enhance professional development, and recognize exemplary programs. Your good work enabled me to move IAHPERD in the direction it need to go and to be nimble in how it operates.

(c) While we as an association accomplished a lot over the last year, I am particularly proud of the fact that IAHPERD is now positioned and recognized across the state as a group that can serve as a resource and sounding board to policies and proposals that impact the health and fitness of our youth. I have had the opportunity to sit across the table from members of the IDOE, Governor's office, IN Dept. of Health, INShape Indiana (just to name a few) and articulate not only our mission statement and accomplishments to date but how we can help as Indiana moves forward in this new landscape.

However, as I noted during my brief introductory remarks at AAHPERD last March, the celebrations of our good work are greatly tempered by the current climate of economic uncertainty and educational 'reform' which has left P-16 HPERD in a very precarious position. It appears no 'level' is immune to this change and that many of us are now looking at a very different work environment than what we entered into….. and this warrants IAHPERDs attention now more than ever.

With that, I, unflinchingly, feel president-elect Dr. Lisa Angermeier will be the visionary leader who can not only keep us on the path to increased visibility in the state but to also lead a new path in the unchartered territory of economic and political change. Please, join me in welcoming Dr. Angermeier as president of IAHPERD upon completion of our state conference in November.

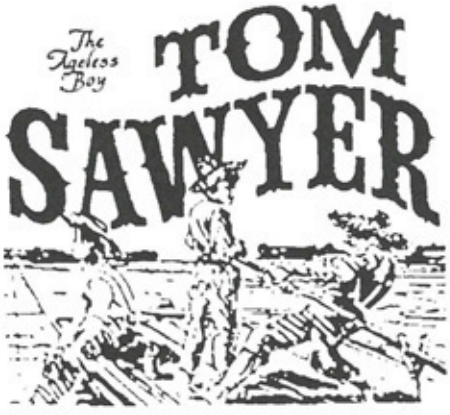
Finally, I feel that my theme of 'tradition, transition, and transformation' has truly become omnipresent for those of us in HPERD over the last year and that all of us need to embrace this change and work toward making HPERD programs a cornerstone for generations of Hoosiers to come. Basic statistics suggest Indiana cannot reach its stated potential as a Health and Science hub or a STEM center if we do not have an active and healthy workforce. I look forward to working with all of you in the future of this pursuit.

With gratitude,
Mark Urtel, Ed.D.
President – IAHPERD

State Conference Mark Your Calendar Now Nov. 10-12, 2010

Message from the President

NOTIONS from YOUR EDITOR...



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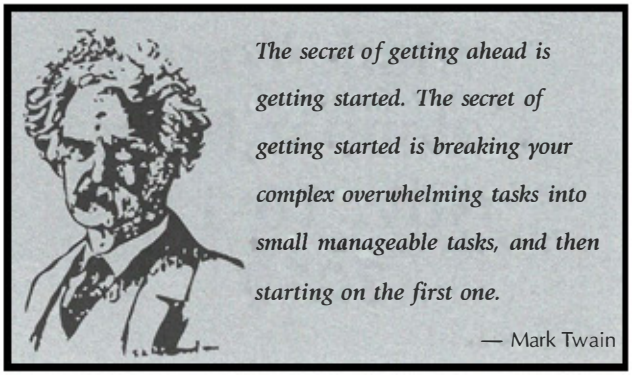
Becoming a Better Writer

Part 2

This is part 2 of the series providing tips to improving writing skills. This article reviews questions the author(s) should ask themselves regarding the content and presentation of the manuscript before sending to a prospective journal for publication.

Content Questions

- Does this manuscript report specific, identifiable, advance in knowledge?
- Is the subject new or old and is the treatment new or old?
- Are conclusions justified, soundly based, and logically consistent with the support data?
- Is the content theoretically sound? (If no, please indicate the areas of concern.)
- Have there been major omissions in content? (If yes, please indicate what have been omitted.)
- Are the procedures and methods employed sufficiently clear that the work could be repeated?
- Is the information to prior work pertinent, cited in the body of the paper, and complete?
- Is the paper relevant? Does the manuscript have any practical information or use?
- Does the manuscript adequately assess conflicting studies and data? Does it make a significant and novel contribution to the field?
- Is this manuscript characterized by original thinking?
- Is the content timely and useful to the reader?



Attention

The Fall Newsletter will be the last paper-based newsletter. The Spring Newsletter will be the first web-based newsletter. Look for the 2011 Spring Newsletter on the IAHPERD web page (www.iniahperd.org).

Presentation Questions

- Is the manuscript concise?
- Is the manuscript readable?
- Is the work consistent with clarity?
- Is the subject appropriate with the journal's audience?
- Is the manuscript presented in a logical manner?
- Does the manuscript conform to the journal's style?
- Is there an introduction that states the purpose of the manuscript?
- Is there an abstract and is it descriptive of the contents?
- Does the development of the central idea flow well?
- Is the content appropriately organized and subdivided? (If no, please suggest improvements.)
- Do you find unnecessary repetition? (If yes, please indicate what should be deleted.)
- Is the manuscript free of jargon and busy words? (If yes, please indicate the words of concern and potential improvements.)
- Have technical terms been defined? (If no, please indicate words that require definition.)
- Are all the figures and tables relevant and properly prepared?
- Do the tables, diagrams, and figures add to, rather than duplicate, information in the narrative?
- Is the title descriptive of the contents?
- Is the manuscript excessive in length?
- Are there any sections that could be cut? (If yes, what sections are they?)
- Would this manuscript work better in another journal? (If so, what journal(s)?)
- Are there any fatal methodological flaws?
- Are there too many direct or indirect quotations? (If yes, please indicate which ones you think should be omitted.)
- Is the literature reviewed and complete and accurate? (If no, please indicate the changes that need to be made.)
- Are the references appropriate, current, and accurate? (If no, please indicate the references that are not and, if possible, the references that should be included.)
- Are there obvious omissions or errors in the reference list? (If yes, please indicate these.)
- Is the summary logical, complete, and clearly stated? (If no, what needs to be improved?)
- You are a writer and worry about grammar, spelling, and sentence structure; so have an English instructor review the manuscript.

Do you have friends who'd enjoy The Indiana AHPERD Journal? Send us their addresses and we'll send them a free sample issue.

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Attention IAHPERD Members

As an association, in the future, more of our communications will be done through e-mail. If you did not receive an e-mail in March or April from: indianaahperd.aol.com, please update your e-mail address.

This may be done by e-mailing your current e-mail, name, and address to: indianaahperd.aol.com.

Any questions? Contact Karen Hatch, Indiana AHPERD Executive Director at the above e-mail or by telephone at: 765-664-8319.

Thanks for keeping IAHPERD membership records up-to-date.

Invited Article: Is It Physical Education or physical Activity?

Is It Physical Education or Physical Activity?

Understanding the Difference

With heightened attention on childhood obesity prevention efforts, there seems to be some confusion between the terms "physical education" and "physical activity." Often, the words are used interchangeably; but, they differ in important ways. Understanding the difference between the two is critical to understanding why both contribute to the development of healthy, active children. The National Association for Sport and Physical Education (NASPE) believes every child in the United States deserves both a quality physical education and physical activity program.

School physical education programs offer the best opportunity to provide physical activity to all children and to teach them the skills and knowledge needed to establish and sustain an active lifestyle. Physical education teachers assess student knowledge, motor and social skills, and provide instruction in a safe, supportive environment. NASPE recommends that schools provide 150 minutes of instructional physical education for elementary school children and 225 minutes for middle and high school students per week for the entire school year. Based on sequence of learning, physical education should not be compared to or confused with other physical activity experiences such as recess, intramurals, or recreational endeavors.

A quality physical education program provides learning opportunities, appropriate instruction, meaningful and challenging content for all children, and should include:

Opportunity to Learn:

Instructional periods totaling 150 minutes per week (elementary) and 225 minutes per week (middle and high school)

Qualified physical education teachers providing a developmentally appropriate program

Teacher/student ratio in physical education no greater than 1:25 (elementary) and (1:30 middle/high) for optimal instruction (similar to other classroom settings)

Adequate equipment and facilities for all students to be active at the same time

Appropriate Instruction:

Use of instructional strategies that provide meaningful inclusion of all students regardless of skill or fitness level, gender, race, or ethnic group

Maximum participation and ample practice opportunities for class activities

Well-designed lessons that facilitate student learning

Out of school assignments that support learning and practice of learned skills

Appropriate discipline and class management (physical activity should never be used as punishment)

Use of regular assessment to monitor and reinforce student learning

Meaningful Content:

Instruction in a variety of motor skills that are designed to enhance the physical, mental, and social/emotional development of every child.

Fitness education and assessment to help children understand, improve, and/or maintain their physical well-being.

Development of cognitive concepts about motor skill and fitness.

Opportunities to improve emerging social and cooperative skills through physical activity and gain a multi-cultural perspective.

Promotion of recommended amounts of physical activity now and throughout life.

Student and Program Assessment:

Assessment is an ongoing vital part of the physical education program.

Formative and summative assessment of student progress.

Student assessments align with state/national physical education standards and the written physical education curriculum.

Assessment of program elements that support quality physical education.

Stakeholders periodically evaluate the total physical education program effectiveness.

Physical activity is bodily movement of any type and may include recreational, fitness, and sport activities such as jumping rope, playing soccer, lifting weights, as well as daily activities such as walking to the store, taking the stairs, or raking the leaves. Similar health benefits to those received during a physical education class are possible during physical activity bouts when the participant is active at an intensity that increases heart rate and produces heavier than normal breathing. NASPE recommends school-age children accumulate at least 60 minutes and up to several hours of physical activity per day while avoiding prolonged periods of inactivity.

Opportunities to accumulate physical activity during the school day include time spent in physical education class, classroom-based movement, recess, walking or biking to school, and recreational sport and play that occurs before, during, and after school. Parents and grandparents are urged to become active with their children.

The benefits of regular physical activity include:

Reduces the risk for overweight, diabetes, and other chronic diseases,

Assists in improved academic performance,

Helps children feel better about themselves,

Reduces the risk for depression and the effects of stress,

Helps children prepare to be productive, healthy members of society, and

Improves overall quality of life.

NASPE encourages parents and community members to visit the local schools to view daily developmentally appropriate physical education classes and supplementary physical activity opportunities such as recess, physical activity breaks, and after school programs. To learn more about the importance of physical education and physical activity, visit the NASPE Web site at www.naspeinfo.org.

Citation: Ballard, K, Caldwell D, Dunn C, Hardison A, Newkirk, J, Sanderson M, Thaxton Vodicka S, Thomas C *Move More, NC's Recommended Standards for Physical Activity in School.* North Carolina DHHS, NC Division of Public Health, Raleigh, NC; 2005.

Paddleminton – An Alternative to Badminton

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Introduction

Badminton has long been classified as a lifetime sport. It is inexpensive and everyone can achieve a level of enjoyment when basic skills and tactics are mastered. Research indicates that badminton helps participants develop cardiovascular fitness (Docherty, 1982; Wright, 2007) and improves bone health (Nordstoem, Pettersson, & Lorentzon, 1988).

According to Wang and Moffit, students struggle with the eye-hand coordination necessary to execute badminton skills. Middle school students especially struggle with underhand shots.

They swing and miss or miss hit the shuttlecock for a variety of reasons - the length of the racquet places the racquet head too far from the hand making control and contact difficult plus the shuttlecock is small and difficult to track while traveling at a fast rate of speed. Middle school students can toss the shuttlecock overhead and hit it fairly well resembling the overhead clear but struggle executing the serve and other underhand strokes. Consequently, games end quickly (little rally time) and students become discouraged and lose interest.

Paddleminton – An Alternative

An alternative to the game of Badminton is Paddleminton. This game is played with a pickleball paddle and a shuttleball (oversized shuttlecock). Paddleminton is played on a regulation badminton court. Badminton skills and badminton rules apply; although, the game has many applications. The game was developed by the author to accommodate limited space, large groups of students, as a lead-up to badminton, and to promote physical activity. This game is beneficial for students as they move through the developmental movement performance stages described by Wang and Moffit. (Wang & Moffit, 2009) Wang and Moffit define four developmental stages ranging from beginning to proficient. Paddleminton is particularly useful in levels one and two. According to Wang and Moffit, students can't place the shuttle into the service and game play areas in level one. Proper footwork is critical in positioning oneself to make contact and execute appropriate shots. The large shuttleball allows students, even the most uncoordinated, enough time to prepare for shots because the shuttleball is easier to track, flies slower, and doesn't descend as rapidly as a regulation shuttlecock.

According to Wang and Moffit students can place the shuttle but continue to use the immature form in level two. The shortened handle of the pickleball paddle brings the head of the paddle closer to the hand making solid contact between the paddle and shuttleball and overall control of the paddle easier for students to achieve because students can more easily use the palm of the hand to mimic the face of the paddle. The slower flight of the large shuttleball permits the time students need to execute the required shot and time to execute offensive and defensive strategies. Guy Bailey's *Lead-Up Games for Badminton* are easily adaptable. (Bailey, 2004)

The following lead-up games have been field tested at the middle school level in grades 5-8.

Paddleminton Games

Four Square – See any Four Square directions.

Keep It Up, Keep It Flying, Keep It Going – Any number of students can play; however, two to four per side permits maximum hits. Once the shuttleball is served by the right back player, the goal is to keep it from hitting the floor. This game can be played in a circle

format or across a net. Serve the shuttleball and count aloud the number of consecutive hits per team before shuttleball hits the floor. Allow sides to hit it up to three times on a side if necessary and as safety permits.

Scramble – One player occupies center court. Two or more players stand outside the court either behind the baseline or along the sideline beside their on court partner as space and safety permits. The shuttle is served as in regulation badminton. The player serving retreats outside the court and the next player in rotation replaces him/her to return next shot. This rotation applies to the receive side. The receiving player returns the shuttle and retreats being replaced by the next player in rotation. This rotation continues until a violation occurs.

Badminton rules apply. Players need to practice rotation and exiting the court prior to engaging the shuttleball. (Bailey, G., 2004)

Team Paddleminton – Doubles badminton applies with one exception, there are two additional players per team. Teams of two (doubles) occupy the badminton court with partners standing outside the court along sidelines or behind baselines as space and safety permits. Player 1 serves diagonally to Player 3. Immediately, Player 1 switches with his/her partner. Player 3 returns the shuttle and immediately switches with his/her partner. Once play has begun, players switch ONLY if and after they hit the shuttle. (Bailey, G., 2004)

Three on Three Paddleminton- Three players per side, one player center court behind short service line. Two players in side-by-side formation positioned at long service line. Game begins with a serve diagonally opposite to the right service court (front court players may not return serve). Once serve has been returned by the back player, any of the three players may hit it. Badminton rules apply. Rotate as in volleyball.

Cardio Paddleminton

Introduction & Purpose: Paddleminton is similar to doubles badminton except players occupy the court as diagrammed below. Play is done on a half court with A playing B and C playing D.

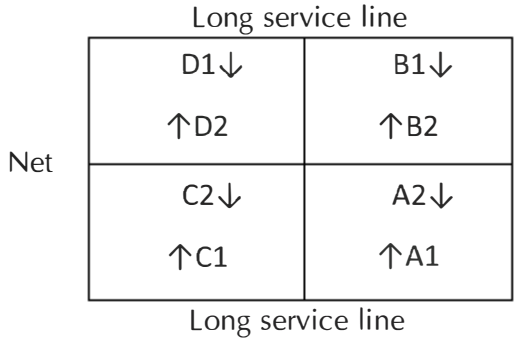
Suggested Grade Levels: 5-8

Number of Players: Two per team on half court

Equipment: 1 paddle per person, 1 large shuttleball per team, one net

How to Play: Assign two players to a team. Position the players as shown in diagram below.

The game begins with one player putting the shuttleball in play with an underhand serve and immediately exchanging places with partner who is standing in front position. For example, A1 serves to B court and immediately exchanges places with A2. The opposing player, either B1 or B2, returns the shuttleball and immediately exchanges place with teammate. This rotation (exchanging places with teammate) continues until the shuttleball is hit out of bounds, touches the ground, crosses into the side team territory; hence, service is lost. Only the serving side scores may score. Play can be done on time or 15 points as is appropriate. Players C and D play as described for A and B players.



Bibliography

Bailey, G., (2004). *The Physical Educator's BIG BOOK of Sport Lead-Up Games*, Educators Press.

Docherty, D. (1982). A comparison of heart rate responses in racquet games. *British Journal of Sports Medicine*, 16(2), 96-100.

Nordstroem, P., Pettersson, U., & Lorentzon, R. (1998). Type of physical activity, muscle strength, and pubertal stage as determinants of bone mineral density and bone area in adolescent boys, *Journal of Bone and Mineral Research*, 13, 1141-1148.

Pangrazi, R.P. & Beighle (2009). *A Dynamic Physical Education for Elementary School Children*, Benjamin Cummings.

Schmottlach, N., McManama, J. (2002). *Physical Education Activity Handbook*, Benjamin Cummings.

Shuttleballs, www.forplanethealth.com/products.htm

Wang, J. & Moffit, J. (2009). Teaching Badminton Based on Student Skill Levels, *STRATEGIES*, 22(6), 14-18.

Peer Reviewed: Utilizing Caffeine for Elite Sports Performance

Start Strong Finish Strong: Utilizing Caffeine to Maximize Sport Performance

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Abstract

Undoubtedly, caffeine has become the hottest new trend in sport performance enhancement. Caffeine is considered an ergogenic aid because of its properties reported to increase substrate utilization, motor reaction time, skeletal muscle contractility, work production and other important necessary athletic qualities. Ergogenic aids, like caffeine, is a complex and often times a confusing area of study with a vast amount of information and misinformation. Research has documented a deficit in the nutritional knowledge of strength/power athletes. There is a desperate need for a credible resource that individuals can rely on to provide research-based information regarding the proper and healthy use of caffeine. This comprehensive review of literature is designed for athletes and coaches striving to attain optimal performance results with caffeine consideration in mind. Understanding the basics of how to properly use caffeine and the risks involved can help individuals make informed decisions to aid athletic performance.

Introduction

Caffeine, the most widely used drug in Western society, is believed to have been used as a stimulant since the Stone Age. Caffeine is an inexpensive, medically safe, socially acceptable, and legal supplement. Caffeine is an alkaloid present in coffee, chocolate, soft drinks, and tea (Hoffman, 2010). Chemically, alkaloids resemble purines, xanthines, and uric acid which are metabolically important compounds (Leonard, Watson, & Mohs, 1987). It is a feebly basic crystalline compound, CHNO, and it acts on the central nervous system as a stimulant and diuretic (Hoffman, 2010). The amount of caffeine received when coffee, decaffeinated coffee, tea, and cola drinks are ingested varies with respect to the strength of the preparation of the brewed coffee or tea as well as the size of the container used for dispensing these beverages. Caffeine in 150 mL (5 oz) of coffee varies from 65 to 200 mg, in decaffeinated coffee, from 1 to 5 mg, and from 25 to 110 mg in 150 mL (5 oz) of tea. The caffeine in cola drinks has been found to range from 30 to 60 mg in a 360 mL (12 oz) serving (Klepacci, 2010).

Caffeine has been rediscovered in the form of energy drinks. High-energy caffeine drinks are the newest craze sweeping across both national and international sport horizons promoted by extreme-sport athletes and pro-wrestlers (Paddock, 2008). Jolt Cola was the original "power cola" that helped put energy drinks on the map. Jolt Cola was first distributed in the 1980's and is thought of as the precursor to the present phenomena (Retelny, 2007). Research has indicated that energy drinks are the most popular supplement besides multivitamins in the American adolescent and young adult demographic (Hoffman, 2010). Malinauskas, et al. (2007) found that 51% of college students consume energy drinks at least once a month. More than 500 new energy drinks containing high amounts of caffeine have been launched

worldwide in the last 3 years (Table 1). Vying for the dollars of consumers of all ages with promises of weight loss, increased endurance, and legal highs, the new products join top-sellers Red Bull, Monster and Rockstar in making up a $3.5 billion-a-year industry that grew by 80 percent last year (Paddock, 2008). The variety of energy drinks available in the market makes a complete review of their contents a daunting task.

A popular sports drink, developed in Austria and first introduced in the United States in 1997, "Red Bull" was the forerunner of the modern energy drink and still remains the most visible brand in the industry (Retelny, 2007). Red Bull utilizes pharmaceutical grade ingredients and claims that its combination of caffeine, taurine, and glucuronolactone gives the consumer an energy boost. Researchers are beginning to investigate the potential performance enhancing effects of energy drinks. However, results investigating the benefits of the combination of ingredients like taurine and glucuronolactone with caffeine are unclear (Laquale, 2007). In a study of physically active young adults, Red Bull did significantly increase bench press repetitions in subjects over three sets (Forbes, et al., 2007). These types of findings/claims will be used in promotional efforts in an attempt to increase market share as competition between products intensifies.

Table 1

Comparison of popular energy drinks

Drink	Serving, fl oz	Servings	Caffeine (mg)/ serving	Sugar (g)/ serving	Kilocalories
Full Throttle	8	2	72	29	111
AMP	8.4	2	72	31	120
Red Bull	8.3	1	80	27	110
Red Bull Sugar Free	8.3	1	80	0	10
Monster	8	2	80	27	100
Rockstar	8	2	80	30	130
Spark	8	1	120	0	45
Redline RTD	4	2	125	0	0
NOS	8	2	130	27	110

(Adapted from: Klepacki, 2010)

According to Hoffman (2010), thirty percent of U.S. teenagers say they drink energy drinks, representing 7.6 million teens, a jump of almost 3 million teens in three years. Today, the $3.5 billion energy-beverage market is 6 percent of the nonalcoholic beverage industry, which includes soft drinks. That's up 75 percent since 2004 and is expected to top $10 billion by 2011, thanks to ferocious consumer demand and profit margins that are three times that of soda.

Some athletes' knowledge of which products contain caffeine, and how much they contain, is limited (Desbrow & Leveritt, 2007). In this study by Desbrow and Leveritt (2007), well-trained endurance athletes were surveyed regarding their knowledge of perceived caffeine concentrations in popular foods or drinks, planned usage and usage history, known side-effects, and attitudes toward caffeine use. The results showed that of 140 triathletes surveyed, 101 shared the perception that caffeine use can enhance performance of endurance activities. When participants were asked to identify foods or drinks as being sources of caffeine; most identified them correctly as sources of caffeine, but, their concentrations of caffeine were inaccurately identified, especially when the sources of caffeine were less customary (caffeine pills and milk-based coffee drinks). The athletes in this study also identified fellow athletes as their main source of information/ advice about caffeine while healthcare professionals were not identified as a main source for information. Over half the athletes in this study were unaware of the appropriate dosage for improving performance in a triathlon. The majority also reported previous use of caffeine in competition with positive results, along with mild and infrequent side effects associated with usage.

Caffeine has many beneficial effects, as it may affect stimulatory receptors in the central nervous system, as well as metabolic receptors in peripheral tissues, such as skeletal muscles, and it may have the ability to influence psychological states and alter pain perception (Klepacci, 2010). With the explosion in use, it is important the prospective user understand exactly what they're ingesting and how to properly use caffeine to their advantage. The purpose of this article is to provide research-based information regarding caffeine. This article will discuss the necessary information for athletic trainers, coaches, coach educators, and nutritionists in aiding strength and power athletes who wish to use caffeine to better their performance. It will explain to the reader exactly what caffeine is and how it affects the body once ingested, explain the current issues concerning caffeine ingestion, and show some of the

implications of unhealthy use of caffeine.

Caffeine and Athletic Performance

In the last two Olympic Games, the difference between first and fourth place (for most sports) was less than 1.5 % (Stone, 2003). Hopkins (2005) suggested that for elite track and field throwers, 0.9%-1.5% of total performance is a worthwhile improvement based upon the variability of performance in international competition. With such slim margins between competitors, athletes and coaches alike seek the edge over the opposition. Could the established performance enhancing affects of caffeine be quantifiable and consequently, the athletic edge so many are looking for?

Caffeine is a supplement that is widely used by athletes in a variety of different competitive venues. Considered an ergogenic aid, caffeine is something that is said to increase an athlete's work capacity (Stamford, 1989). Caffeine has been shown to have performance enhancing effects in many different types of athletic events ranging from endurance performance (Ganio, 2009; Graham, 2001) to shorter speed and power dependent events (Davis & Green, 2009). In particular, low-dose caffeine has also been shown to be an effective ergogenic aid in cycling performance (Cox, et al., 2002; Jenkins, et al., 2008). It is common knowledge that caffeine intake can stimulate arousal (Klepacci, 2010). Even before studies confirmed that caffeine was an ergogenic aid, athletes were using caffeine to aid their performance.

Early morning competitions and practice sessions are a reality for coaches in a variety of athletic events including what are considered Olympic or non-revenue sports (Bellar, et al., in press). There is evidence that the time of day may affect human performance. Coaches and athletes who compete in events that take place early in the morning need to be cognizant of early morning performance effects (Descholdt & Arsac, 2004; Kline, et al., 2007; Reilly & Baxter, 1983; Atkinson, et al., 2005; Bernad, et al., 1998; Souissi, et al., 2007). It has been reported that early morning performance success is reduced relative to afternoon or evening performance in maximal cycle power (Descholdt & Arsac, 2004), 200 meter swim trials (Kline, et al., 2007), cycle time to exhaustion at 95% VO_2 max (Reilly and Baxter, 1983), 16.1 km cycle performance (Atkinson, et al., 2005), multi-jump power (Bernad, et al., 1998) and Wingate performance (Souissi, et al., 2007). Importantly, Deschodt & Arsac (2004) demonstrated that technical swimming ability also suffered in athletes in the morning.

Track and field is another sport where athletes are often required to perform at high levels early in the morning either in competition or practice (Figure 1). Early morning practice is often an unavoidable reality due to limited availability of athletics facilities. Achieving training goals like strength, explosive power, and speed in sports like volleyball, basketball, track and field, and weight lifting can be aided by caffeine supplementation (Dunn, Turner, & Denny, 2007). A predetermined caffeine regimen manipulated to the time of day, type, and duration of the training session can be an effective and healthy avenue to performance enhancement. It is logical to hypothesize that caffeine intake might influence morning-hour alertness as well as regular-hour performance in athletes. Caffeine has often been found to reduce reaction time after administration (Lorist & Snel, 1997; Durlach, et al. 2002). Smith (2009) reported that caffeine in chewing gum had positive effects on mood and sustained attention. The sustained attention task used provided a random stimulus and measured mean reaction time as one outcome.

Figure 1: The hammer throw is an example of an event in the sport of track and field that is often contested in the morning and relies heavily on the neuromuscular system.

Mechanisms of Caffeine

Athletes often use caffeine to "get up" for a competition (Klepacci, 2010). Research differs on the amount of time caffeine takes to reach its highest levels in the blood; but, the average is somewhere between 15 and 45 minutes after ingestion. A protocol of 200-400 mg of caffeine (depending of the body weight of the athlete) 45 minutes before competition may provide an ergogenic effect (Neims, 1986). The ergogenic benefits of caffeine have been seen with supplementation in doses ranging from 3 to 9 milligrams per kilogram of bodyweight (equivalent to approximately 1.5-3.5 cups of automatic drip coffee in a 70-kg person). There does appear to be a difference in the ergogenic potential when caffeine is ingested in a food source (coffee or sports energy drink) compared with its anhydrous form (Ellender & Linder, 2005, Hoffman, 2010). Although both forms have been shown to provide an ergogenic effect, the degree of performance improvements appears to be greater when caffeine is ingested in tablet form (Graham, & Spriet, 1995). It is recommended that the upper limit of caffeine for those who are not caffeine sensitive is 6 milligrams per kilogram of body weight (Klepacci, 2010).

Another common question is how long caffeine lasts in the body following ingestion. The half-life, the time it takes the body to eliminate half of the amount consumed, is about 5 hours in most adults, longer in infants, pregnant women, and the elderly, and shorter in children and smokers (Grady, 1986). Although urine is the primary route of excretion, caffeine is also excreted into saliva, semen, breast milk, and is found in umbilicord blood (Poziniak, 1987). When consuming caffeine in any form, the body absorbs nearly all the caffeine, more than 99%, in the gastrointestinal tract, and it is distributed to all of the tissues and organs (Leonard, Watson, & Mohs, 1987). Caffeine is metabolized in the liver and only about 1% of the drug is excreted unchanged in the urine (Clementz, Dailey, 1988).

Caffeine and Substrate Utilization (carbohydrate or glycogen sparing)

Caffeine is thought to spare or preserve glycogen by promoting the use of fat as fuel by releasing free fatty acids into the bloodstream from storage sites in the body (Stamford, 1989). Since glycogen is the primary fuel source of energy during exercise, the substrates that are used as fuel for endurance activities are mainly free fatty acids and muscle glycogen. The longer the muscle glycogen is spared, the greater the delay in the onset of fatigue and exhaustion (Lombardo, 1986). When the supply of glycogen is limited, exercise intensity must be reduced as the supply is depleted. Exercise elicits an immediate mobilization of free fatty acids for energy that creates a lower rate of glycogen utilization by muscles, thus prolonging time until fatigue (Aronson, 1986).

Caffeine ingestion increases plasma levels of free fatty acids and the muscle glycogen stores are not depleted as rapidly (Lombardo, 1986). The articles previously cited conclude that caffeine use was beneficial in long term endurance based events.

A 1978 Costill, et al. study looked at the effects of caffeine ingestion on metabolism and found that the caffeine-fed group was able to exercise 19.5% longer than the control subjects (Costill, Dalshy, & Fink, 1978). The caffeine group also had significantly higher levels of plasma free fatty acids and blood glycerol. Subjects ingesting caffeine also showed a significant decrease in their respiratory quotient, indicating a shift from glucose to fat utilization (Clementz, Dailey, 1988). The increased lipolysis postponed exhaustion by slowing the rate of glycogen utilization in the liver and skeletal muscles (Slavin, & Joensen, 1985).

Motor Reaction Time – CNS

Caffeine's popularity is due in part to its effects on the central nervous system (Klepacci, 2010). It first affects the cortex of the brain, then the medulla, and, with large amounts, the spinal cord (Thorne, Johnson, Redmond, Sing, Belenky & Shapiro, 2005). In the late 1980's, researchers became more interested in investigating caffeine's impact on short duration speed and power activities. Leonard, Watson & Mohs, 1987, reported that caffeine increases psychomotor coordination which results in decreased motor reaction time and increased vigilance (Leonard, Watson, & Mohs, 1987). Exercise itself has a stimulatory effect on the central nervous system as well. When caffeine is ingested, this stimulatory effect can increase even more.

In 1989, Stamford reported that caffeine affects the central nervous system by delaying fatigue and increasing restlessness. According to a 1986 Lombardo study, caffeine stimulates the brain, thereby diminishing fatigue during prolonged exercise. Increased alertness and improved reaction time, important elements of athletic performance, are aided by the central nervous system when caffeine is ingested (Stamford, 1989; Lombardo, 1986). In a recent investigation by Bellar, et al., low-dose caffeine was administered buccally and athletes performed better in the standing shot put event in the morning hours (Bellar, et al., in press). Bellar, et al., reported faster mean reaction time for subjects ingesting

caffeine as measured by a psychomotor vigilance test (PVT) and increased performance as reflected by measured distances in the standing shot put.

According to Clementz and Dailey, 1988, the ingestion of 50 to 300 mg of caffeine by normal volunteers with different coffee drinking habits results in feelings of increased alertness and decreased fatigue and anxiety.

Skeletal Muscle Contractility

Caffeine has also been found to enhance skeletal muscle contractility by researchers; although, evidence indicating its ergogenic benefit during anaerobic performance has been limited (Hoffman, 2010). Because caffeine becomes part of the body water, the greatest amount is concentrated in the skeletal muscle mass. Caffeine has been suggested to augment strength and power performance by enhancing muscle contraction effectiveness through accelerated mobilization of intracellular calcium ions from the sarcoplasmic reticulum (Kalmar, 2005) and/or by enhancing glycolytic regulatory enzyme kinetics (Spriet, 1995). High levels of caffeine penetrate muscles' contractile status (Slavin, & Joensen, 1985). According to the 1986 Lombardo study, when caffeine was ingested in subjects during both fatigued and non-fatigued states, it had a direct effect on skeletal muscle contractility. Caffeine spares muscle glycogen use while enhancing muscle triglycerides for energy (Eichner, 1986).

A recently published investigation by Woolf, et al., 2008, showed that in highly-trained male athletes, a dose of 5 mg/kg of body weight resulted in a greater total lift weight in a bench press exercise and greater peak power in a Wingate test (Woolf et al, 2008). This same study also tested the leg press exercise and found no significant increase in total lift weight. This finding could be confusing considering caffeine is supposed to affect skeletal muscle and the muscle group associated with performing a leg press is larger than a chest press. The authors suggest that in well-trained athletes a greater dose of caffeine may be required to affect larger muscle groups for short-term, high intensity exercise. Endurance athletes can have decreased fatigue when the proper amount of caffeine is ingested.

Work Capacity

Athletes and coaches are always looking for ways to increase performance capacity so the body is able to work longer and harder. In an investigation by Ivy, Costill, & Fink (1979), caffeine increased work production by 7.4% compared with control conditions. Fat oxidation was elevated 31% during the last 70 minutes of the caffeine trial. If caffeine aids in performance production and helps improve work capacity, it may be something for an athlete to consider.

Analgesic Effects

Increased work production may be explained by some additional findings regarding the positive effects of caffeine on performance. Analgesic effects have recently been reported for caffeine usage. Gliottoni, et al. (2009) and Motl, et al. (2006) reported a significant reduction in leg pain in male and female cyclists after ingesting caffeine. Importantly Gliottoni, et al. (2009) reported a significant effect on both low and high habitual user groups. Similar work by Gliottoni and Motl (2008) found that in females cycling at 80% of VO_2 peak for 30 minutes, caffeine ingestion was associated with lesser reported leg pain. This study examined intense exercise, aerobic in nature. Green, et al. (2007) reported no effects of caffeine on Rating of Perceived Exertion (RPE) during high repetition-to-failure leg press and bench press exercises. Subjects performed approximately repetitions to failure under caffeine treatment and 10 placebo during leg press exercise. This suggests some ergogenic effect; but, the nature of the exercise might not elicit changes in RPE reported by subjects.

The Timing and Dosage of Caffeine Ingestion

The timing, dosage, and form of caffeine ingestion are very important to maximize effects. The dosage and form of caffeine ingested can impact its effectiveness. Athletes commonly use caffeinated drinks like red bull and coffee or oral caffeine like NoDoz and Vivarin approximately 45 minutes to an hour prior to

competition (Figure 2). Past researchers investigating aerobic exercise reported a benefit to a much longer period of caffeine ingestion prior to activity. Bellet, et al., (1965, 1968) reported that caffeine ingestion will only aid endurance activities after three to four hours. This is because of caffeine's effect on lipid mobilization (Bellet, Kershbaum, & Aspe, 1965). Aronson reported that caffeine intake one hour prior to performance may enhance fat utilization, thus sparing glycogen stores (1986) for perhaps a better time frame for short-term anaerobic sports.

Caffeinated gum has become available in recent years. The caffeinated gum delivers the effective dose (100 mg) of caffeine after only five minutes of chewing (Kamimori, et al., 2002). The rapid rate of delivery of the gum is due to the caffeine being absorbed via the buccal cavity, which is highly vascularized. The use of this system of delivery allows the athletes to complete the caffeine protocol minutes before practice each day within the desired 1-2 hour time frame of a practice and competition. Other methods of administration, such as ingestion of oral caffeine supplements, require longer wait times for the levels of caffeine to peak in the system prior to the initiation of the warm-up and subsequent training session (Kamimori, et al., 2002). Oral caffeine tablets would extend the timeframe of the pre-activity protocol beyond the length of a normal practice session to which the athletes were habituated. What this means is that athletes must ingest caffeine 45 minutes to 1 hour before working out or competing. Athletes cannot ingest oral caffeine when they arrive at the training or competition site because the effects won't be felt until the most of the training session or competition is completed.

However, too much caffeine ingested may not aid reaction time and could hinder performance. A study conducted by Applegate in 1987 concluded that 300 mg ingestion of caffeine reported the fastest reaction times. In the same study, the group that ingested (600 mg) twice that amount reacted no faster than the control group receiving the placebo. Ingesting too much caffeine can cause some side effects that can hinder performance.

Figure 2: Red bull is the most recognizable energy drink on the market today.

Adverse Affects

Although caffeine can have performance-enhancing effects, like all drugs, it has potentially dangerous side effects. In high dosages, it may cause extreme nervousness and can act as a diuretic. People who regularly consume caffeine develop a tolerance to it; hence, the severity of the effects of caffeine are, in part, dose-dependent and also is a function of a person's tolerance to the drug. Some of the side effects for the individual who rarely uses caffeine are unpleasant feelings, jitters, and nervousness. The occasional user may also experience insomnia. In extreme cases of hypersensitivity or with the ingestion of extremely high dosages, the rhythm of the heart can be upset and become irregular.

Hypersensitivity to caffeine may also be of concern to athletes who rarely consume it and then use it prior to competition. Those who normally don't imbibe may be hypersensitive to the negative effects of caffeine. The rhythm of the heart can be

American Heart Association
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HOOPS FOR HEART

Jacob is a 13-year-old sixth grader. He was born with a large hole in his heart and narrowing of a valve that partially blocks blood flow to his lungs.

HOOPS FOR HEART is a national education and fundraising event sponsored by the American Heart Association and the American Alliance for Health, Physical Education, Recreation and Dance. Middle school students have fun playing basketball while becoming empowered to improve their health and help other kids with heart health issues. And it's a great way to satisfy the physical education standards as determined by the National Association for Sport and Physical Education and the American Association for Health Education.

Funds raised through Hoops For Heart give back to children, communities and schools through the American Heart Association's work:

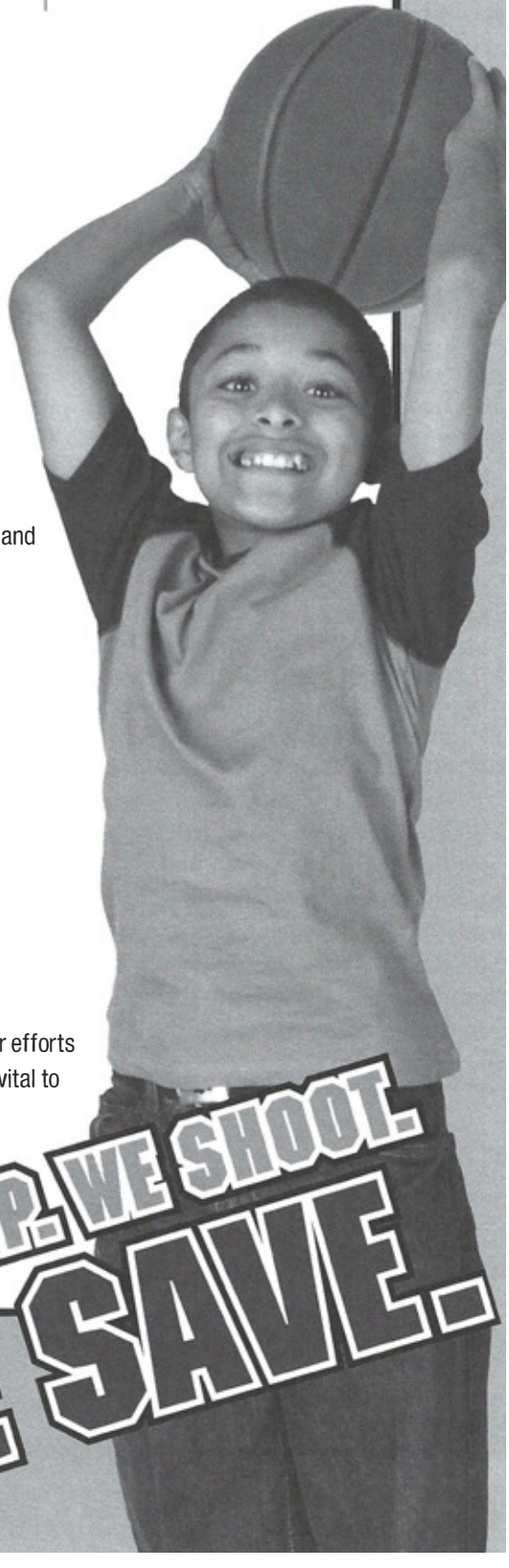
- Ongoing discovery of new treatments through research
- Advocating at federal and state levels for physical education and nutrition wellness in schools
- CPR training courses for middle and high school students

Hoops For Heart helps students:

- Learn the value of community service and contribute to their community's welfare
- Join with other children to help kids who have heart problems
- Develop heart-healthy habits while being physically active
- Learn basketball skills they can use for the rest of their lives
- Earn gift certificates for free school P.E. equipment from U.S. Games

With your support, we can help protect and improve children's health. Your efforts to educate your students and raise funds for research and outreach are vital to improving kids' lives.

Call 1-800-AHA-USA1 or visit heart.org/hoops to get your school involved.



American Alliance for Health, Physical Education, Recreation and Dance

AAHPERD is a proud program partner of Hoops For Heart.

upset and become irregular. This effect could be compounded by endurance exercise in hot weather which can potentially lead to dehydration and electrolyte imbalance (Klepacci, 2010). Dehydration is a potential side effect of caffeine use that has received a lot of recent discussion and study.

A concern that caffeine use can induce diuresis and natriuresis and increase the risk for dehydration has been raised and investigated by sport scientists (Hoffman, 2010). Caffeine ingestion stimulates a mild diuresis similar to water; though, there is no evidence of a fluid-electrolyte imbalance that is harmful to exercise performance or health (Antonio, 2004). However, in several well-designed studies, moderate caffeine consumption has not been shown to impair hydration, exacerbate dehydration, or impair thermoregulation (Armstrong, et al., 2007, Hoffman, 2010). Tolerance to caffeine diminishes the likelihood that a problematic fluid electrolyte imbalance will occur (Antonio, 2004).

Several studies have documented higher cholesterol levels among heavy coffee drinkers than those who consume less caffeine. Therefore, athletes who drink coffee regularly in hopes of enhancing performance should know that coffee has been linked to cholesterol elevation.

Chronic intake of high dosages of caffeine has many symptoms, such as anxiety, restlessness, tremulousness, irritability, dry mouth, tinnitus, scotoma (island-like blind gap in the visual field), restless leg syndrome, vague bodily discomfort, dysethesia (impaired response to stimuli), mylagia, palpitations, arrhythmias, nervousness, diuresis, mood disturbances, sleep disruptions, and gastrointestinal disturbances (Leonard, Watson, & Mohs, 1987). The doses seen in subjects reporting the above symptoms are 20 to 60 times greater than the required ergogenic dose of caffeine. Thus, as with any drug or ergogenic aid, there is potential for abuse.

According to research conducted by Rossignol, caffeine has been linked to the presence and severity of premenstrual syndrome in women that consumed caffeine-containing beverages" (1985). This may be of particular concern to female athletes who are training for an upcoming event.

To maximize the effectiveness of caffeine in an energy drink, supplement companies will often add several additional ingredients to exacerbate the stimulatory potential of caffeine. To maintain a competitive advantage, companies sometimes do not disclose specific ingredient concentrations and tend to group various ingredients as specific ''matrixes'' (Hoffman, 2010). Most companies have additional information regarding specific ingredients on their website; but, few consumers take the additional step to access online ingredient specifics. Individual consumers often take it for granted that a product is safe simply because it is found on the shelves of a retail store. The majority of energy drinks appear to be well tolerated with negligible risks associated with their use. But, some of these products may contain potentially harmful ingredients like synephrine. Synephrine is a product derived from the fruit of a citrus tree, *Citrus aurantium,* and it is very similar in composition to ephedrine which was recently banned. There have been documented cases of even minimal use of synephrine being linked to health complications. For example, energy drinks containing syneprine, ephedra alkaloids, or other b-agonists may augment the sympathetic response (i.e., elevations in heart rate and blood pressure) that can potentially intensify an underlying cardiovascular problem (Hoffman, 2010). It is a good idea to avoid caffeine products with unknown ingredients.

Caffeine Restrictions by National Governing Bodies

Although energy drinks have experienced a marked rise in popularity, caffeine and other similarly functioning substances are considered stimulants and use is subject to restrictions by numerous public and private health organizations including those organizations in charge of administering drug tests to collegiate, elite, professional, and sometimes, high school athletes. The United States Food and Drug Administration recommends that beverages contain less than 65 milligrams of caffeine per 12 ounces of liquid (Paddock, 2008). Yet, because caffeine has the FDA's generally regarded as safe (GRAS) status, the agency does not provide a daily recommended allowance. The FDA also does not make any special recommendations for kids; though, some studies show that kids react differently to caffeine than adults. Soft drinks, such as Coke and Pepsi, both of which contain about 40 milligrams of caffeine per serving, fall within FDA guidelines. A 12-ounce cup of brewed coffee along with many high energy drinks, however, has about 200 milligrams. In some cases, high energy drinks may contain up to 1,000 mg of caffeine and caffeine-related substances. The FDA can move to regulate caffeine in energy drinks but tends not to do so unless a given product provides more caffeine than is found in the average cup of coffee (Paddock, 2008).

Caffeine is legal for use in training; but, caffeine in high dosages appears on the banned substance list for competition by some national governing bodies (NGB's). Caffeine at high concentration

levels is banned by the National Collegiate Athletic Association (NCAA). Athletes would be considered to be over the maximum allowable limit for caffeine once they reach 13 milligrams per kilogram of body weight, approximately equal to 700 mg or 8-cups of coffee (Ellender & Linder, 2005). It is unlikely for an athlete to reach prohibited levels through caffeine-containing sports drinks alone; but, with the addition of other caffeinated beverages, dietary supplements, and medications containing caffeine and additional stimulants, this could prove problematic for caffeine levels for athletes. A positive test is a possibility if it is used in very high quantities prior to competition.

In January of 2004, the World Anti-Doping Agency (WADA) removed caffeine from its list of banned substances for in-competition testing and moved it to its list of monitored substances (Desbrow & Leveritt, 2007). It appears that most research indicates that in limited quantities, caffeine can improve performance (Scholey & Kennedy, 2004); but, WADA's decision implies that the overall performance enhancing ability of caffeine may be somewhat limited.

Conclusion

Achieving success in athletics requires more than just working hard; athletes, coaches and trainers must work smart. It is necessary for coaches to be able to maximize performance of athletes in practice and competitions regardless of time of day. The exploding supplement industry is a sign that individuals are experimenting. Coaches, nutritionists, and trainers must stay knowledgeable as athletes use supplements like caffeine. It can be suggested to coaches that the use of caffeine as an ergogenic aid in certain situations should be considered. It is important to understand how caffeine may or may not aid in the journey to accomplish athletic goals.

References

Antonio, J. (2004). Caffeine: The forgotten ergogenic aid. *Strength and Conditioning, 26*(6), 50-51.

Applegate, L. (1987). Brewing controversy. *Runners World, 22*, 20-22.

Aronson, V. (1986). Protein and miscellaneous ergogenic aids. *The Physician and Sports Medicine*, *14*(5), 199-202.

Armstrong, L. E., Casa, D. J., Maresh, C. M., & Ganio, M. S. (2007). Caffeine, fluid-electrolyte balance, temperature regulation, and exercise-heat tolerance. *Exercise and Sport Science Review, 35,* 135–140.

Atkinson, G., Todd, C., Reilly, T., & Waterhouse, J. (2005). Diurnal variation in cycling performance: Influence of warm-up. *Journal of Sports Sciences, 23*(3), 321-329.

Bellar, D., Kamimori, G., Judge, L. W., Barkley, J., Ryan, E., Muller, M., & Glickman, E. (In press). The effect of low-dose caffeine supplementation on early morning performance in the standing shot put throw. *European Journal of Sports Science*.

Bernard, T., Giacomoni, M., Gavarry, O., Seymat, M., & Falgairette, G. (1998). Time-of-day effects in maximal anaerobic leg exercise. *European Journal of Applied Physiology, 77*, 133-138.

Clementz, G., & Daily, J. (1988). Psychotropic effects of caffeine. *American Family Physician, 37*, 167-172.

Costill, D. L., Dalshy, G. P., & Fink, W. J. (1978). Effects of caffeine ingestion on metabolism and exercise performance. *Medicine and Science of Sports*, *10*, 155-158.

Cox, G. R., Desbrow, B., Montgomery, P. G., Anderson, M. E., Bruce, C. R., Macrides, T. A., Martin, D. T., Moquin, A., Roberts, A., Hawley J. A., & Burke, L. M. (2002). Effects of different protocols of caffeine intake on metabolism and endurance performance. *Journal of Applied Physiology,* 93, 990-99.

Davis, J. K., & Green, J. M. (2009). Caffeine and anaerobic performance: ergogenic value and mechanisms of action. *Sports Med, 39*(10), 813-832.

Desbrow, B., & Leveritt, M. (2006). Awareness and use of caffeine by athletes competing at the 2005 Ironman Triathlon World Championships. *International Journal of Sport Nutrition & Exercise Metabolism,* 17(4), 545-558.

Deschodt, V., & Arsac, L. (2004). Morning vs. evening maximal cycle power and technical swimming ability. *Journal of Strength & Conditioning Research, 18*(1), 149-154.

Dunn, D., Turner, L. W., & Denny, G. (2007). Nutrition knowledge and attitudes of college athletes, *The Sport Journal, 10*(4), 1-5.

Eichner, E. (1986). The Caffeine controversy: effects on endurance and cholesterol. *The Physician and Sportsmedicine*, *14*(2), 124-130.

Ellender L., & Linder, M. M. (2005). Sports pharmacology and ergogenic aids. *Primary Care,* 32, 277-292.

Forbes, S. C., Candow, D. G., Little, J. P., Magnus, C., & Chilibeck, P. D. (2007). Effect of Red Bull energy drink on repeated Wingate cycle performance and bench-press muscle endurance. *International Journal of Sport Nutrition & Exercise Metabolism, 17*(5), 433–444.

Gliottoni, R. C., & Motl, R. W. (2008). Effect of caffeine on leg-muscle pain during intense cycling exercise: possible role of anxiety sensitivity. *International Journal of Sport Nutrition & Exercise Metabolism,* 18(2), 103-115

Ganio, M. S., Klau, J. F., Casa, D. J., Armstrong, L. E., & Maresh, C. M. (2009). Effects of caffeine on sport-specific endurance performance: a systematic review. *Journal of Strength & Conditioning Research, 23*(1), 315-324.

Grady, D. (1986). Don't get jittery over caffeine. *Discover*, *17*, 73-79.

Graham, T. E., & Spriet L. L. (1995). Performance and metabolic responses to a high caffeine dose during prolonged exercise. *Journal of Applied Physiology, 78,* 867–874.

Graham, T. E. (2001). Caffeine and exercise: metabolism, endurance and performance. *Sports Medicine, 31*(11), 785-807.

Grren, J. M., Wickwire, P. J., McLester, J. R., Gendle, S., Hudson, G., Pritchett, R. C., & Laurent, C. M. (2007). Effects of caffeine on repetitions to failure and ratings of perceived exertion during resistance exercise. *International Journal of Sports Physiology Performance,* 2(3), 250-259.

Hoffman, J. (2010). Caffeine and energy drinks. *Strength and Conditioning, 32*(1), 15-20.

Hopkins, W. G. (2005). Competitive performance of elite track and field athletes: variability and smallest worthwhile enhancements. *Sportsscience, 9,* 17-20.

Ivy, J. L., Costill, D. L., & Fink, W. J. (1979). Influence of caffeine an carbohydrate feedings on endurance performance. *Medicine and Science of Sports, 11,* 6-11.

Jenkins, N. T., Trilk, J. L., Singhal, A., O'Connor, P. J., & Cureton, K. J. (2008). Ergogenic effects of low doses of caffeine on cycling performance. *International Journal of Sports Nutrition Exercise Metabolism, 18*(3), 328-342.

Kalmar, J.M. (2005). The influence of caffeine on voluntary muscle activation. *Medicine Science Sport and Exercise, 37,* 2113–2119.

Kamimori, G., Karyekar, C. S., Otterstetter, O., Cox, D. S., Balkin, T. J., Belenky, G. L., & Eddington, N. D. (2002). The rate of absorption and relative bioavailability of caffeine administered in chewing gum versus capsules to normal healthy volunteers. *International Journal of Pharmaceutics, 234*, 159-167.

Klepacci, B. (2010). Energy drinks: A review article. *Strength and Conditioning, 32*(1), 37-41.

Kline, C., Durstine, L., Davis, J., Moore, T. A., Devlin, T. M., Zielinski, M. R., & Youngstdet, S. D. (2007). Circadian variation in swim performance. *J Appl Physiol, 102*, 641-649.

Laquale, K. (2007). Red Bull: The other energy drink and its effect on performance. *Athletic Therapy Today*, 12(2), 43-45. Retrieved from the SportDiscus database.

Leanard, T., Watson, R., & Mohs, M. (1987). The Effects of caffeine on various body systems: a review. *Journal of American Dietetic Association, 87*, 1046-1053.

Lombardo, J. (1986). Stimulants and athletic performance (part one of two): amphetamines and caffeine. *The Physician and Sportsmedicine, 14*(11), 128-139.

Lorist, M. M., & Snel, J. (1997). Caffeine effects perceptual and motor processes. *Electroencephalography and Clinical Neurophysiology, 102*(5), 401-414.

Malinauskas, B. M., Aeby, V. G., Overton, R. F., Carpenter-Aeby, T., & Barber-Heidal, K. (2007). A survey of energy drink consumption patterns among college students. *Nutrition Journal,* 6(35), 35. doi:10.1186/1475-2891-6-35.

Molt, R. W., O'conner, P. J., Tubandt, L., Puetz, T., & Ely, M. R. (2006). Effects of caffeine on leg muscle pain during cycling exercise among females. *Medicine and Science in Sport and Exercise,* 38(3), 598-604.

Neims, A. (1986). Individuality in the responses to dietary constituents: some lessons from drugs. *Nutrition Reviews*, *44*, 237-241.

Paddock, R. (2008). Energy drinks' effects on student-athletes and implications for athletic departments. *The Sport Journal*, 11,4. Retrieved from http://www.thesportjournal.org/article/energy-drinks-effects-student-athletes-and-implications-athletic-departments.

Poziniak, P. (1985). The Carcinogenicity of caffeine and coffee: a review. *Journal of American Dietetic Association, 85*, 1127-1133.

Reilly, T., & Baxter, C. (1983). Influence of time of day on reactions to cycling at a fixed high intensity. *British Journal of Sports Medicine, 17*(2), 128-130.

Retelny, V. S. (2007). Energy Drinks. Obesity Management. 3(3), 139-142.

Rossignol, A. (1985). Caffeine-containing beverages and premenstrual syndrome in young women. *American Journal of Public Health, 75*(11), 1135-1136.

Scholey, A. B., & Kennedy, D. O. (2004). Cognitive and physiological effects of an "energy drink": An evaluation of the whole drink and of glucose, caffeine and herbal flavouring fractions. *Psychopharmacology, 176*(3-4), 320-330.

Slavin, J., & Joensen, D. (1985). Caffeine and sports performance. *The Physician and Sportsmedicine*, *13*(5), 191-193.

Smith, A. (2009). Effects of caffeine in chewing gum on mood and attention. *Human Psychopharmacology, 24*(3), 239-247.

Souissi, N., Bessot, N., Chamari, K., Gauthier, A., Sesboüé, B., & Davenne, D. (2007). Effect of time of day on aerobic contribution to the 30-s wingate test performance.
Chronobiology International, 24(4), 739-748.

Spriet, L. L. (1995). Caffeine and performance. *Int J Sport Nutr*, 5, S84–S99.

Stamford, B. (1989). Caffeine and athletes. *The Physician and Sportsmedicine, 17*(1), 193-194.

Stone, M. H., Sanborn, K., O'Bryant, H. S., Hartman, M., Stone, M. E., Proulx, C., Ward, B., & Hruby, J. (2003). Maximum strength-power-performance relationships in collegiate throwers. *Journal of Strength and Conditioning Research, 17*(4):739-745.

Thorne, D. R., Johnson, D. E., Redmond, D. P., Sing, H. C., Belenky, G., & Shapiro, J. M. (2005). The Walter Reed palm held psychomotor vigilance test. *Behavioral Research Methods, 37,* 111-118.

Woolf, K., Bidwell, W. K., & Carlson, A. G. (2008). **The effect of caffeine as an ergogenic aid in anaerobic exercise.** *International Journal of Sport Nutrition Exercise Metabolism,* **18,** 412-429.

Jump Rope for Heart

At Work at the State Fair 2010

Saturday, August 7

Dale Berry, P.E. Specialist at Floyds Knobs Elementary School, took her Jump Rope Team at the Indiana State Fair to participate in a show entitled "Grow Your Fitness Level". Dale is the sponsor of the performance team that promotes physical fitness. She also participated with the students in long rope tricks and double dutch. Parents jumped long rope with their children at the end of the program.

American Heart Association
Learn and Live

JUMP ROPE FOR HEART

IT TAKES HEART TO BE A HERO!

DONNIE, Age 6
"I was born with a hole in my heart. I Jump Rope For Heart to support the research of the American Heart Association."

Jump Rope For Heart is a national education and fundraising event sponsored by the American Heart Association and the American Alliance for Health, Physical Education, Recreation and Dance. Elementary school students have fun jumping rope while becoming empowered to improve their health and help other kids with heart health issues. And it is a great way to satisfy the physical education standards as determined by the National Association for Sport and Physical Education and the American Association for Health Education.

Funds raised through Jump Rope For Heart give back to children, communities and schools through the American Heart Association's work:

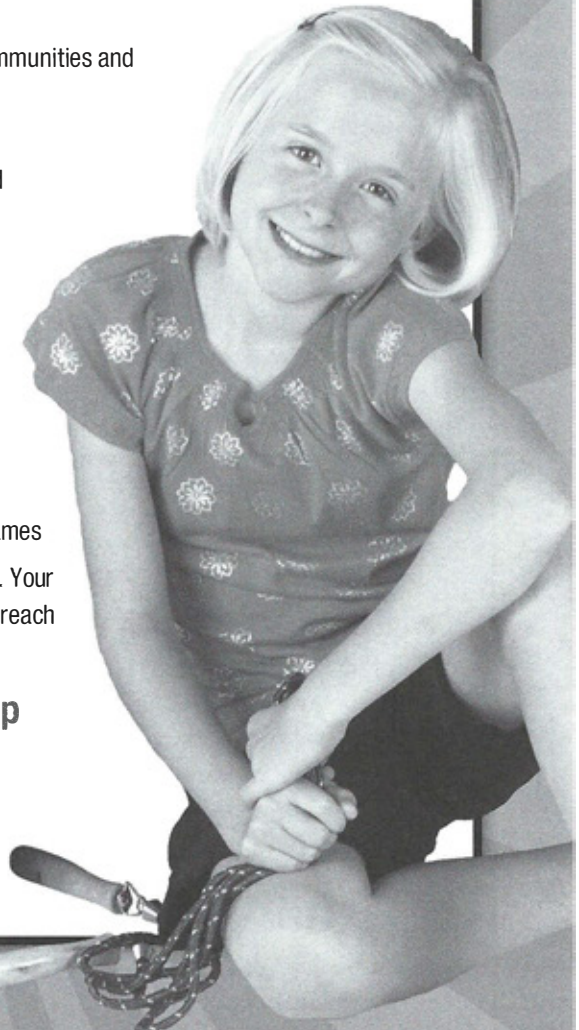
- Ongoing discovery of new treatments through research
- Advocating at federal and state levels for physical education and nutrition wellness in schools
- CPR training courses for middle and high school students

Jump Rope For Heart helps students:

- Learn the value of community service and contribute to their community's welfare
- Join with other children to help kids who have heart problems
- Develop heart-healthy habits while being physically active
- Learn jump rope skills they can use for the rest of their lives
- Earn gift certificates for free school P.E. equipment from U.S. Games

With your support, we can help protect and improve children's health. Your efforts to educate your students and raise funds for research and outreach are vital to improving kids' lives.

Call 1-800-AHA-USA1 or visit heart.org/jump to get your school involved.



American Alliance for Health, Physical Education, Recreation and Dance
AAHPERD is a proud program partner of Jump Rope For Heart.

2010 State Conference and Exposition

The 97th Annual Conference Information

T³: Tradition, Transition, Transformation

T³
Tradition, Transition and Transformation

The 97th Annual conference of the Indiana AHPERD will be held in Indianapolis from Thursday, November 11, to Friday, November 12, 2018. The conference will be held at the Marriott East Hotel and Conference Center. The Opening Plenary Keynote will be given by Shirley Ann Holt/Hale, elementary physical education teacher at Linden Elementary School in Oak Ridge, Tennessee. Past President, Molly Hare (Indiana State University) is the Conference Host.

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Welcome and Opening Plenary Keynote

Thursday, November 11 8:30am

Shirley Ann Holt/Hale, elementary physical education teacher at Linden Elementary School in Oak Ridge, Tennessee

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Meet Shirley Ann Holt/Hale

Shirley Ann Holt/Hale is an elementary physical education teacher at Linden Elementary School in Oak Ridge, Tennessee, a position she has held for more than 30 years. She is the immediate past-president of the American Alliance for Health, Physical Education, Recreation, and Dance, the first elementary physical education teacher ever elected to the highest office of the Alliance. She is a Past-President of NASPE, a member of the NASPE Hall of Fame, and a charter member of the North American Society for Health and Physical Education Professionals. She has previously been recognized as the National Elementary Physical Education Teacher of the Year. She served on the Task Force for the development of the National Standards for Physical Education (NASPE) and served as chairperson for the development of the National Teaching Standards for Physical Education (NBPTS). Dr. Holt/Hale has authored eight books, has written numerous articles, and has made over 150 invited presentations throughout the U.S. In addition to her daily teaching of elementary physical education, she serves as a consultant in curriculum development, assessment, and teaching by themes. Holt/Hale has an undergraduate degree from Berea College and a Ph.D. from Peabody/Vanderbilt University.

Shirley Ann is the author of seven books, numerous articles, and has been invited to give over 150 presentations throughout the U.S. on

curriculum development in physical education for children. However, Holt/Hale's greatest professional contribution is the teaching of physical education to children with a goal of a lifetime of physical activity and good health.

Author of:

On the Move: Lesson Plans to Accompany Children Moving

Co-author of:

Children Moving: A Reflective Approach to Teaching Physical Education with Powerweb

Children Moving: A Reflective Approach to Teaching Physical Education

Children Moving: A Reflective Approach to Teaching Physical Education with Moving Into the Future 2/E and Movement Analysis Wheel

- AB, elementary education, MA, physical education, PhD, early childhood education
- Recipient of the state, district, and national Honor Award for Physical Education
- Charter member of the Tennessee Governor's Council on Fitness & Sports
- Charter member of the North American Society for Health & Physical Education professionals
- National Elementary Physical Education Teacher of the Year
- First public school teacher to be inducted into the NASPE Hall of Fame
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- IAHPERD Awards Banquet on November 10. Tickets are $35 per person.
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Examining Women's Coaching Desires: Perspectives from Assistant Women's Basketball Division I Coaches

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Abstract

The increase of women within intercollegiate sport has dramatically improved since Title IX with female athletes increasing from 16,000 in 1968 to over 180,000 in 2010 (Acosta and Carpenter, 2010). Although the number of sports participants has increased, the percentage of female coaches of women's teams has continued to decline over time (Acosta & Carpenter, 2010). Basketball is one sport that has experienced a decline in female head coaches of female teams. Limited studies have focused on factors that influence the coaching desires of female assistant coaches to aspire to become a head coach of women's basketball teams. Therefore, the purpose of this study was to examine women's coaching desires from the perspective of assistant women's basketball coaches. Results provided awareness of reasons why women do and do not aspire to become head coaches and provided potential solutions on improving the representation of head female basketball coaches of women's teams.

Key Words

Coaching
Women
Leadership
Basketball

The increase of women within sport has dramatically improved since the passing of Title IX. Acosta and Carpenter (2010) reported that female athletes playing college sports has risen from 16,000 in 1968 to over 180,000 in 2010. The number of women's teams per school has also grown from 2.5 in 1970 to 8.64 in 2010. Although a number of opportunities have provided women to participate in sport, the percentage of female coaches of women's teams has continued to decline over time and is at its lowest in history (Acosta & Carpenter, 2010). For example, head coaches of women's teams have dwindled from 90% in 1972 (9 out of 10 coaches women's teams) to 42.6% (less than 1 out of 2 coaches) in 2010 (Acosta & Carpenter, 2010). All sports besides crew/rowing, equestrian, soccer, and synchronized swimming have experienced a decline in female coaches for a variety of reasons (Acosta & Carpenter, 2010). Basketball is one sport of particular interest to the researcher that has experienced a decline in female coaches.

Representation women's Head Basketball Coaches

The representation of females among the coaching ranks of women's intercollegiate athletic basketball teams is at an all time low. Among all NCAA basketball divisions (I, II, III), female coaches of women's basketball teams have declined from 79.4% in 1977 to 60.8% in 2010 (Acosta & Carpenter, 2010). The overall

decline among divisions show very little variation with Division I decreasing from 72.2% in 1992 to 57.0% in 2010, Division II 51.4% in 1992 to 47.5% only in 2010, and Division III 63.9% to 54.8% in 2010. The overall decline of female coaches of women's basketball teams among all divisions has been tracked since 1977 and clearly show a 19.5% decline (Acosta & Carpenter, 2010). In addition, Division I is the lowest with a 15.2% decline and therefore is of most interest to the researchers.

Coaching Desires

The research on female assistant coaches of women's teams needs to be examined to help understand this decline in female head coaches. Studies have identified reasons why women desire to become a head coach of women's teams including salary increase, control of time/schedule, the challenge, career advancement, recognition and prestige (Sagas, Cunningham, & Ashley, 2000). Other researchers have also identified reasons why women do not aspire to become a head coach (Sagas, Cunningham, 2004). These reasons include too much pressure to win, less stress as an assistant coach, loyalty to current coach or team, content with their current situation, lack of job security (Sagas, Cunningham, & Ashley, 2000); the presence of an old boys' network (Acosta & Carpenter, 1985; 1988); work-and career-related variables (Sagas & Ashley, 2001; Sagas & Cunningham, 2004), time constraints (Hart, Hasbrook, & Mathes, 1990); career related burnout (Pastore, 1991); discriminatory hiring practices (Lovett & Lowry, 1994); lack of female mentors (Kilty, 2006); and lack of experience (Sagas, Cunningham, & Ashley, 2000).

In addition, a significant amount of research on the women's decline in head coaching positions has been related to the lack of desire of women to pursue a head coaching job (Sagas, Cunningham, & Ashley, 2000). Sagas, Cunningham and Ashley (2000) found that Division I assistant coaches of women's teams had a much lower score than men when it came to career aspirations of becoming a head coach. Sagas (2000) conducted a follow up study on a different sample of Division I assistant coaches which also supported that women had fewer aspirations toward becoming a head coach than men.

All of these factors help explain possible reasons of why assistant coaches of women's team have the desire or do not have the desire to become a head coach. However, all of these studies have focused on multiple sports. Limited studies have focused on factors that influence the coaching desires of female assistant basketball coaches to aspire to become a head coach of women's basketball teams. Therefore, the purpose of this study was to examine the coaching desires of assistant female basketball coaches to become or not to become head basketball coaches. More specifically, the study focused on using qualitative measures and two research questions:

1. What factors influence the decision of female assistant basketball coaches of women's teams to desire to become a head coach?
2. What factors influence the decision of female assistant basketball coaches of women's teams to not desire to become a head coach?

Thus, this study may add to the literature where there is a void in terms of focusing specifically on female assistant coaches of women's basketball teams and broadens the scope of the specific methods used to determine those factors.

Methodology

Participants

Approximately 650 National Collegiate Athletic Association (NCAA) Division I female assistant basketball coaches from 325 universities were asked to participate in the study. The *National Directory of College Athletics* provided the mailing list of all female assistant basketball coaches of women's teams (NACDA, 2010). One hundred and sixty four (n=164) female assistant coaches of women's Division I basketball teams responded to the survey.

Of the 164 responses, the majority of the assistant coaches were between the ages of 35-44 (54.4%), followed by 28.6% between the ages of 45-54, 8% between the ages of 25-34, 7.4% greater than 65, and 2% less than 24. All respondents held a Bachelors degree, 60% of the respondents held a Masters, and 1% held a Doctorate. The majority of respondents were white females (65%), followed by African American (26.6%), Hispanic (2.8%), other (4.2%). There was at least one respondent from all 32 conferences with 6.99% coming from the Big 10 and Atlantic 10 conferences.

Procedures

The researchers utilized recommendations by Dillman (2007) in obtaining their data. First, the researchers mailed a letter and a modified version of the *Profiles of Mentors in Sport* (Bower, 2007) survey to all participants in April. April was chosen because it was before recruiting camps began and followed by post season tournament play, March Madness. Second, all non-respondents were mailed a postcard two weeks following the first mailing. Finally, the researchers decided to post the survey online using Survey Monkey and sent a postcard two weeks later to all remaining non-respondents. The participants completed the survey and submitted via Survey Monkey.

Instrument

The researchers utilized the *Profiles of Mentors in Sport* survey (Bower, 2007) to solicit responses in identifying factors influencing a female's decision to become a women's head basketball coach. An expert

panel consisting of sport management professors examined the survey instrument for content validity and avoidance of biased items. The survey was utilized in previous studies by Bower (2007) and Bower and Hums (2008; 2009). The *Profiles of Mentors* in Sport survey included demographic (information on age, educational background, income, and race) and open-ended questions related to mentoring and factors influencing the desire to become a head coach. The specific data retrieved from the survey included open-ended questions related to factors influencing the desire to become a head coach.

Data Analysis

The researchers utilized SPSS 18.0 to calculate the means and standard deviations for the demographics. The qualitative data was analyzed using Wolcott's (1994) four-step approach. First, the data were organized by utilizing HyperResearch 2.8. Second, the qualitative responses from the participants were read and reread. Third, the constant comparative analysis was used "to identify similarities and differences among the data through coding and sorting into appropriate categories" (Rossman & Rallis, 2003, pg. 273). Finally, the researchers coded the data looking for themes that emerged through intensive analysis and categorization of the data.

Trustworthiness of the Data

Trustworthiness of the data was strengthened by using multiple strategies introduced by Lincoln and Guba (1985). First, credibility or internal validity was established through "authenticity" of the data or what Neuman (2005) described as a "fair, honest, and balanced account of social life from the viewpoint who lives it every day" (p. 31). For example, the interview questions were used in prior studies (Bower, 2007; Bower & Hums, 2008; 2009). The questions were modified for assistant women's basketball coaches and then reviewed by sport management professionals. In addition, the constant comparative analysis was used to strengthen the validity. Categories were established by placing participant responses or actions into broad classifications which eventually cultivated into themes.

Second, transferability or external validity was established through comments provided by the assistant basketball coaches supporting the themes. Lincoln and Guba (1985) indicate transferability is the ability of other researchers to understand and transfer the findings to another group of individuals.

Participant comments enabled readers to transfer information to other settings and determine whether the findings can be transferred because of shared characteristics (Erlandson, Harris, Skipper, & Allen, 1993).

The examples of participant comments are found in the results section of the paper.

Dependability or reliability was accomplished through the use of researcher debriefing (cite). Researcher debriefing included each researcher examining the data and meeting to discuss the themes and categories. After several meetings amongst the researchers, a final consensus of the themes and categories were determined. Confirmability or objectivity was based on the researchers' ability to limit bias by not making any premature conclusions on the themes and/or categories, by reading and rereading the data, using the constant comparative analysis, and the researchers debriefing (cite).

Results and Discussion

The Desire to Become a Head Coach

The qualitative responses led to some interesting themes towards factors influencing the decision of female assistant basketball coaches of women's teams to desire to become a head coach. The desirable factors cultivated into four themes which included the following: (a) the ability to mentor, (b) the job itself, (c) promotional opportunity, and (d) self-efficacy.

The Ability to Mentor. The assistant women's basketball coaches described the ability to mentor assistant basketball coaches as the most important reason to desire to become a head coach. The term mentor describes a "relationship between a younger adult and an older, more experienced adult [who] helps the younger individual learn to navigate the adult world and the world of work" (Kram, 1985, p.2). The responses from one coach illustrated her understanding of this definition when she said, "I have seen the impact a head coach can have on the lives of others, the assistants, players, and fans at large."

Another component to mentoring consisted of career and psychosocial functions. The career functions (sponsorship, exposure and visibility, coaching, protection, and challenging assignments) supported the enhancement of young women's abilities to advance within an organization (Kram, 1985). For this study, responses related to coaching was the only career function mentioned by the coaches. More specifically, the coaching functions were related to the ability to provide knowledge, feedback, and skills and in becoming better individuals on and off the court. A coached explained, "I have the ability to provide knowledge and skills, as well as productive feedback as a coach." Another coach said, "I have something to offer assistant basketball coaches. I have the desire to provide them with the skills to teach the game of basketball and to share my knowledge from all my experiences."

The psychosocial functions (role modeling, acceptance and confirmation, counseling, and friendship) support interpersonal aspects and refer "to those aspects of a relationship that enhances an individual's sense of competence, identity, and effectiveness in a professional role (Kram, 1985, p. 32). For this study, responses related to acceptance and confirmation_were was the only psychosocial function mentioned by the coaches. In acceptance and confirmation, the mentor expresses confidence, creates mutual trust, confirms individual abilities, and lends encouragement and support. A coach explained, "I have the ability to motivate and make players work together." In addition another coach said, "I have the ability to instill confidence in improving their game."

The Job Itself. The coaches within this study aspire to become a head coach because of the job itself. The perception of the job may lend itself to the overall satisfaction of the job. This perception of job satisfaction has been well-documented. Herzberg (1966) provided supporting evidence of the two-factor theory. The two-factor theory suggests that only job content-related facets (achievement, supervision, responsibility, the job itself, compensation, security and working conditions) lead to job satisfaction. The job content-related facet that was discovered most often within this study was the job itself. According to Singh and Surujlal (2006), there are specific variables that may be related to the job itself. Items mentioned within the Sing and Surujlal's (2006) research that were similar to this study were opportunities to work independently, freedom to use their own judgment in coaching, the meaningfulness of the job, and the chance to try their own teaching methods. For example, the coaches in this study aspired to become a head coach because of the opportunity to use their own judgment and methods of coaching such as with this response, "I like knowing how appreciative I am of good coaching and gathering my own do's and don'ts and wanting to implement them." Another coach mentioned, "I have the ability to put forth my ideas and coaching philosophies." Finally, the majority of coaches related their desire to become a head coach because their passion and love for the game. This passion and love for the game may contribute to their perception that they would be satisfied in a head coaching capacity. A coach mentioned,

I am so in love with basketball; so, getting paid to be around it is amazing. Not many people love their jobs. Although being a head coach is extremely stressful, I know that once I am given the chance, I will never want to do anything else.

The results of this study supports Herzberg's (1966) two-factor theory and the variable identified by Sing and Surujlal (2006) in explaining the women's desires to become a head coach. More specifically, the women may have the perception that they are going to derive satisfaction in performing the coaching task itself.

Promotional Opportunity

According to researchers, promotional opportunities may be one of the most important features of a job (Carless, 2005; Won & Chelladurai, 2008). Promotional opportunities are closely related to a more challenging job, better compensation, and public recognition (Trank, Rynes, & Bretz, 2002). The women in this study focused their aspirations to become a head coach on their desire to run their own program which was a challenge for them. For example, a coach mentioned,

> I desire to run a program from the ground-up. I feel experienced enough now to hold a head coaching position with an increase in responsibility and an increase in salary. I have previous experience as a head coach and I am looking for the challenge at the DI level.

Another woman mentioned,

> I love the game and love to achieve goals – the highest goal in this profession is to have your own program where I am able to analyze "right" and "wrong" ways of leading. The next step up is a challenge but an opportunity to advance and fulfill a life-long desire to become a head coach.

Other women focused on the natural progression going from an assistant coach to a head coach.

The "stepping stone" or natural progression to a head coaching job is not an uncommon motivator to career aspirations of women wanting to become a head coach (Sagas, Cunningham, & Ashley, 2000). For instance, a woman mentioned, "I have a number of years as an assistant coach and it is a natural progression to be promoted to a head coach. It is all a part of my career plan." Another coach focused on her career path as well,

> "My desire to become a head coach is the next step in my career path. I have been an assistant coach at the Division I level for over 10 years. It is only logical, to me, that I move toward becoming a head coach soon, because I have the experience and knowledge needed."

The interesting aspect of the promotional opportunity results is the fact that women did not focus on monetary compensation. The literature supports that pay along with the promotional opportunity is an important job attribute (Aiman-Smith, Bauer, & Cable, 2001). Researchers indicate that coaches within intercollegiate athletics find their jobs are low paying but expectations for performance are high (Southall, 2001). However, researchers have also identified that lack of financial incentives was not a possible diversion in the desire to become a head coach (Sagas, Cunningham, & Ashley, 2000). The women within this study viewed pay as less important, which also supported the research by Sagas, Cunningham, and Ashley, 2000.

Self-Efficacy. The final category for the coaches desire to become a head coach is self-efficacy. Self-efficacy is an aspect of Bandura's (1977, 1986) social cognitive theory that refers to "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1977, p. 194). When applying this model to coaching, individuals with high coaching self-efficacy perceive they have the ability to be a head coach. The coaches provided plenty of responses illustrating their experience as the key to their ability to perform the job of a head coach. A coach explained, "I feel experienced enough now to hold that position and increase in responsibility". Another coach said, "I feel experienced enough now to hold that position. I have a competitive mindset and have the desire to organize and run my own program."

The coaches' responses support the research by Cunningham, Sagas, and Ashley (2003) that indicated coaching self-efficacy was a significant predictor of the desire to become a head coach. Essentially, the women believed they could handle the job and were inclined to aspire to become a head coach.

Lack of Desire to Become a Head Coach

As it is important to discuss the reasons for female assistant coaches to aspire to become a head coach, it is also important to identify those reasons why women are not attracted to a head coaching position. The qualitative responses led to some interesting themes towards factors influencing the decision of female assistant basketball coaches of women's teams for not desiring to become a head coach. The non-desirable factors cultivated into categories which included the following: (a) balancing work and personal life, (b) increased stress, and (c) content as an assistant coach.

Balancing Work and Personal Life. One of greatest

demands on a woman trying to make a career in college coaching is the very high time demands both inside (long hours, weekend practices, competitions out of town) and outside of season (primarily recruiting). Women may perceive these time constraints as a barrier in the pursuit of a head coaching position because of lack of ability to balance work and personal life (Sagas, Cunningham, & Pastore, 2006). For example a coach said,

> "Family is the number one reason why I do not aspire to become a head coach. I have two young children and the support resources and understanding of family life is lacking in the coaching profession for women."

Another woman confirmed the notion that a common barrier to pursuing a head coaching job is the lack of ability to balance work and personal life by expressing her opinion,

> "I do not like the lifestyle of head coaching. The profession of head coaching will not allow me to raise a family. I want to settle down and have a family. I want to have a balanced life which I will not be able to do in a head coaching position."

The barrier of balancing work and personal life has been identified as having a negative impact (Kilty, 2006; Raedeke, Warren, & Granzyk, 2002; Sagas, Cunningham, & Pastore, 2006) or no impact (Sagas, Cunningham, & Ashley, 2000) on a woman's decision to aspire to become a head coach. The results of this study support numerous studies where women do not aspire to become a head coach because the profession interferes with personal and family time (Kilty, 2006; Raedeke, Warren, & Granzyk, 2002; Sagas, Cunningham, & Pastore, 2006).

Increased Stress. Coaching has long been considered a highly stressful occupation where there are significant sources of pressure that result from trying to meet external standards of excellence or pressure to win, dealing with boosters, patrons, fans, and parents, coaching highly visible team sports, and the pressure coaches place upon themselves. These psychologically taxing pressures have been identified as reasons why women do not aspire to become a head coach (Sagas, Cunningham, & Ashley, 2000).

Women within this study supported the theory that women perceive that with a head coaching job comes an increased amount of pressure leading to stress. For example, women constantly mentioned stress as a deterrent to aspiring to become a head coach, including comments such as:

> "Stress is the reason I do not want to become a head coach. There is just too much pressure being a head coach. You are never off as an assistant so who wants all of that added stress as a head coach."

Other women focused on the increased pressure to win that was associated with coaching, "I do not aspire to become a head coach because there is an increased stress involved with head coaching and the increased pressure to win associated with the position. There is also a lack of job security".

Stressed-induced situations, such as dealing with people, was another factor that women believed would come with the head coaching job, and one that they did not want to deal with. A coach mentioned, "I do not like the pressure of confrontations that are not popular such as dealing with the fans when you do not win or the referees when they make a bad call".

Content as an Assistant Coach. Research has shown that a significant amount of women do not desire to apply for a head coaching position because they are content as an assistant coach (Sagas, Cunningham, & Ashley, 2000). The women's responses in this study also supports that women were content as an assistant coach. For example, one coach said, "I love what I do as an assistant and I do not want to have all the decisions to make". Another coach mentioned, "I have been an assistant coach for 18 years and do not wish to transition from assistant coach to head coach." Finally, a coach also indicated her contentment as an assistant coach by saying, "I have found happiness in my current role. . . I enjoy being an assistant and handling the duties of helping the head coach".

Implications and Future Research

This study provided some important implications that may be used by assistant coaches, head coaches, and administrators (e.g., athletic director and assistant athletic director). As illustrated the desire to mentor is significant to the results of this study. Several

researchers have recognized the importance of mentoring as one of the best ways to develop a coach (Bloom, Durand-Bush, Schinke, & Salmela, 1998). A formal mentoring program such as the Motivational Interviewing (MI) model (Rollnick & Miller, 1995) for mentoring has been shown to be effective in assisting female coaches manage work life transitions (Kilty, 2005). MI is a goal-oriented strategy that helps work with females to prepare for changes in their lives when they have children, job structure, succession planning and to clarify readiness to become a head coach (Kilty, 2005). Future research may consider a study of using the MI model with assistant female coaches within a variety of women's sports.

There are also implications from this study that provide a review of reasons why women do not desire to become a head coach. These reasons help to provide awareness and review of possible solutions for intercollegiate athletic departments. Balancing work and personal life can become better with a supportive family while having a network of friends and relatives willing to help. Women need to learn to delegate, ask for and accept help. In addition, women may consider emulating the male counterpart in bringing their families on recruiting trips and, at times, work.

Mentoring may also help to alleviate the increased stress that was identified as a reason why women do not aspire to pursue a head coaching position. In addition, the increased stress may be due to anxieties such as pressures of winning and dealing with boosters, patrons, fans, and parents, coaching highly visible team sports, and the pressure coaches place upon themselves. Therefore, intercollegiate athletic departments may also help by introducing coping strategies for women assistant coaches when confronted with stressful situations. Future research may examine what coping strategies may work in helping female assistant coaches of women's teams.

Conclusion

The present study focused on the examination of women's coaching desires from the perspective of assistant women's basketball coaches. In addition to focusing specifically on women's basketball the study also used a qualitative approach. The results only found one difference than the studies that focused on multiple sports using a quantitative method approach. Those findings were related to the assistant coaches having the desire to mentor others in becoming a head coach. This finding is significant considering there is a limited amount of female mentors in head coaching positions which could help women advance within leadership position in sport (Kilty, 2006; Weaver & Chelladurai, 2002, 1999). This lack of female mentors provided a new and upcoming assistant coach the lack of guidance in assigning challenging assignments, establishing networks, and providing exposure and visibility specifically for women. The results of this study seem promising because women desired to become a head coach to mentor young women. If this theme continues there may be an increase in women in head coaching positions because research has established that female athletes with women coaches are more interested in the coaching field than those with male coaches (Everhart & Chelladurai, 1998).

The other results related to the reasons why assistant coaches desire (job itself, promotional opportunities, self-efficacy) and reasons not to desire (balancing work and personal life, increased stress, content as an assistant coach) to become a head coach did not show any difference than previous results related to multiple sports and the use of quantitative methods. However, it is important to continue to provide awareness of the reasons why women do not aspire to become head coaches so as to improve on the implementation of potential solutions. Thus, it is recommended that intercollegiate athletic departments consider implementing these potential solutions with the hopes of improving the representation of women in head coaching positions.

References

Acosta, V., & Carpenter, L. (1985). Status of women in athletics: Changes and causes. *The Journal of Physical Education, Recreation, and Dance, 56*, 35-37.

Acosta, V., & Carpenter, L. (1988). *Perceived causes of declining representation of women leaders in intercollegiate sport*. Brooklyn, NY: Brooklyn College.

Acosta, V., & Carpenter, L. (2010). Women in intercollegiate sport: A longitudinal, national study: Thirty-three year update 1977-2010. Retrieved on February 27, 2010 from http://www.womenssportsfoundation.org/cgibin/iowa/issues/part/article.html?record=117

Aiman-Smith, L. Bauer, T. N., & Cable, D. M. (2001). Are you attracted? Do you intend to pursue? A recruiting policy-capturing study. *Journal of business and Psychology, 16*(2), 219-237.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

Bandura, A (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice – Hall.

Bloom, G. A., Durand-Bush, N., Schinke, R. J., & Salmela, J. H. (1998). The importance of mentoring in the development of coaches and athletes. *International Journal of Sport Psychology, 29*, 267-281.

Bower, G. G. (2007). Factors influencing the willingness to mentor first year faculty in Physical Education Departments. *Mentoring & Tutoring, 15*(1), 73-85.

Bower, G. G., & Hums, M. A. (2008). Mentoring young women for success as international physical educators. *ICHPER-SD Journal of Research, 3*(2), 70-75.

Bower, G. G., & Hums, G. (2009). Mentoring women within international physical education departments. *Women in Sport and Physical Activity Journal,* 18(2), 3-13.

Carless, S. A. (2005). Person-job fit versus person-organization fit as predictors of organizational attraction and job acceptance intentions: A longitudinal study. *Journal of Occupational & Organizational Psychology, 78*(3), 411-429.

Cunningham, B.G. , Sagas, M. & Ashley, F. B. (2003). Coaching self-efficacy, desire to become a head coach, and occupational turnover intent: Gender differences between NCAA assistant coaches of women's teams. *International Journal of Sport Psychology, 34*, 125-137.

Dillman, D. (2007). *Mail and internet surveys: The tailored design: 2007 update with new internet, visual, and mixed mode design*. Hoboken, New Jersey: Wiley, John, & Sons, Incorporate.

Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage.

Everhart, C. B., & Chelladurai, P. (1998). Gender differences in preferences for coaching as an occupation: The role of self-efficacy, valence, and perceived barriers. *Research Quarterly for Exercise and Sport, 69*(2), 188-200.

Kilty, K. (2005, August). *Enhancing women's ability to perform as coaches*. Symposium conducted at the meeting of the American Psychological Association. Washington, DC.

Kilty, K. (2006). Women in coaching. *The Sport Psychologist, 20,* 222-234.

Hart, B. A., Hasbrook, C. A., & Mathes, S. A. (1986). An examination of the reduction in the number of female interscholastic coaches. *Research Quarterly for Exercise and Sport, 57*, 68-77.

Herzberg, F (1966). Work and the Nature of Man, World Publishing Co., Cleveland, OH.

Kram, K. E. (1985). *Mentoring at work. Developmental relationships in organizational life*. Glenview, IL: Scott Foresman.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Lovett, D. J., & Lowry, C. (1994). "Good old boys" and "good old girls" clubs: Myth or reality? *Journal of Sport Management, 8*, 27-35.

Neuman, W. L. (2006). *Social research methods: Qualitative and quantitative Approaches*. Boston, MA: Allyn and Bacon.

Raedeke, T. D., Warren, A. H., & Granzyk, T. L. (2002). Coaching commitment and turnover: A comparison of current and former coaches. *Research Quarterly for Exercise and Sport, 73*, 73-86.

Rollnick, S., & Miller, W. R. (1995). What is motivational interviewing? *Behavioral and Cognitive Psychotherapy, 23*, 325-334.

Rossman, G. B., & Rallis, S. F. (2003). *Learning in the field: An introduction to qualitative research, 2nd edition*. Thousand Oaks, CA: Sage Publications.

Sagas, M. (2000). Gender differences in the desire to head coach: The role of organizational commitment work experiences, and turnover intent in a sample of NCAA Division I assistant coaches. Paper presented at the annual conference for the North American Society of Sport Management, Colorado Springs, CO.

Sagas, M., & Ashley, F. B. (2001). Gender differences in the intent to leave coaching: The role of personal, external, and work-related variables. *International Journal of Sport Management, 2*, 297-314.

Sagas, M., & Cunningham, G. B. (2004). Does having the "right stuff" matter? Gender differences in the determinants of career success among intercollegiate athletic administrators. *Sex Roles, 50*, 411-421.

Sagas, M., Cunningham, G., & Ashley, F. B. (2000). Examining the women's coaching deficit through the perspective of assistant coaches. *International Journal of Sport Management, 1*, 267-282.

Sagas, M., Cunningham, G., & Pastore, D. (2006). Predicting head coaching intentions of male and female assistant coaches: An application of the theory of planned behavior. *Sex Roles, 54*, 695-705.

Singh, P. C., & Surujlal, J. (2006). Factors affecting the job satisfaction of South African sport coaches. *South African Journal for Research in Sport, 28*(1), 127-136.

Southall, R. M. (2001). *A study of organizational culture of Mountain West Conference-intercollegiate athletic departments*. Unpublished doctoral dissertation. University of Northern Colorado.

Trank, C. Q., Rynes, S. L., & Bretz, R. D. (2002). Attracting applicants in the war for talent: Differences in work preferences among high achievers, *Journal of Business and Psychology, 16*(3), 331-345.

Weaver, M. A., & Chelladurai, P. (1999). A mentoring model for management in sport and physical education. *Quest, 51*, 24-38.

Weaver, M. A., & Chelladurai, P. (2002). Mentoring in intercollegiate athletic administration. *Journal of Sport Management, 16*, 96-116.

Wolcott, H. F. (1994). *Transforming qualitative data: Description, analysis, and interpretation*. Thousand Oaks, CA: Sage.

Won, D., Chelladurai, P. (2008). Attractiveness of sport management jobs and their attributes. *International Journal of Sport Management, 9*, 81-101.

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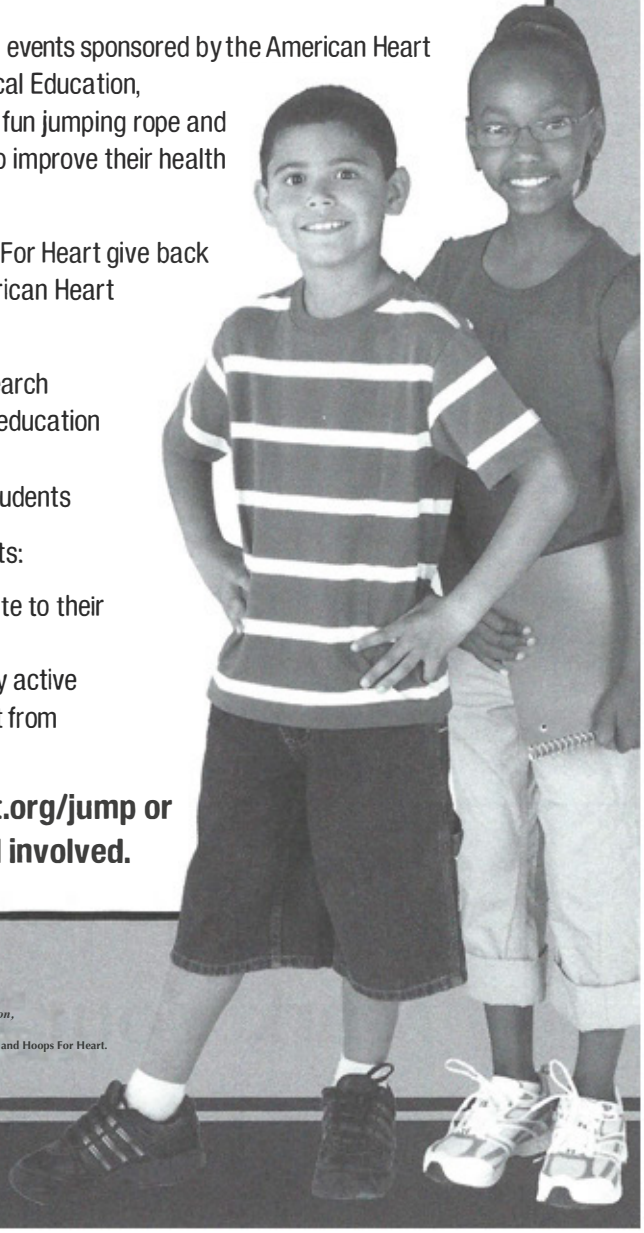

American Alliance for Health, Physical Education, Recreation and Dance
AAHPERD is a proud program partner of Jump Rope for Heart and Hoops For Heart.

A Responsibility We All Share: Advocating to Achieve Healthy Change

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As health and physical educators, we have a responsibility to our students, our profession, ourselves, and future generations of American school children - the responsibility to advocate. We must advocate for health and physical education in the schools and a healthy school environment for the children of today and tomorrow. It often may seem easier to sit idly, believing your voice is not strong enough or will have no impact. However, sitting on the sidelines is no longer an option. We are part of a profession that is struggling to survive in a time of budget shortfalls, decreased time during the school day for health or physical education, and some educators who fail to provide quality education for our students. Though many are hopeful that a renewed national emphasis on health and physical education will begin to turn the tide for educators in our field, change will not occur overnight nor will it be without a focused effort. Recently launched nationwide initiatives such as the *National Physical Activity Plan* supported by the US Dept. of Health and Human Services and the *Let's Move!* campaign supported by First Lady Michelle Obama, are perfect examples of new campaigns about which we should be educating ourselves and our communities, along with determining how we can use these to improve the health of our students and communities.

Advocacy is defined as "the process by which the actions of individuals or groups attempt to bring about social and/or organizational change on behalf of a particular health goal, program, interest, or population" (Joint Committee on Health Education and Promotion Terminology, 2002, p. 3). As outlined in the *American Association for Health Education 2008 NCATE Health Education Teacher Preparation Standards (*American Alliance for Health, Physical Education, Recreation and Dance, 2010) and the *National Standards and Guidelines for Physical Education Teacher Education* (National Association for Sport and Physical Education, 2009), along with the *Responsibilities and Competencies for Entry-Level Health Educators* (National Commission for Health Education Credentialing, 1996) and *Code of Ethics for the Health Education Profession* (Association for the Advancement of Health Education, 1994), advocacy also is a professional responsibility. Most of us know about this responsibility for health and physical educators, yet we often fail to participate on the level we should, if any level at all. Why is it so difficult for professionals in these arenas to dedicate themselves to advocacy? There are any number of reasons it may be difficult to advocate effectively, but it is a necessity and, once one learns how, can be quite fulfilling.

Ways you can practice advocacy

Practicing advocacy is not nearly as

difficult as many may believe. Here are a few simple techniques to get started.

E-mail your legislator or other decision-maker: The easiest way to get involved for many is simply to send an e-mail message to the decision-maker one wishes to influence. For those who participate in listservs such as those through professional or non-profit organizations, these message often are composed for you and it takes only a few edits or personalization techniques to make the message your own before sending. The more personalized you make the message, the more likely you are to get a response. Try to include a personal story or data specific to your community so the message looks less like a forwarded form letter and more like a personal effort.

Hand write or type a personal letter: Many decision-makers receive an inbox full of e-mail each day, but get many fewer personal messages in their postal mailboxes. The more effort it appears you put into the contact you are making, the higher priority decision-makers often place on your communication. Taking the time to hand write a letter shows you feel passionately about the message being sent. For every personal letter or phone call received, decision-makers assume there are many more people with the same opinion.

Make a phone call: Though some may find it intimidating to pick up the phone to make a personal call, it is important to remember that all elected officials were placed in office to represent the needs of their constituents. If representatives do not hear from those they represent, how can officials be expected to carry out the wishes of those constituents? To help make this duty less intimidating, here are a few tips that can make the task easier. First, carefully plan what you would like to say and how to concisely convey the message in an educated manner. Next, write an outline to which you can refer while on the phone. People often get flustered while on the phone with the decision-maker or representative and forget what they wished to say. Having the outline, or even specific sentences, in front of you can help avoid this occurrence. Lastly, always thank the individual for taking the time to speak with you and make sure he/she has your contact information. Though many may shy away from calls or e-mails to decision-makers, it is important that key figures be able to contact people educated about the specific topic at hand, should questions or further needs arise. Stepping up as a resource person for your representatives or other key leaders may offer the chance to truly impact significant change.

Teach advocacy through course assignments: Regardless of the level at which you teach, advocacy is an important skill to develop in your students. For those teaching at the elementary level, it is possible to address Health Education, Physical Education and Language Arts standards by having students write letters to decision-makers in the school or community asking them to improve the health or physical activity environment. This same technique can be used for middle and high school students. By this time, students are also prepared to learn how their voices can influence change at the state or national level. Again, the students can write letters or possibly participate in an advocacy event that includes the opportunity to meet their locally elected representatives. Students have the opportunity to discuss the impact of positive programming and ways to improve the health and physical activity environment with their representatives. For college students, there exist boundless ideas. Pre-service teaching majors must be educated how to advocate and given the opportunity to practice the skill within their training programs. One possible advocacy topic includes having them write letters or make calls to the State Department of Education encouraging more physical activity in the school day. Something else on which to focus may be requesting that health and physical education questions be included on state testing materials. Another topic might be attending a school board meeting to support health and physical education areas scheduled for budget or teaching position reductions. Students in higher education can create advocacy materials for P-12 educators such as public service announcements, posters, newsletters, brochures. Students at the college or university level can also bring new technology and teaching strategies to schools through their field placements.

Support professional or non-profit organizations that participate in advocacy: It is important to be involved in advocacy on a personal level, but an additional possibility to influence change is through supporting non-profit organizations that actively advocate for health and physical activity issues. Support can be both financial and/or through volunteerism. Get involved in your local, state, or national professional organizations. Membership in your state professional organization (Indiana Association for Healthy, Physical Education, Recreation and Dance, IAHPERD) should be the minimum expectation for Indiana Health and Physical Educators. IAHPERD provides many resources and opportunities for supporting health and physical education at all levels. Simply belonging to a coaching

organization does not support the profession. Keep up to date on the concerns and successes in the health and physical activity fields by reading the organizations' newsletters, journals, websites, etc. Your dues also will help support advocacy efforts. Taking it a step further, volunteer to serve these organizations. Most organizations have a plethora of volunteer opportunities, from those requiring very little of your time to those that are more time intensive. Most websites provide contact information for the organization, so a simple phone call or e-mail is often all it takes to find ways to get involved.

Be a professional role model: NASPE (1995) defines, in part, a physically educated person as someone who is physically fit, participates in regular physical activity and values physical activity and its contribution to a healthful lifestyle. All in our profession should know and demonstrate that regular moderate-to-vigorous physical activity is important for health and disease prevention. Physical educators, knowingly or unknowingly serve as role models for their students (Hodge, 2007). Teachers are frequently considered to be the most important role models for students outside of family members (Cardinal & Cardinal, 2001). Kenny and colleagues (2003) suggest that students learn from role models by observing their behaviors. Thus, health and physical educators are critical in promoting healthy lifestyles to their students by the example they provide. Teachers can provide students with motivation for learning and making healthy choices by their actions and attitudes (Hutchinson, 2003). Teachers have a responsibility to be a good role model for the profession by being physically fit, being physically active, and valuing physical activity. Be the inspiration you wish to see in your students.

All health and physical educators share the responsibility of serving our students, our profession, our community and ultimately ourselves well by educating others about the important service we provide. However, the responsibility does not end there. All in this profession have a responsibility to conduct ourselves with the utmost professionalism on a daily basis. We need to provide the best education possible for our students, regardless of the level we teach. In health education, the focus should be on functional knowledge and skill application. In physical education, students should be participating in moderate to vigorous physical activity for as many minutes as possible and given the skills to continue this activity for a lifetime. Those educating pre-service teachers need to prepare students to teach in today's challenging educational environment, along with giving students multiple opportunities to practice advocacy skills. For those who refuse to represent the profession in a positive manner through their teaching and role modeling, perhaps it is time to suggest they select a different profession. Our children and our profession deserve the best we have to offer! The marginal actions of some often squelch the advocacy efforts of those working hard to represent the profession well. This profession takes a great amount of dedication and passion. We all share the responsibility to advocate and demand quality health and physical education for all. No longer is it acceptable to sit quietly, passively watching the health and physical education fields suffer because we are afraid to speak up or are waiting for someone else to complete the task. Educate yourself about what needs to be done, find your voice, and start practicing advocacy today.

References

2000 Joint Committee on Health Education and Promotion Terminology. (2002). Report of the 2000 Joint Committee on health education and promotion terminology. *Journal of School Health*, 72, 3-7.

American Association for Health Education. (2008). *2008 NCATE Health Education Teacher Preparation Standards*. Retrieved May 13, 2010 from: http://www.aahperd.org/aahe/events/accreditation/AAHE-NCATE.cfm.

Association for the Advancement of Health Education. (1994). Code of ethics for health educators. Journal of Health Education, 25(4), 197-200.

Cardinal, B.J., & Cardinal, M.K. (2001). Role modeling in HPERD: do attitudes match behavior? The Journal of Physical Education, Recreation & Dance, 72(4), 34-39.

Kenny, N.P., Mann, K.V., & MacLeod, H. (2003). Role modeling in physicians' professional formation: Reconsidering an essential but untapped educational strategy. *Academic Medicine*, 78, 1203-1210.

Hodge, S. R. (2007). I'm Fat and a Hypocrite: So, Physical Education Professionals, What Are You Going To Do About It? *Chronicle of Kinesiology & Physical Education in Higher Education*, 18(1), 6-7, 18.

Hutchinson, L. (2003). ABC of learning and teaching: Educational environment. *British Medical Journal*, 97, 2099-2199.

National Association for Sport and Physical Education (2009). *National Standards & Guidelines for Physical Education Teacher Education*. 3rd Edition. Reston, VA: WCB/McGraw-Hill.

National Association for Sport and Physical Education (1995). *Moving into the future: National standards for physical education. A guide to content and assessment*. Reston, VA: WCB/McGraw-Hill.

National Commission for Health Education Credentialing. (1996). *A competency-based framework for professional development of certified health education specialists*. New York: National Commission for Health Education Credentialing.

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Creating Experiential Learning Opportunities With Local Police Departments

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Experiential learning has gained great momentum in universities in the past decade. Many academic disciplines are shifting their focus from didactic education to experiential education. Kayes (2002) has noted that experiential learning approaches have been applied in many fields. Furthermore, there is an increasing acknowledgment in the science disciplines that a sole focus on phenomena that can be measured is a limiting approach to inquiry (Eisener 1997). Numerous exercise science programs require students to complete an immersion experience/internship prior to graduation. Such an experience is in line with John Dewey's (1938) "learn by doing" theory.

This article will focus on developing and implementing experiential learning opportunities for students interested in working with law enforcement officers. This profession, because of its dependence on physical fitness, provides a unique and diverse resource for students pursuing degrees in exercise science and related fields.

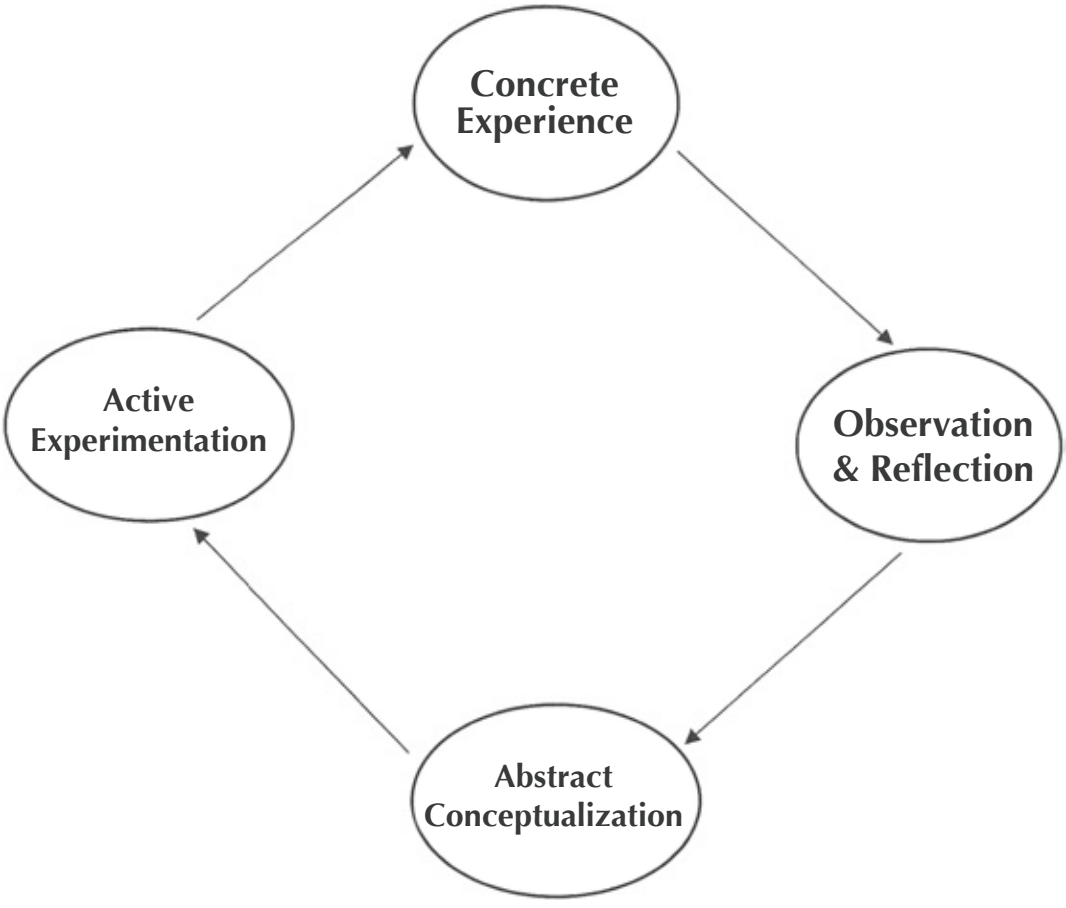
In many Universities, exercise science students are exposed to traditional populations, such as children in public schools, older adults, corporate fitness clientele, cardiac rehabilitation patients, and general fitness participants. Creating experiences with unique populations, such as law enforcement, expands the opportunities of students while increasing community engagement.

Experiential Learning

Proponents of experiential learning believe that learning is critically connected to experience and reflection (Dewey, 1938; Kaagan, 1999; Kolb, 1984; Lindsey & Ewert, 1999; Mezirow, 1991; Wink, 2000). Such a learning environment connects the learner directly with the subject being examined (Kolb, 1984). The learner, not the teacher, facilitates knowledge development (Lindsey & Ewert, 1999). Kolb's (1984) experiential learning theory (EL T) highlights four learning stages in the development of knowledge.

Kolb's (1984) four-stage model includes: concrete experience, observation and reflection, forming abstract concepts, and testing/ experimentation. In this model, a student has an experience upon which she later reflects. She will then generate abstract concepts to guide subsequent actions. These abstract concepts are then tested in various situations that, ultimately, lead to new experiences. Thus, the learner has come full circle.

FIGURE 1: Kolb's Four Stage Model



The role of the educator in experiential learning experiences is different from that in traditional lecture-based classrooms. While the educators may not be directly responsible for the learner's experiences, they must remain part of the learning equation. Educators must learn to play several roles in an experiential learning model. They must take a lead role in the organization and facilitation of the experience as well as building relationships with sponsoring organizations. Furthermore, educators must assist internship supervisors in the various organizations and settings in understanding the role they must play to ensure the situation is a win-win for the student and the sponsor. While subjective experiences are the foundation of experiential learning, there needs to be structure, foresight, and guided supervision embedded in the process.

Rapport Building

Rapport building in these situations begins long before the student shows up at the internship site. Educators and students need to spend some time researching the law enforcement profession to glean an understanding of its needs. A great first step in building relationships with this population is for the student to show he or she cares enough to investigate what physical challenges the job presents. Think of this step as being similar to the importance of a teacher learning students' names. When one takes time to care about a person individually, that person will recognize the efforts. A little time and homework go a long way in showing these professionals that they are not being approached with a "cookie-cutter" model.

Another step in the rapport building phase is to utilize existing relationships already in place in the university. For instance, begin by approaching university police or security rather than cold-calling the community police department. University police and security departments typically have a strong commitment to students already. They can be extremely valuable in helping instructors and students understand what programs would be welcomed by their profession.

These relationships at the university level can be easily extended to the community when they are fully developed. Utilizing a word of mouth networking approach not only improves the chance of establishing a mutually beneficial relationship with the organization but also teaches students the importance of human relations skills in the successful delivery of any program.

A third step in the rapport building phase is to ask each department what they need. While the fundamental fitness needs of the profession have been identified by this point, it is critical to listen to each department's individual needs. It is important to understand that many departments may not know what their needs entail or what value the university can provide. One method of successfully helping these professionals see the benefit of this relationship is to demonstrate how their performance will improve in specific situations. By researching the profession, the students then gain another, secondary, benefit. A student or instructor who can provide realistic, profession-specific examples of situations where high fitness levels would be welcomed is one step closer to securing a strong working relationship.

TABLE 1: Policing Functions and Corresponding

Fitness Components	
Sustained Foot Pursuit	Aerobic Power
Sprints	Anaerobic Power
Dodging	Aerobic/Anaerobic Power/Flexibility
Lifting and Carrying	Muscular Strength/Muscular Endurance/ Anaerobic Power
Dragging and Pulling	Muscular Strength/Muscular Endurance/ Anaerobic Power
Pushing	Muscular Strength/Muscular Endurance/ Anaerobic Power
Jumping and Vaulting	Anaerobic Power/Leg Power and Strength
Crawling	Flexibility/Muscular Endurance/Body Fat Composition
Use of Force <2 minutes	Anaerobic Power/Muscular Strength/ Muscular Endurance
Use of Force >2 minutes	Aerobic Power/Muscular Strength/ Muscular Endurance

(Reprinted from: The Cooper Institute: *Physical Fitness Assessments and Norms for Adults and Law Enforcement*. 2007: 56.)

The final step in this phase is to demonstrate to these professionals how they can help students be successful. Men and women in law enforcement are public servants and it is important to let the students know that this is a reciprocal relationship. Universities and students need the cooperation of these professionals to ensure a successful experiential learning experience.

Enriching Experiences

Law enforcement officers depend on physical fitness to perform many of their duties. As such, entry into this profession, as well as continued employment, is often based on physical fitness requirements. Such reliance on physical fitness provides a platform that universities can use for integrating various programs, such as exercise science, athletic training, and recreational management.

In addition to the variety of programs that can be utilized with the law enforcement population, the nature of the interaction can range from a one-time fitness screening service to semester-long internships. Furthermore, this population offers universities an excellent opportunity to provide cross-disciplinary experiences for students. Law enforcement officers are often receptive to students developing programs that can be performed during the course of their work day, particularly when the program has an embedded element of fitness. From these challenges, students learn to work with others, outside of their "typical" clientele, in a real-world setting. These experiences teach teamwork, cooperation, and a more global understanding as to how their particular field can be modified to fit the specific needs of an organization.

The following is an abbreviated list of experiential learning opportunities for students interested in working with law enforcement officers:

Fitness Testing:

Most law enforcement academies require recruits to pass an initial physical fitness exam for entry into the academy. This type of fitness assessment is vastly different from the fitness testing conducted with the general public. Fitness testing at this level is designed as a criterion for selection. Most exercise science students are not trained in conducting fitness testing of this nature. Traditional fitness testing is designed to ascertain the physical fitness level of the client in order to provide direction in how to improve their general health and fitness, not as a criterion that must be met.

Fitness testing used by law enforcement has a rigor of its own that must be learned through repetition with oversight from an instructor. While the training approach is similar to the protocols in which exercise science students are instructed during their coursework, it is markedly different in its delivery.

Participants in criterion-based fitness testing are more likely to push themselves to a point where proper technique is sacrificed for the sake of quantity or time. Fitness testers must adhere to strict technique protocols to ensure equity for all those testing. This demand requires a shift in delivery methods commonly used by students in the fitness field. Students must be able to focus on proper technique and equity when appropriate and be able to switch back to the encouraging, traditional fitness professional when working with the general population.

Developing Selection Criteria:

Many law enforcement departments find themselves in dire need for direction in the development of relevant selection criteria related to the fitness needs of their profession. Currently, there is no governing body that regulates what fitness standards law enforcement organizations should implement. While the Cooper Institute (Cooper, 2007) has developed general protocols, many departments are unfamiliar with fitness testing and the safety issues surrounding their delivery.

A student in exercise science could playa very valuable role in ensuring that the test is run in a proper manner in regard to fitness protocols. Students can also provide a critical service in their ability to monitor and recognize any signs of overexertion.

Providing Pre-Academy Fitness Training:

Most law enforcement academies require applicants to pass a physical fitness and/or agility test for admission. Exercise science students can gain experience in personal training or small group training while helping applicants prepare to take their entrance exam.

Academies typically conduct their fitness testing at predetermined times during the year. A specific test date forces the exercise science student to implement a periodized training regimen in a real-world setting. Students will gain valuable experience in helping clients peak at a specified time.

Developing Profession Specific Fitness Programs:

Program development is an area in which many fitness students lack familiarity before entering the profession. Offering this service to individual officers is an excellent way to provide students needed experience in program development.

The process of designing a program for individual clients encompasses the critical competencies of a skilled personal trainer. Students should conduct a thorough consultation with each client to determine their goals and job related fitness requirements. Clients should also be screened for current and past health issues and their readiness to participate in an exercise program. Finally, the student can begin to construct an individualized program that takes into account the client's needs, goals, health history, and current fitness level.

Providing Athletic Training Services:

Many police departments are hiring athletic trainers to provide injury and illness prevention, recognition, treatment, and rehabilitation services. These athletic trainers are typically contracted from local hospitals or sports medicine clinics. Arrangements can be made between the contracting organization, the police department, and the University to create experiential learning opportunities for students at the clinical site.

Athletic training students could assist in providing functional movement screening for all members of the contracted department. Such screening is designed to identify areas of concern or deficiencies in movement that if left uncorrected could result in various injuries. Other forms of preventive training could be coupled with the movement screening to lessen the chance of chronic injuries.

Injury rehabilitation is another valuable skill that athletic training students can help facilitate. Individual rehabilitation programs could increase the speed of recovery for the injured professional. This aid can lead to the professional returning to active duty sooner and thereby lessening the financial strain and shift coverage challenges for the department.

Certified athletic trainers as well as athletic training students are required to hold first aid, CPR, AED, and first responder certifications. With the appropriate direct supervision, athletic training students can assist with emergency medical coverage during department training and fitness testing. Given the physically intense and stressful nature of these tests and training scenarios, athletic training students have the potential to be exposed to a medical emergency outside of their traditional practice environment.

Internships:

The history of internships in the United States dates back to the early 1900s (Driscoll, 2006). These initial internships resembled the European apprenticeship model that appeared in Europe as early as the nineteenth century (Snell, 1996). The traditional apprenticeship model has lost much of its popularity in the United States over the past few decades. However, the resurgence of Dewey's (1938) theory of "learning by doing" has, once again, illuminated the benefits of experiential learning in a student's development.

Internships offer exercise science students a learner-centered educational experience. Such an immersion process exposes students to workplace environments, professional expectations and obligations, and workplace norms (Wynn, 2003). This involvement is in line with Kolb's (1984) stance that these learning environments connect the learner directly with the subject being examined.

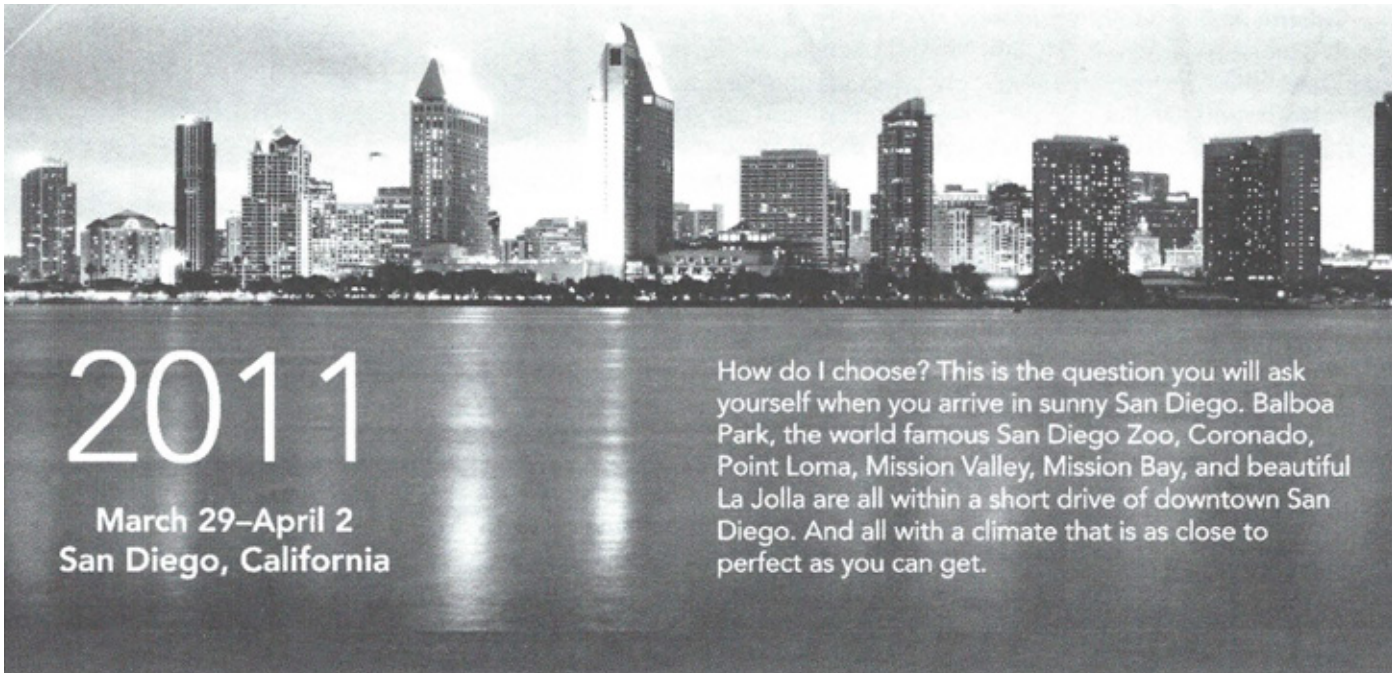
TABLE 2: Experiential Learning Opportunities with Police Departments

1. Fitness Testing
2. Developing Selection Criteria
3. Providing Pre-Academy Fitness Training
4. Developing Profession-Specific Fitness Programs
5. Providing Athletic Training Services
6. Internships

Experiential learning opportunities with police departments expand the possibilities for exercise science students and can strengthen the relationship between the university and the community. A well-developed experiential learning experience is a mutually beneficial arrangement between the student and the organization. Students gain valuable experience in a real world setting while organizations receive quality services at low to no costs.

A substantial challenge for educators is to design a curriculum that provides opportunities for experiential learning throughout a student's academic career. Unfortunately, most students' only experience with experiential learning is during their internship. Pimentel (1999) encourages multiple exposures to tangible learning contexts rather than abstracted knowledge for optimal learning to take place. While the challenge to implement such experiential learning opportunities is formidable, the benefits are worth the effort. The goals, needs, and organizational structure of police departments make them a great learning laboratory for developing numerous experiential learning opportunities for students.

FUTURE AAHPERD NATIONAL CONVENTIONS



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Boston, Massachusetts

Boston is a city rich in history and culture and offers something for everyone. Eat clam chowder at historic Faneuiel Hall, stroll through one of the many bookstores in Harvard Square, shop the chic boutiques on Newbury St., cheer on the Red Sox at Fenway Park, or simply stroll along the Charles River. Don't miss a walk along the two-and-a-half-mile Freedom Trail which is one of the best ways to get acquainted with Boston and to efficiently visit the city's bounty of historic landmarks.

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April 21-27
St. Louis

Meet me in St. Louis, the gateway to the west. Here you can take in the view from the top of the Arch, America's tallest manmade monument, observe nature's power at the confluence of the Missouri and Mississippi rivers. You can get up close and personal with the Clydesdales and tour the historic Anheuser-Busch brewery, or cheer for one of the home teams, including baseball's Cardinals, the Rams football or the Blues hockey team. In the evening enjoy some authentic blues and jazz at one of many St. Louis night spots.

Guidelines for Authors

This journal is published in May, September, and February by the Indiana Association for Health, Physical Education, Recreation, and Dance. Articles that share opinions and ideas, as well as those based on serious scholarly inquiry are welcomed and encouraged. Each article scholarly article is reviewed by the editor and at least two reviewers who are selected on the basis of areas of interest and qualifications in relation to the content of the article.

Preparing Manuscript

Manuscripts are to conform to the Publication Manual of the American Psychological Association (APA, 6th ed.) style. To facilitate the review process, the author(s) should use double-spaced type and include line numbers as well as page numbers. Papers must not exceed a total of 28 pages including references, charts, tables, figures, and photographs. There should be an abstract not to exceed 500 words. Further, all charts, tables, figures, and photographs will be after the references. Papers deviating from the recommended format will not be considered until they are revised.

Electronic Submission

Electronic submission of manuscripts is required at thomas.sawyer@indstate.edu . The manuscript order is: (1) blind title page, (2) abstract, (3) key words, (4) text, (5) references, (6) author notes, (7) footnotes, (8) charts, (9) tables, (10) figure captions, and (11) figures. The cover letter will be a separate file. Including author(s) name and affiliation and contact information of corresonding author.

Send it in
...to the Editor

A new idea that you have penned,
Share it with a Indiana AHPERD friend.
On the Journal pages, let it end.
We sure do want it... send it in!
It may be an article you did write
In sheer frustraton one weary night.
But, someone else it may excite.
...Send it in.
Is it a cartoon that you have drawn?
Did you compose a unique song?
Could our whole profession sing along?
...Well, send it in.
Some folks are inspired by poetry
And works of art let others see
The inner thoughts of you and me.
Please, send it in.
Then, there are works that scholars do,
Great research... we need that, too.
But, you know we must depend on YOU
To send it in.
Won't you share with us your thought
That we all just may be taught?
My, what changes could be wrought
If you'd just send it in.

Tom Sawyer
Indiana AHPERD Journal Editor

Cover Letter

The cover letter must include all contact information for the corresponding author and employers of the remaining authors. The following statements must be included in the cover letter:

· "This manuscript represents results of original work that have not been published elsewhere (except as an abstract in conference proceedings)."

· "This manuscript has not and will not be submitted for publication elsewhere until a decision is made regarding its acceptability for publication in the Indiana AHPERD Journal."

· "This scholarly inquiry is not part of a larger study."

· "This manuscript has not been previously published or submitted for publication elsewhere, either in identical or modified form."

Authors

List multiple authors in the order of proportionate work completed. Also indicate research reports supported by grants and contracts. Include biographical information on all authors (title, department, institution or company, and full address).

Authors's Statement

❑ The author must provide a signed statement certifying that the article has not previously been published or submitted for publication elsewhere either in identical or modified form.

Deadlines Journal

❑ Spring Issue – March 1
❑ Fall Issue – July 1
❑ Winter Issue – December 1

Newsletter

❑ Spring Issue – Feb. 15
❑ Fall Issue – Sept. 15

Leadership Opportunities on Councils

FUNCTION. The duties and responsibilities of the Program and Regional Councils are to:

1. Work closely with the Program Director or Regional Coordinator to promote the special program area.
2. Attend annual IAHPERD Leadership Conference. (Hotel and meals paid for by the Association.)
3. Solicit programming for the State Conference or Regional Workshops.
4. Serve as host to greet and direct presenters during the conference.
5. Serve as presider for the various programs in your special area. Support includes introducing presenter, assisting during the presentation (distribute handouts), and providing presenter with the special gift from the Association.
6. Make nominations to the Awards Committee chair for Teacher of the Year and Association awards.

PROGRAM AREAS. The various program areas include:

1. Adapted Physical Education
2. Aquatics
3. Council for Future Professionals
4. Dance
5. Fitness
6. Health
7. Higher Education/ Research
8. Jump Rope and Hoops for Heart
9. Physical Education: Elementary
10. Physical Education: Middle School
11. Physical Education: Secondary
12. Recreation
13. Sport
14. Sport Management
15. Technology

INTERESTED? To apply for a leadership position on a council, send an email of interest to Dr. Mark Urtel, Nominating Committee Chair, at murtel1@iupui.edu. For additional information, go to the IAHPERD website at www.Indiana-ahperd.org, click on About, Constitution, Operating Codes, and scroll down to the leadership position of interest.

INDIANA AHPERD
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OPPORTUNITY FOR INVOLVEMENT

Involvement is the key word to making a contribution to your professional association. The IAHPERD provides an opportunity for involvement through the choices below and we encourage each of you to become active participants by serving on a committee or by holding an office. Please, check any position listed below that interests you.

HELP NEEDED:

_____ Would you be willing to become involved?
_____ District level
_____ State Level
_____ Committee Involvement
_____ State Office
_____ Regional Leadership

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