

# INDIANA

Volume 38, Number 2

Spring Issue

2009

Pay It Forward



IAHPERD 2009

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# JOURNAL

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# Indiana AHPERD Journal

Volume 38, Number 2

Spring 2009

## Indiana Association for Health, Physical Education, Recreation, and Dance

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The **Journal** is published three times a year (Fall, Winter, Spring) by the Indiana Association for Health, Physical Education, Recreation, and Dance. Karen Hatch, 2007 Wilno Drive, Marion, IN 46952. Third class postage paid at Terre Haute, Indiana. The Indiana Association for Health, Physical Education, Recreation, and Dance is a professional organization serving education in these four related fields at the elementary, secondary, college, and community levels. Membership in Indiana AHPERD is open to any person interested in the educational fields listed above. Professional members pay annual dues of \$40.00. Students pay \$20.00. Institutional rate is \$65.00. Make checks payable to IAHPERD, Karen Hatch, 2007 Wilno Drive, Marion, IN 46952, telephone (765) 664-8319, hatch@comteck.com.

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## President's Message

# Message from the President

I hope this President's Message finds you healthy and thriving as we endure the ever-changing Midwest weather. I wanted to take some time to update you on IAHPERD happenings.

We had a successful leadership conference in February at McCormick's Creek State Park and our councils and committees made great progress in planning our IAHPERD regional workshops for the Fall. If you recall, we are not having a state conference due to Indiana and the Midwest District hosting the AAHPERD convention in March, 2010.

October will be our workshop month! In each of the five regions in Indiana, we will have a regional workshop which will essentially be a "mini-state conference". Past President Tom Stubbeman has provided more information located in this journal; so, please look for those details. Great session topics, new ideas for activities, and time to catch up with friends and colleagues across each region will be scheduled into each day.

Dr. Tony Bennett, Superintendent of Public Instruction, has been busy during his short time in office. On February 4, 2009, Dr. Bennett and the State Board of Education announced a series of reforms designed to reduce unnecessary regulations for schools while attempting to foster student-centered learning initiatives. Actions that the State Board of Education announced included:

- (1) Repeal seat time requirement to earn a high school credit
- (2) Repeal the high school course list as a rule
- (3) Provide flexibility to adapt the high school physical education requirement

If you want to read the complete release, please visit [www.doe.in.gov/news](http://www.doe.in.gov/news) or for more information you can visit [www.doe.in.gov/stateboard](http://www.doe.in.gov/stateboard).

The most striking action listed above is number three. Becky Kennedy, our Department of Education health and physical education representative, informed us of these actions at McCormick's Creek. This issue sparked a firestorm of discussion! From our perspective and understanding, we are reading this action item as allowing schools to offer waivers to substitute other experiences to count for physical education credit in our high schools.

As a result of these new reforms and continuing advocacy efforts, multiple initiatives are happening, (or will have happened by the time this journal arrives in your mailbox). Our Advocacy Committee, chaired by Terry Small, has been working hard to address promoting our content areas.

### *Advocacy Letter Writing Campaign*

In this journal and in the recent IAHPERD newsletter, you will find information about our Advocacy Letter Writing

Campaign. I am asking each one of you to take an active part in this important initiative. Please utilize one of the templates to communicate with your area's elected decision makers. We must all take it upon ourselves to help spread the good news about the benefits of physical activity and wellness.

### *State Board of Education Meeting*

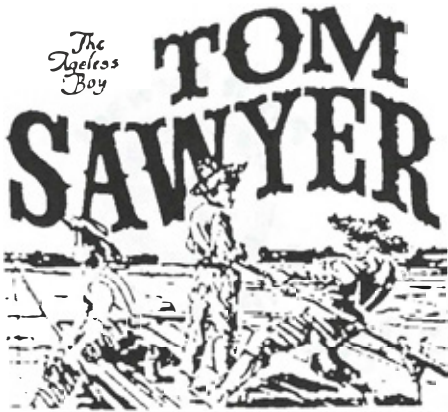
On Tuesday, March 3rd, I traveled to Indianapolis and met other advocacy committee members, executive committee members, and local physical education teachers. We had the opportunity to express our concerns about the recent reforms with State Board of Education Executive Mr. Jeff Zaring. The intent of the meeting was to address why waivers are not an educational reform solution for educating all of Indiana's children. We talked about why Physical Education is important for our society and our youth. Assessment measures including meeting Indiana physical education standards were discussed and questions regarding rubrics and proficiencies were asked. In addition, members had asked me to inquire about the Indiana Code 20-19-3-6 which states that the "position of education consultant for health and physical education" be established. We all were saddened to learn that Becky Kennedy, our former Health and Physical Education liaison, was one of the numerous state employees to lose her job during the month of February.

The following day, on March 4th, two groups gathered to represent our profession at the State Board of Education meeting. IAHPERD leadership and the Indiana Higher Education Action Group met early that morning and followed protocol to be allowed to speak during the "public comments" section of the monthly meeting. We expressed our concerns about the newest reform measures coming from the Board of Education. Further, we asked what the State Board was intending to do in order to stay in accordance with statutes. Ultimately, we wanted to go on record voicing our concerns of the impact these decisions may have on the education, health, and well being of Indiana youth. All of us need to continue to advocate for quality Physical Education, taught by highly qualified teachers, in our school corporations.

In other news, the Board of Directors voted in February to increase the lifetime membership fees to \$400.00 starting August 1st, 2009. If you want to become a lifetime member before the increase in fees, please let Karen Hatch, Executive Director, know prior to the deadline.

I hope you enjoy this issue of the Indiana AHPERD journal. It is packed full of information regarding our disciplines.

Thanks to those of you who have already found time or reason to "Pay It Forward". In a time where we face many challenges, it is easy to forget the little things. The concept of this theme has the potential to really impact our lives and the lives of others. Finally, try to take some time to get out and be physically active!



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# Risk Management Spectator Liability

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## Introduction

A spectator who attended a professional women’s soccer match was struck in the head while located in the stands behind one of the goals and sustained injuries because of this. Plaintiff is seeking to recover for the injuries sustained claiming negligence. Common sense tells you that if your view of the playing surface from the seating bowl includes the back of the goal, you may be in danger of being struck by a ball.

Teresa Lynn ALLRED and husband, Daniel Hilliker, Plaintiffs,  
v.

CAPITAL AREA SOCCER LEAGUE, INC., CASL Soccer Properties LLC; Wake County, North Carolina, Women’s United Soccer Association and All Successors in Interest, Time Warner Inc., formerly known as AOL Time Warner, Inc., d/b/a Time Warner Entertainment-Advance/Newhouse Partnership d/b/a Carolina Courage and All Successors in Interest, and Time Warner Inc., formerly known as AOL Time Warner, Inc., d/b/a Time Warner Entertainment-Advance/Newhouse Partnership d/b/a New York Power and All Successors in Interest, Defendants.  
No. COA07-647.

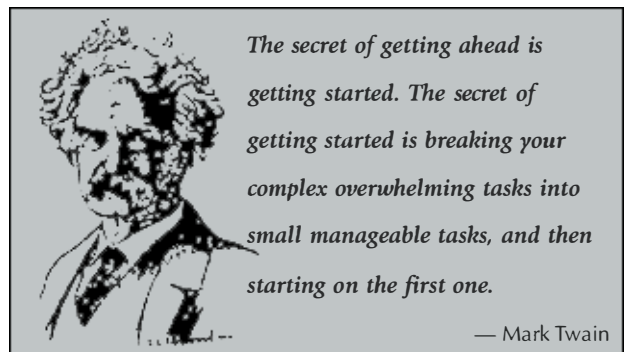
Dec. 16, 2008.

## Complaint

Spectator who attended professional women’s soccer match at public field stated valid negligence claim against soccer league and county after she sustained injuries when she, located in the stands behind one of the goals, was struck in the head by a soccer ball prior to commencement of match; spectator alleged defendants failed to warn of the danger from soccer balls leaving the field of play, failed to provide a safe environment, and failed to install any protective netting behind the goals, spectator alleged defendants had superior knowledge of the risks that led to her injuries and that their negligence caused those injuries, and complaint did not suggest that the danger of being struck by a ball during players’ warm-up activities was known to spectator or open and obvious.

at State Capital Soccer Park in Cary, North Carolina. Prior to the commencement of the match, plaintiff was in the stands located behind one of the goals when she was struck in the head by a soccer ball. Plaintiff sustained substantial head injuries. They claimed that protective netting should have been placed behind the goal.

On 26 April 2003, Teresa Lynn Allred (hereinafter “plaintiff”) attended a professional women’s soccer match



## Defendant's Response

Defendants contend that if it was reasonably foreseeable to the defendants that this was a danger to spectators, then it must have also been reasonably foreseeable to the plaintiff and thus an "open and obvious" condition.

## Trial Justice Judgment

Judge Steelman noted that the trial court erred in granting defendants' motion to dismiss pursuant to Rule 12(b)(6) of the North Carolina Rules of Civil Procedure. The complaint adequately alleges several causes of action in negligence against defendants and does not contain allegations which on their face present an insurmountable bar to plaintiff's recovery.

## Plaintiff Appealed

Judgment stated that the plaintiffs did not respond to counter claim within the approved time period of 30 days and was thus dismissed/Appeal by plaintiffs from judgment entered 28 February 2007 by Judge Paul C. Ridgeway in Wake County Superior Court. Heard in the Court of Appeals 14 January 2008.

## Facts of the Case

Plaintiff's complaint alleged that she attended a women's professional soccer match. Plaintiff was in the stands located immediately behind one of the soccer goals during the players' pre-game warm-ups. During the warm-ups, "many balls were directed towards the nets in a relatively short period of time." One of these balls sailed over the soccer goal, into the stands, striking plaintiff, and causing serious injury. Plaintiff alleged that she "had never attended a soccer game at the subject facility prior to her injury, had no knowledge or underlying information that there was a significant risk of being struck by a soccer ball."

Plaintiffs' complaint asserts that defendants were negligent in: (1) failing to warn patrons of the risk of being struck by a soccer ball leaving the field of play, (2) failing to provide a safe environment for patrons, and (3) failing to install protective netting behind the goals to protect spectators.

## Courts Findings

A review of the cases dealing with spectator injuries at sporting events reveals that the overwhelming number of these cases is resolved at the summary judgment or trial stage of the proceedings. One exception to this is the Hobby case, a baseball case resolved upon a Rule 12(b)(6) motion. However, the law concerning spectator injuries at baseball games has been more fully developed than that at soccer games. A review of cases throughout the United States reveals only two cases dealing with spectator injuries at soccer matches. \*784 Sutton v. E. New York

Youth Soccer Ass'n, 8 A.D.3d 855, 779 N.Y.S.2d 149 (2004); Honohan v. Turrone, 297 A.D.2d 705, 747 N.Y.S.2d 543 (2002). Each of these cases was decided upon a motion for summary judgment and not upon a motion to dismiss.

## Courts Judgment

It is rare that a negligence claim should be dismissed upon the pleadings. Embree Constr. Group, Inc. v. Rafcor, Inc., 330 N.C. 487, 491, 411 S.E.2d 916, 920 (1992). Such dismissals should be limited to cases where there is a clear, affirmative allegation of a fact that necessarily defeats a plaintiff's claims. See Wood v. Guilford County, 355 N.C. at 166, 558 S.E.2d at 494. We hold that the trial court's dismissal of plaintiffs' claims in the instant case was premature. REVERSED AND REMANDED.

## Definition

### Doctrine of Assumption of Risk

The legal doctrine that a plaintiff is not entitled to compensation if knowing of a dangerous condition, he voluntarily exposed himself to the risk that resulted in injury. The theory was that a spectator implicitly assumes all of the ordinary and usual risks of attending a sporting event.

## The Key Issue

The key issue in the case was Allred's contention that because she had never attended a soccer match at the stadium before, nor had any "knowledge or underlying information that there was a significant risk of being struck by a soccer ball" while watching a match at the venue, the stadium operator and league were responsible for her injury. No protective netting had been placed behind the goals, the suit pointed out, which were located roughly 10 feet from the standards. According to the claim, the defendants breached a duty to the stadium's patrons by not warning them of the risk of getting hit by a ball, providing a safe environment or installing a net.

## Risk Management Tips

The following risk management tips could reduce your liability surrounding spectators attending and sitting behind a goal at a soccer match:

1. Place protective netting behind the goal.
2. Place seating at least 20' from the end line.
3. Place signage that would clearly describe potential risk of balls coming out of play due to nature of the game.
4. Provide ushers at seating behind goals where risk is greatest and have them provide a verbal warning of potential risk.
5. Place a warning on the reverse side of the ticket.

# Early Specialization in Youth Sport

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## Abstract

Early specialization in sport is a growing trend; more and more kids are playing one sport year round at younger and younger ages. Parents and coaches are drawn to the pressure of success and encourage early specialization without stopping to investigate the possible consequences. The validation of early specialization in the development of sport proficiency is a point of debate among sport scientists. Although there is reliable data connecting the amount of training with level of proficiency reached, an emphasis on specialized training during early stages of development has been associated with a number of harmful consequences. A potential option to early specialization is diversified participation in a variety of sports during formative stages of development. Further research is needed to increase our understanding of the relative contributions of specialized versus diversified training.

## Introduction

When did specializing in one sport at a young age become a prerequisite to being recognized as an elite athlete? As an athlete in high school in the 1980's, it was common for many athletes to be involved in two or three sports. Twenty-five years have passed since my graduation from high school and the multi-sport athlete is becoming an endangered species. As a collegiate track and field coach for eighteen years, it was evident in the recruiting process that the trend had shifted towards specialized single sport athletes. Parents often hire personal trainers to design advanced workouts for their chosen sport. It is common now for 12-year-olds to be required to specialize in one sport to play it year-round on costly traveling all-star teams with only a brief respite so they can attend elite summer camps. These athletes go to extreme means to try and reach an "elite" status as early as possible with intent to earn a college scholarship.

There is an emergent movement towards what many call the "professionalization of childhood". Most recently, the International Olympic Committee has launched an Olympic games for teenagers, the Youth Olympic Games (YOG). Starting from 2010 and 2012 respectively, the Summer and Winter YOG shall provide the best of young (14 to 18 year old) athletes from all around the world with the unique experience of becoming an 'Olympian' (Ivan, Vidoni,

& Judge, 2008). This "Olympic" hope may require the young athlete to devote as much as 4-6 hours per day to train throughout the year. This initiative surprised some because the last alterations to the rule structure in Olympic sport have resulted in raising the minimum age for participation to protect young athletes from exploitation in the sports of swimming, gymnastics, and skating. (Judge, Ivan, & Vidoni, 2008) The upcoming YOG has an emphasis on education and healthy competition but will most likely cause an intense routine of specialized, expensive, year-round tutoring -- commencing at a young age. Many coaches, parents, and physical educators are asking the question, Is early specialization the right thing to do in youth sports? The purpose of this article is to jumpstart a crucial conversation among academias about the growing trend of early specialization in sport.

## The Importance of Sport Participation

There is no doubt that participation in youth sports can have a positive impact on millions of children's lives all over the world. Participation in sports is especially important in the United States today with the growing epidemic in obesity and overweight children (Schwimmer, Burwinkle, & Varni, 2003). The latest research confirms a dramatic increase in weight for youth in America. Between the ages 6 and

11, almost 19% are overweight, which is up from 6.5% in 1980 (CDC, 2004). In the 12-19 age group, 17.4% are obese. These are alarming statistics regarding the inactivity of today's youth.

The importance of physical activity for children is well-documented in research literature. There is growing evidence to advocate that participation in regular physical activity delivers positive benefits to young people's physical (Biddle, Cavill, & Sallis, 1998) and psychological health (Calfas & Taylor, 1994). A physically active lifestyle is paramount because physical activity and fitness have been shown to correlate with lower blood pressure among adolescents (Boreham et. al., 1997) and positive cholesterol profiles (Schmidt, Stensel, & Walkuski, 1997). According to a study by Kraut, the results indicate that those who participated in sports as children were 3.5 times more likely to be physically active adults (2003). This study indicates a direct link from participation to adult exercise habits, regardless if the sport was competitive in nature. Despite this, there is considerable evidence to indicate that youth, while being the most active sector of the population, are infrequently engaged in physical activity of the frequency, intensity and duration connected with health benefits (Troiano & Flegal, 1998; Cale & Almond, 1992). Obese children report a significantly lower quality of life than non-obese children (Schwimmer, Burwinkle, & Varni, 2003). Participation in athletics promotes learning, builds character, teaches teamwork, discipline, and a myriad of other values our society professes to hold dear.

### What is Early Specialization?



Figure 1

Specialization is described as a year-round training program in one sport at the elimination of other activities. (Wiersma, 2000) According to Hill and Hansen, 1988 specialization is athletes limiting their athletic participation to one sport which is practiced, trained for, and competed in throughout the year. Grupe, 1985 defined early specialization as: "The deliberate advancement of systematic training and planned competition...

with the specific goal of guiding the child, on a long term basis, to top achievement in sport". (pp.9).

Sports can be classified as either early or late specialization (Balyi and Hamilton, 2003). Early specialization sports often include artistic and acrobatic sports such as gymnastics, diving, and figure skating. These differ from late specialization sports in that very complex

skills are learned before maturation since they cannot be fully mastered if taught after maturation. Late specialization sports such as athletics (track and field), combative sports, cycling, racquet sports, rowing and all team sports require a generalized approach to early training. (Balyi and Hamilton, 2003) The American record holder in the hammer is a perfect example of success in a late specialization sport (athletics)/ track and field. Erin Gilreath (Figure 1) started specialized throwing training at age 20 and made the 2004 Olympic team at age 23 in the women's hammer throw. Gilreath had a very general youth sport background participating in activities like yoga and dance which ultimately helped her with balance, coordination, and mobility. (Judge, Hunter & Gilreath 2008) She participated in high school track and field as a shot putter but never touched the hammer until her junior year of college.

### Advantages of Early Specialization

Many of today's premier athletes have credited early specialization for their tremendous success. Sports fans have been privileged to see some of the world's greatest athletes literally grow up and perform before their eyes. Tiger Woods, LeBron James, Freddy Adu, Serna Williams, Kobe Bryant, Reggie Bush, Michael Phelps, and Vince Young and some of the most notable examples. The revolution of technology has heightened the public awareness of these athletes. Therefore, coaches and parents influence athletes to specialize as they feel it increases their chances of competing at maximum potential and possibly earning a college scholarship (Hill & Hansen, 1988). Long hours of preparation and practice help give the athlete the ability to advance or compete at the highest level. These child prodigies are sometimes earning scholarships, eventually becoming professionals and competing on the Olympic team (Brennan, 2007). The story of Tiger Woods ascent to the top of professional golf has been well-documented by the media (Woods, 1997). Tiger Woods first learned to play golf when he was only two years old. He began playing in tournaments at the age of nine (Woods, 1997). His dedication coupled with the support of his father led to six Junior World Golf Championships by the time he was sixteen (Woods, 1997). Woods was heralded as a child prodigy. His tremendous success as a professional seems to support the importance of early specialization in the development of the elite athlete.

As the 2008 Olympics close, more stories of early specialization leading to athletic success are sure to have emerged. Many of the Olympic gymnasts and swimmers are the product of early specialization. Michael Phelps, one of the most dominant swimmers in the history of the sport, competed in his first Olympics at the age of fifteen. (McMullen, 2006) Nearly all of the women on the current United States Gymnastics team who competed in Beijing are in their teens (Pucin, 2008). "Most Olympic sports have selection processes that attempt to identify future champions and initiate specialized training- often before the prospect finishes elementary school" (American Academy of Pediatrics, 2000). These elite athletes and many more like them specialized in their sport at a very early age.

The success stories of Tiger Woods, Michael Phelps, and others have helped motivate the trend towards early specialization in youth sports. Reports have shown a 72% increase in sport specialization over a 10-year period from high school athletic directors. (Wiersma, 2000). However, there are several other factors that help influence the decision to specialize. Some of the advantages of specialization in youth sports include: skill acquisition, expertise, and recognition. Research supports the notion that performance levels are directly related to the quantity and quality of skill development (Baker, 2003). Skill acquisition is the largest advantage to focusing on one sport at an early age. Success, in any athletic domain, is achieved from acquiring, developing, and refining motor skills needed for that particular sport (Wiersma, 2000). Gaining proficiency in motor skills at an early age can put an athlete at an advantage above others who are not practicing their skills as often. If one wishes to truly excel at any given task or skill, he/she must put extensive time, effort, and training into practices that will develop that task or skill. The earlier one chooses to put this effort into a particular area, the more proficient he/she will become (Baker, 2003). Ericsson, Krampe, and Tesch-Romer (1993) reviewed several decades of research studying the effects of practice & training on learning and suggested that early specialization in any given area was critical to the development of expertise status. In studying musicians, Ericsson, et al. determined experts began training at approximately five years old citing that if training does not begin early enough, performers would be unable to catch up with those who began early specialized training. Most of the evidence supporting Ericsson and associates claims on the positive effects of early specialization derives from the 10-year rule (Simon & Chase, 1973) which states that a 10-year commitment to high levels of training is the minimum amount of time required to reach expert status & the power law of practice (Newell & Rosebloom, 1981) which states that the rate of learning becomes continuously more difficult over time as practice continues. Thus, if one wishes to reach expert status at a particular task or skill, he/she must devote a minimum of ten years performing 'deliberate practice', effortful practice that sometimes lacks inherent enjoyment done with the sole purpose of improving current levels of performance (Ericsson, et al., 1993).

Ericsson et al.'s theory of deliberate practice further identifies that effortful practice is not simply training of any type but the engagement in specific forms of practice necessary for the attainment of expertise. Activities within this realm include those that develop required capacities that are not necessarily the most pleasant or enjoyable to perform, require effort and concentration, and do not lead to immediate social or financial rewards. Also, Ericsson et al. described the monotonic benefits assumption, a monotonic relationship between the number of hours of deliberate practice and the performance level achieved among the musicians studied (Baker, Cote, & Deakin, 2005). In other words, the more time spent involved in deliberate practice, the higher the level of achievement,

regardless of how monotonous or repetitive the practice. In regard to sport participation, Ericsson et al.'s suggestions make perfect sense. The earlier a youth athlete begins specialized training in a given sport and the more time devoted to practicing that sport, the better performance outcomes he/she will achieve, surpassing those who begin training at a later age or those who do not log as many practice hours. In today's society, many athletes experience relatively short careers and therefore, players and coaches see a small window of time for athletes to reach their peak performance level. This is the main reason athletes are led to specialization at an early age. Adolescents, in most cases, are fueled by success. The desire to be the best at a given skill pushes many athletes to narrow their focus toward the area that is most likely going to lead to achievement in that skill. With the enhanced athletic performance that an athlete obtains from early specialization, an athlete will also gain enhancement of their confidence (Watts, 2002). This occurs even more so when an athlete is seen as gifted in a sport that is supported by his/her community. The athlete's confidence is built from external affirmation. Thriving performance of skills can lead to increased recognition for the athlete. (Wiersma, 2000) Recognition from peers and other outside forces can boost an athlete's self-esteem temporarily. Young adolescents strive for attention and recognition from the environment surrounding them and therefore look for a way to attain that recognition. Successful performance can also lead to playing at an elite level, a college scholarship, and in some cases an invitation to the Olympic Games (Wiersma, 2000). These goals mentioned all stem from initial recognition of an athlete's talent. The earlier athletes are recognized for the abilities, the more likely they are to be noticed by higher level coaches which can potentially lead to them participating at a higher level.

### **Risks of Specialization**

Whether sport is instrumental or detrimental to a child's growth largely depends on their personal experience with the sport. Mahoney and Stattin (2000) found that the structure and context of the activity was important in determining whether sport participation led to positive or negative outcomes. Streat and Garcia-Bengochea (2001) found that it was the individual's experience of sport that determined whether participation was viewed as positive or negative. Early specialization is a trend that drastically changes sport experiences for youth athletes; the effect of this shift can have consequences significant to explore. While early specialization can contribute to gaining elite status in some sports, it is important to ask whether or not it is necessary and whether or not it is healthy.

Unequivocal support of specialization is very limited in the youth sport literature and numerous sports medicine and exercise science federations have discouraged its practice (Wiersma, 2000). The International Federation of Sports Medicine's position statement reads: "this intensified training has no physiological or educational justification" (International Federation of Sports Medicine, 1991).



Similar statements have been made by other leading world health associations like the European Federation of Sports Psychology and the World Health Organization (Wiersma, 2000).

Preliminary support does indicate that while early specialization has some advantages in certain sports, it may have negative physical, psychological, and social effects on a child. "Although the empirical evidence supporting early specialization is sound, there are negative consequences associated with this approach". (Baker 2003) Specializing in one youth sport could have the potential to limit areas of motor, social, and psychological development, physiological development, and create 'burnout' at an early age, causing children to dropout of the sport altogether.

Sports, especially in youth, are a great way for children and adolescents alike to develop social and psychological skills that can be used in various situations throughout the lifespan. The primary goal of youth sport programs should be to broaden desirable psychological and social characteristics as well as physical skills and fitness. (Malina and Cumming, 2003) Specializing in youth sport could hinder this development simply by reducing the number of opportunities for growth in these areas (Wiersma, 2000). Sports participation provides multiple opportunities for youth to grow in these areas. If young athletes spend too much time focusing on training or specializing on one particular area, they could run the risk of not being involved in other opportunities to develop these skills, leading to what Wiersma (2000) referred to as "social isolation".

Another very important concern associated with early specialization of youth sport, and perhaps the most devastating, is the concern of sports dropout. Butcher, Lindner, & Johns (2002) reported that during early stages of development, lack of enjoyment was the single most important reason for transfer to a different sport or withdrawal from sport altogether. A study conducted by Raedeke (1997) surveyed 236 swimmers between the ages of 13 and 18 to assess hypothetical determinants of commitment and burnout. Results conveyed those athletes who scored at the top on assessments of sport entrapment also scored at the top on assessments of burnout. In short, if an athlete's motive for competing in a particular sport changes away from plain enjoyment to a feeling that he or she has no other option, the chance for burnout is greatly increased. (Raedeke, 1997; Watts, 2002) The most common age for an athlete to drop a sport is in the 10th grade (Butcher, Lindner, & Johns, 2002). Currently, soccer (65.5%), swimming (62.3%), and gymnastics (60.4%) have the highest drop out rates from grades 2 to 10 (Butcher, Lindner, & Johns, 2002). Overall, reasons for dropping out of both school and agency-sponsored youth sport programs have been found to be (Seefeldt, Ewing, & Walk, 1992): no longer interested in the sport (highest for both boys and girls), it was no longer fun, the coach played favorites/was a poor teacher, wanting to participate in other activities. If young athletes continue to train in a specialized area, the risk of burnout continues to increase as they can become tired of the deliberate practice associated with that sport.

Serious youth athletics may detract from family life. Côté (1999) studied four elite athletes and their families (mothers, fathers, siblings) and found that families, particularly parents, play an important role in elite athlete development. A parent's role in his or her child's sport experience may vary from something as straightforward as being a driver to and from practices and games to something more complex such as being a coach or official. For many parents, the demands of transporting kids to practice, travel to games, and tournaments are taking a big toll on what used to be called family life. In the past 20 years, structured sports time has doubled while family dinners have been cut by a third and family vacations have decreased 28 percent (Cary, 2004). Finally, while coaches continue to discuss concerns like time, parents, and structure, few youth sports programs seem to be willing to implement necessary changes.

Devoting so much time and practice to one particular sport potentially limits overall motor skill development which in turn could affect long-term physical activity involvement and overall long-term health by decreasing the opportunities to participate in alternative physical activities (Wiersma, 2000). While focused training provides great benefits to many young athletes, any future development of power can be severely restricted if general strength parameters, mobility, and posture are not also addressed. Physiological adaptations and skill acquisition occur in multiple areas and are for the most part unrelated as demonstrated by Jensen et al. (2005). By emphasizing skill development in one particular area, obviously, those motor skills required to perform those activities will be developed which could take time away from developing other motor skills not necessarily required for the sport or skill being specialized but ultimately lead to more positive long term health benefits (Wiersma, 2000). The key is timing, sequence, and interaction of the different training stimuli to allow for an optimum adaptive response in the future (Bompa, 1995).

Physical disadvantages of participating year-round can lead to overuse, overtraining, and injury to the athlete and can also hinder physiological development (Hollander, Meyers, & LeUnes, 1995). The consequences of early training and early specialization have caused sport physicians to worry that stress injuries will occur earlier and may lead to an athlete's retirement before high school or collegiate sport (Cary, 2004). If an athlete continuously performs the same repetitive actions, as many sports skills require, he/she could potentially damage his/her biological development, especially in the case of overuse injuries (Dalton, 1992). Understanding issues related to how these younger athletes are affected by injury and health risks are important. There are preventative steps that can be taken to help reduce the incidence and severity of youth sport injuries. "The Centers for Disease Control and Prevention estimates that one half of all sport injuries are preventable with proper education and use of protective equipment." (Cassas & Cassettari-Wayhs, 2006). The most important step is identifying contributing factors and addressing changes in order to prevent injury, (Micheli, Glassman, & Klein,

2000). Dalton (1992) indicated that during crucial periods of biological development excessive forms of training could have serious costs. During adolescence, rapid growth of the femur, tibia, &/or fibula occurs creating increased tightness and inflexibility around the knee joint due to the muscles and tendons around the knee joint not increasing in length at the same growth rate as the bones. This creates an imbalance in the joint which creates increased stress to the knee and surrounding connective tissues. Under periods of physical training or increased stress, these imbalances increase the risk of youth in sport to suffer from overuse knee injuries from microtrauma & other relative conditions, such as Osgood-Schlatters' disease or osteochondrosis (Baker, 2003). Gymnasts who continually perform hyperextension activities may develop a stress fracture of the spine known as spondylolysis. (Brennan, 2007) "Specialization or year-round focus in specific sports at younger ages has led to a shift in the etiology of many elbow injuries within this cohort from macrotrauma (eg, fractures and dislocations) to repetitive microtrauma" (Rudzki & Paletta, 2004). In order to reduce the risk of injury of an increased workload, coaches and athletes should follow the "ten-percent rule". The "ten-percent rule" states that "total training (intensity, frequency, duration, or any combination of these) should increase no more than ten percent at a time". (Lindskog, 2005). The American Academy of Pediatrics Council on Sports Medicine and Fitness recommends only one sporting activity to a maximum of five days per week with at least one day off. Also, athletes should have at least two to three months off per year from their particular sport during which they can let injuries heal. If overuse injuries are not given time to heal, the athlete may be at risk to experience psychological problems (Rudzki & Paletta, 2004).

Resistance training is the most popular and effective form of conditioning aimed at enhancing sports performance and it has become an effective method of conditioning for school-age athletes (Faigenbaum & Bradley, 1998; Fleck & Kraemer, 2003; Myer & Wall, 2006). This very popular method of training must be handled very carefully with pre-adolescent athletes. Damage to the growth cartilage from excessive resistance training loads may impair the growth and development of the affected bone (Anderson

et al., 2000; DiFiori, 1999). Growth cartilage in children is located at the epiphyseal plate, the joint surface, and the apophyseal insertions (Faigenbaum (2008). Appropriately prescribed youth resistance training programs emphasizing proper technique with relatively light loads are relatively safe and can influence many health- and fitness-related measures. Advanced multi-joint exercises may be incorporated into the program only if appropriate loads are used and the focus remains on proper form (Faigenbaum, (2008). There is evidence that shows properly prescribed resistance training is not only a reasonably safe activity for young athletes but it may also be useful to decrease injuries during competitive play (Hamill, 1994). The coaches need to understand that safety and proper technique are the top two components of resistance training for pre-adolescents. Two or three nonconsecutive resistance training sessions per week are recommended (Faigenbaum, 2008). Proper training methods are important in the prevention of all sports injuries for athletes of all ages. The coach should give continuous and immediate feedback to the athlete during and after each exercise (Myer & Wall, 2006). Youth coaches should implement well-planned recovery strategies that include monitoring of the nutritional status of young athletes (Faigenbaum, 2008).

Past alterations to the rule structures of Olympic sport resulted in raising the minimum age for participation in the sports of swimming, gymnastics, and skating. These changes were founded in concerns about overtraining, over-exposure to the media, and overly intense competition for youth athletes. In skating, a competitor must turn 15 by July 1 of the previous year to be eligible. In gymnastics, the athlete must be 16 in an Olympic year (Brennan, 2007). This age limit keeps kids, parents and coaches from doing too much too fast (Brennan, 2007). In its place, the International Olympic Committee has developed a newly approved Youth Olympics, an event to include youth athletes with a different theme: education and healthy competition. The rule change reflects the growing concern with highly competitive athletics at a young age; parents, coaches and administrators must be aware of the consequences and like the Olympics, may have to draw

**Table 1**  
**Arguments For and Against Early Specialization**

FOR Sport Specialization	AGAINST Sport Specialization
<ul style="list-style-type: none"> <li>• Increases chances for athletic scholarship</li> </ul>	<ul style="list-style-type: none"> <li>• Creates professional atmosphere at too early of an age</li> </ul>
<ul style="list-style-type: none"> <li>• Develops refined skills because of increased practice time</li> </ul>	<ul style="list-style-type: none"> <li>• Increases the incidence of athletic burnout and overuse injuries</li> </ul>
<ul style="list-style-type: none"> <li>• Needed in order to compete with others who are already specializing</li> </ul>	<ul style="list-style-type: none"> <li>• Exploitation of young athletes by coaches who are primarily concerned with winning</li> </ul>

boundaries to protect youth athletes.

## Advantages of Sport Diversification

Sport Diversification is the opposite of early specialization; it is the participation in a variety of sports and activities. According to Bompa (1995), there may be an advantage to early sport diversification with a balanced approach to training. Foundational items like general strength, mobility, and posture are developed in a variety of conditions, thresholds, and environments through multi-sport training (Bompa, 1995). Event-specific training can be the source of tremendous frustration and recurring injury patterns if foundational biomotor elements aren't also developed through a diversified sport approach during the early stages of development (Baker, 2003). Sport diversification also allows an athlete to develop multilateral physical, social, and psychological skills (Wiersma, 2000).

The main contention with sport diversification is that it may prevent youth athletes from reaching the highest elite levels in their respective sport. Research, however, disagrees in numerous cases. Studies of international field hockey and rugby players (Stevenson, 1990) and professional baseball players (Hill, 1993) both show that it is more common for these elite athletes to have played multiple sports throughout their childhood. According to Hill (1993), most of the professional players followed a traditional three-sport progression during high school, suggesting that the ideal of the all-around high school athlete can still work in baseball. Watts (2002) points out that many elite Olympic athletes have gained from participating in multiple sports. Each member of the United States' 1992 gold medal women's volleyball team was a multi-sport athlete in high school (Watts, 2002). These elite athletes were able to use physical qualities obtained from training and competing in other sports help them excel in the sport they love. These women with a diversified multi-sport background were still able to achieve the highest level possible in their sport. These findings challenge the notion that early specialization in one sport during high school is necessary to attain a college scholarship and a professional athletic career (Hill, 1993).

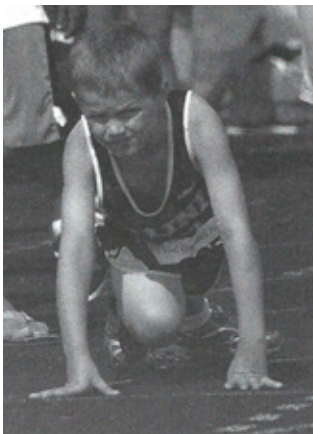


Figure 2

## Recommendations

Sport specialization is a controversial topic that needs to be fully understood by all involved in sport. The probable health, psychological, and sociological risks must be weighed against the benefits of obtaining superior skills, which may enhance playing time, provide possible scholarship opportunities, or reaching an elite level of

play. The numbers speak volumes in regards to the reality of early specialization. Depending on the sport, only .2% to .5% of high school athletes make it to the professional level. (Small, 2002) Among four major sports -- basketball, football, baseball, and soccer -- less than 6 percent of American high school athletes advance to collegiate level competition. Among collegiate athletes, 2 percent or less make it to the professional ranks (DeBrock, Hendricks, & Koenker, (1996).

Increased education for parents, coaches, and athletes is a must in order to better educate young athletes prior to their choice of specialization. It is important that parents understand the facts before blindly making a decision about early specialization; a decision that can be frivolously made if consequences are not truly understood. Administrators, teachers, and coaches can all have a hand in ensuring the information is distributed to parents. Because athletes engaging in early specialization are youth athletes, parental consent to participate is necessary. Parents must sign documents allowing athletes to play sports at the grade school and high school level. Along with these documents, a simple way to inform parents is by also including a flyer with the information presented in this article that must also be signed. It is easy for anyone involved to make the suggestion and it is an easy way to distribute the benefits and consequences of early specialization. Coaches, teachers, and administrators may find a strong desire within the trend of early specialization to reinstall the value of athletics as a foundation for development of life skills and application skills and not a breeding ground for the elite athlete. Specialization conflicts with the educational mission of schools whose goals should be to provide athletic programs that lead to the greatest personal growth for the greatest number of students (Gillis, 1993).

Several methods can be employed to encourage early sport diversification. Schools can play a vital role in encouraging their athletes to participate in multiple sports. Multi-sport athletes tend to get better grades and are often the most active and productive athletes in the school (Cardone, 1994). One way is to encourage the idea of diversification within the school handbook. Include a section expounding the benefits for athletes competing in more than one sport. Students should be encouraged to play 2 or 3 sports. Another possibility is to recognize athletes and their success or dedication of participating in multiple sports and recognize them during the annual awards banquet. Honor those who may not have been a stand out on one team but to recognize their efforts in participating in multiple sports (Hill & Hansen, 1988; Watts, 2002). Also at the banquet, highlight the success of total school programs compared with rival schools. Encouraging total sport success instills school pride and focuses energy on multiple sport success. Lastly, a school could set guidelines to each sport in reference to their permitted time in the athletic facilities while out of season. This would limit the use of the athletic facilities and not allow sport teams to practice year round.

Another possible strategy is to involve the community (Vail, 2007). Turning to the community for help creates an

atmosphere for multiple sport participation and doubles as an informative session. Find individuals willing to play a role in promoting multiple sport participation. Ask the tough questions and find out what the community's needs are; respond with the benefits of multiple sport participation for the school and athletes. Find individuals, build a committee of community members, and hold monthly meetings. Rallying the community around a cause inspires a multiple sport culture. Research shows that a community-based program can be successful (Vail, 2007). Establishing a program that truly involves the community will help create a culture of sport diversification and keep the program going for years.

## Conclusion

With the 2010 Youth Olympics rapidly approaching, it is of extreme importance that we continue to improve ourselves as coaches and educators to better serve our athletes and construct the best possible sports environment. Sport participation should be encouraged from a young age. The most commonly held validation for organized sport in our nation's schools emphasizes the educational and character building benefits of participation. While lessons learned in English, math, and science are significant, the teachable moments and lessons learned on the playing fields, swimming pools, tracks, and gymnasiums of our schools in terms of delayed gratification, discipline, perseverance, and team work are also critical to the overall growth of each participating student. Clearly, athletics are part of the educational process and a means to promote learning. The trend of early specialization is growing while the knowledge of the benefits and consequences of early specialization is not as widespread. In some cases, early specialization may be a threat to an educator's goal for athletic participation to build life skills and to shape healthy, responsible individuals. Be the eyes and ears of your athletic programs, understand the trend, be aware of the consequences, and utilize the recommendations to change the culture of sport in your area. Sport participation, not early specialization, is more important in the athlete's long term health and academic success.

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# Connect the Smart Way: Implementing a Youth Fitness & Nutrition Program

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**Peer-Reviewed: Connect the SMART Way:  
Implementing a Youth Fitness & Nutrition Program**

## Connect the SMART Way: Implementing a Youth Fitness & Nutrition Program

Healthy People 2010 deemed overweight and obesity as 1 of 10 leading health indicators for heart disease and has called for a “reduction in the proportion of children and adolescents who are overweight and obese” (U.S. Department of Health and Human Services, 2000). However, according to data from the National Health and Nutrition Examination Survey (NHANES), the United States has made little progress towards reducing the national prevalence of overweight and obesity among children and adolescents (Center for Disease Control, 2008a). In actuality, the NHANES shows the prevalence of being overweight increasing among children and adolescents ages 2-5 years from 5.0% to 13.9%, ages 6-11 years from 6.5% to 18.8%, and ages 12-19 years from 5.0% to 17.4% from 1980-2000 (Center for Disease Control, 2008a; Ogden, Flegal, Carroll, & Johnson, 2002). These figures are more than three times the target prevalence that was set at 5% in Healthy People 2010 (Center for Disease Control, 2008a).

### The Risks of Childhood Obesity

The prevalence of overweight children and adolescents places them at risk of physical, mental, and social health disorders. The physical health disorders include hypertension, hypercholesterolemia, type 2 diabetes, and coronary artery disease (U.S. Department of Health and Human Services, 2005). In addition to physical health disorders, overweight children and adolescents may suffer from emotional health disorders of poor self-esteem and depression (Institute of Medicine, 2004; Koplan, Liverman, & Kraak, 2005; National Coalition for Promoting Physical Activity, 2005). Children and adolescents are stigmatized in American society for being overweight leading to social health disorders. Children and adolescents are victims of stereotyping, discrimination, teasing, and bullying (Institute of Medicine, 2004; Koplan, Liverman, & Kraak, 2005).

In addition to the health problems, Dietz (1998) found that 25% of obese adults were overweight as children. More specifically, overweight children and adolescents before the age of 8 were more susceptible to become obese as adults. Given this current trend, total health care costs related to obesity has boosted insurance cost: tenfold between 1987 of \$3.6 billion to 2002 of \$36.5 billion (Obesity Action Alert, 2008a).

### Causes of Childhood Obesity

The primary contributors to overweight and obesity among children and adolescents include environment, lack of physical activity, heredity and family, dietary patterns, and socioeconomic status (Obesity Action Alert, 2008b). The environmental influences shape the habits and the perceptions of children and adolescents from television commercials promoting unhealthy food and demoting the importance of physical activity. The term “screen time” cannot be overlooked as a contributing factor to the increased sedentary behavior or lack of physical activity among children and adolescents (Howard, 2007). Children and adolescents are spending excessive hours watching television and movies, playing video games, and spending time on the computer thus leading to a strong relationship between “screen time” and children being overweight (Robinson, 1999). The schools are a key stakeholder in fighting childhood overweight and obesity. Most school systems require physical education; but, only 8 percent of elementary schools and less than 7 percent of middle and high schools have daily physical education requirements (Obesity Action Alert, 2008b). Genetics contributes to overweight and obesity in 5 to 25 percent of children, however the environment can play a role in learned behavior. Therefore, genes do not necessarily dictate whether

a child is overweight or obese (Obesity Action Alert, 2008b). An increased prevalence of high fat, high calorie, and non-nutrient dense foods plays a role in overweight or obese children. Children are eating more fast food with the option to “super size” and eating at more buffets thus consuming more calories than they can burn off. These high saturated fats have long been considered unhealthy; but the role of soft drinks or high fructose corn syrup has also been under scrutiny. Havel (2005) found that 20% of children who regularly consume soft drinks have an increased likelihood of being overweight or obese due to excessive caloric intake. For every regular soft drink consumed, a child has a 60% increase of being obese. According to Obesity Action Alert (2008b), the consumption of soft drinks by children has increased by 300 percent over the last 20 years. Finally, lower socioeconomic status is associated with overweight or obese children and adolescent. Children of low-income families often cannot afford extracurricular activity programs, opt to eat convenience foods, and sometimes parents have little or no education about proper nutrition and healthy food choices (Obesity Action Alert, 2008b).

### **The Overweight and Obesity Intervention Programs**

After evaluating the risks, the causes, and escalating health care costs associated with childhood overweight and obesity, the need for culturally appropriate overweight intervention programs that target children of various ages is evident. There are several school-based physical activity and nutrition intervention programs aimed at supporting healthy weight among children and adolescents (Center for Disease Control, 2008b). The Coordinated Approach to Child Health (CATCH) and Eat Well & Keep Moving are two program examples. CATCH was designed to promote healthy eating habits and increase physical activity among children and adolescents. Eat Well & Keep Moving was designed to increase physical activity and promote healthy dietary habits among 4th and 5th grade students (Center for Disease Control & Prevention, 2003).

Although there are many national programs that are aimed at supporting healthy weight among children and adolescents, there are also local and regional programs being developed to increase awareness in conquering the epidemic of obesity and to provide workable framework to assist in the implementation of intervention programs. The purpose of this article is to introduce the development of a SMART Youth Fitness & Nutrition After-School Program.

## **The SMART Youth Fitness & Nutrition Program**

### **The Stakeholders**

The Students Mentoring at Risk Teens (SMART) Youth Fitness & Nutrition After-School Program was developed by faculty and students (college/grade school) from the University of Southern Indiana: (a) Assistant Professor PE Department – exercise science, (b) Assistant Professor PE Department - health, and (c) the spring 2008 interns and health education students. Several key stakeholders were involved with the implementation of the program.

The key to any after-school program is the support of the school and the school corporation. A supervisor of a school corporation, a principal, an after-school program coordinator, and the physical education teachers at a middle school were all in agreement this was a program that would benefit their students.

### **The Creators**

There were two academic faculty members and several students involved with the development of the SMART Youth Fitness & Nutrition Program. The supervisor of the fitness program was an Assistant Professor within a physical education department. This Assistant Professor allowed her practicum students (Exercise Science, PE Teaching & Kinesiology majors) to develop the fitness curriculum. This form of meta-discrete experiential learning experience was an added bonus for students who would receive not only a practicum coordinator but a mentor. The supervisor of the nutrition program was a Health and Safety Education Assistant Professor within the same physical education department. Students enrolled in the Teaching Strategies for Health course for the spring semester were required to complete a discrete service learning project.

### **The Participants and Program Components**

The students for the program included 15 students, ages 11-14, from a local school corporation. The program met twice a week for two hours over a 12-week period. The fitness portion lasted 50-minutes with a 10-minute break before beginning the 50-minute nutrition section. As mentioned, the mentors of the program were Exercise Science (n=4), PE Teaching (n=1), Kinesiology (n=3), and Health & Safety Education (n= 12) students. The Health & Safety Education students were required to teach one or two nutrition lessons and were not involved during the whole program. Therefore, the number of mentors completing the full 12-week program were 8 (N=8).

### **The Purpose**

The purpose of the SMART Youth Fitness & Nutrition Program was developed, “To focus on the prevention of childhood overweight and obesity through physical activity and nutrition with diverse middle school students from a low-socioeconomic background” (Bower, McDowell, Chamness, Grace, & Nelson, 2008, p. 13). The long-term benefit for the region includes better quality of life for many families in this community, a more robust work force, reduced health care costs for regional organizations, positive quality of life indicators needed for economic development, possible [SMART Nutrition and Fitness Program] replication throughout the region, as well as creates a partnership with health and physical education professionals.

### **The Fitness Component**

In June 2000, President Clinton directed the Secretaries of Health and Human Services and recommended that all public school children receive quality physical education daily (US Department of Health and Human Services, US Department of Education, 2006). The CDC guidelines for physical activity was the recommendation that a quality physical education program should provide at least a minimum of 150 minutes weekly for elementary students

and 25 minutes weekly for middle and high school students (Harper, 2006). The programs should be designed to promote vigorous activity for at least half the class. These recommendations were sought by many fitness-related organizations such as the Institute of Medicine (IOM). The IOM (2005) recommends a minimum of 30 minutes of moderate to vigorous activity. Therefore, the fitness classes focused on providing a minimum of 30 minutes of vigorous activity with an additional 20 minutes geared towards dance activities and breaks completed during the beginning of each class. The dance activities included dances, such as the cupid shuffle, students were preparing to present at a university for women's basketball during halftime.

The practicum students had the opportunity to teach at least two fitness classes throughout the 12-week SMART Youth Fitness & Nutrition Program. The fitness classes were developed based on introducing the five components of fitness (body composition, aerobic fitness, flexibility, muscular strength/endurance (National Association for Sport and Physical Education, 2005). Each student developed his/her own lesson plan based on the ability to teach new and innovative activities the middle school had not been exposed to. For example, some students focused on group exercise classes such as (body shop), sport conditioning, and step while other students focused on group sport activities such as disc golf, relay races, and waffle ball. Additional fitness classes and activities are found in Table 1.

### The Nutrition Component

Eating patterns established in childhood often carry over into adulthood and is then associated with being overweight or obese. The decline of adolescents' dietary intake is well documented in the literature. According to the 2005 Youth Risk Behavior Survey, nationwide, 20.1 % of teenagers had eaten the recommended servings of fruits and vegetables (Eaton, Kann, Kinchen, Ross, Hawkins, Harris, & Lowry, et. al, 2006). Brady, Lindquist, Herd, & Goram (2000) stated, "The situation is even bleaker for elementary and middle school children where only 5% had eaten the recommended servings of fruits and vegetables and 9% had met the recommendations for dairy products". (p. 1875) The purposes of the nutrition portion of the SMART Youth Fitness & Nutrition Program was increase knowledge and awareness about healthy nutrition choices to a group of middle school students and to provide college students enrolled in a teaching strategies for health education course the opportunity to teach a nutrition lesson in the real world setting. The nutrition lessons were approximately 15-20 minutes in length followed by 30-35 minutes of hands on activities utilizing information gained from the lesson. The nutrition lessons consisted of nutrition terminology, content, and activities designed to engage them in critical thinking about their own eating habits and healthier alternatives.

### The Field Trips

Five field trips to the university sponsoring the program were scheduled throughout the 12-week period. The field trips included the following: (a) two swimming days, (b) one scavenger hunt, (c) one women's basketball game, and (d) one cook-put. These field trips exposed the middle school

students to a university. The exposure to the university was an opportunity to "plant a seed" in the young students' minds about continuing education following high school.

### The Incentives

An incentive program utilized pedometers to keep track of the students steps each day. The objective of the incentive program is for the students to "walk to Florida" as a group. The students tracked their progress through the bulletin board provided at the middle school. At the end of the program, students were given the pedometers. In addition to the ongoing pedometer program, each student was provided a small incentive following every program for completing their activity. For example, some of the incentives included fitness tubing, basketballs, and mini compasses. Additional incentives may be found in Table 1.

### The Themes

Each SMART Youth Fitness & Nutrition activities had a theme to get the students involved with the programs. An example of a theme was the Mexican Fiesta. Students were asked to wear sombreros and participate in a piñata activity. The mentors (students from the university) provided the middle school students with sombreros for those students who did not own that type of clothing. The music used during the fitness activities was on Mexican lyrics as well. Finally, the snack during nutrition consisted of blue chips and salsa. Additional themes may be found in Table 1.

Table 1 The SMART Youth Fitness & Nutrition Programs

Fitness Activity	Nutrition Lesson Plan	Theme/Incentive
<b>Week 1</b> Pre-Test Assessment	N/A	Boot Camp/ Water Bottle, Pencil
Low Impact Aerobics	Introduction to Carbs,	Mexican Fiesta/Fit Bands, Fats, & Boot Camps
<b>Week 2</b> Body Shop (upper)	Carbs, Fats, & Protein	Pirates of the Caribbean/ Inspiration Bracelets
Body Shop (lower)	Introduction to Food Guide Pyramid	Hawaiian Luau/ Fitness Tubing
<b>Week 3</b> Snow Make-Up Day	N/A	N/A/N/A
Sport Conditioning	Food Guide Pyramid	Pump it Up/Sport Ball, Wristband
<b>Week 4</b> Step Aerobics	Vitamins & Minerals	Disco Dance/ DuraHoops
Relay Races	Healthy Snacks	Run for the Roses/ Jump Ropes
Women's Basketball Game –Half-Time Show (2 Circuits and Dance Routine)		
<b>Week 5</b> Cross Training Circuit	Different Fruits	Mix it Up/Speed Jump, Rope
Yoga	Body Image	Stretch into Spring/ Stress Ball

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Table 1 The SMART Youth Fitness & Nutrition Programs (continued)

Fitness Activity	Nutrition Lesson Plan	Theme/Incentive
<b>Week 6</b>		
Hip Hop Dance	Alternative Drinks	Break it Down/ Lunch Bag
Sport Conditioning	Food Labels	Take Me Out to the Ballgame/T-Shirt
<b>Week 7</b>		
Field Trip – USI Swimming	Finding Nemo	N/A/Water Goggles
Sports Skills Fundamentals	Serving Sizes	Old Time Rock-n-Roll/Sport Bag
March 24-26 – Spring Break for EVSC		
<b>Week 8</b>		
Game Day	Home Made Bars	Pick a Card/Any Any Card/Basketball
Cardio Kickboxing	Restaurant Menus	Kickin It with Meghann/Playground Ball
<b>Week 9</b>		
Body Shop (Upper Body)	Media & Fast Food	All Color Day/Foam Disc
Disc Golf	Importance of Hydration	Sweating to the 80's Frisbee
<b>Week 10</b>		
Field Trip Scavenger Hunt	N/A	Seek and You Shall Find/Mini Compass
Olympic Games	Jeopardy	Go for the Gold Medals

Table 1 The SMART Youth Fitness & Nutrition Programs (continued)

Fitness Activity	Nutrition Lesson Plan	Theme/Incentive
<b>Week 11</b>		
Field Trip – Cookout	N/A	N/A/Volleyball
Field Trip –Swimming	N/A	Finding Nemo II/ Beach Balls
<b>Week 12</b>		
Snow Make-Up Day (No Program)	N/A	N/A/NA
Post-Test Assessment	N/A	Graduation Day/ Certificate

## Implications

There were several implications for practitioners which were extracted from the completion of the SMART Youth Fitness & Nutrition Program. First, this program could be replicated to meet the needs of “at risk” students within other schools. Second, schools need to consider additional Fitness & Nutrition curriculum activities students would not normally be exposed to within physical education classes. For example, students participated in fitness activities such as yoga and disc golf. For the nutrition lesson plans, students participated in eating a variety of fruits and vegetables and fruits such as papaya, mangos, star fruit, radishes, and yellow/red bell peppers. Third, students were exposed to a university campus which provides them with potential goals for the future.

## The Future

The SMART Youth Fitness & Nutrition programs provided several potential ideas for the future implementation of the program. First, the program may provide alternative ways for participation in fitness activities and therefore allow students coming from a low socioeconomic backgrounds the opportunity to continue their activities at home. For example, panty hose was a substitute for tubing in completing lat pull downs, water jugs were a substitute dumbbells to complete arm curls, and pillows were a substitute for mats to complete abdominal and back exercises. Second, the students enjoyed making protein bars during the program and therefore, additional cooking opportunities should be provided. Finally, the opportunity for parental involvement can be improved by having “parent’s day”. The parents would participate in activities alongside their child.

## Conclusion

This project provided a quality after-school program including a safe and engaging environment that motivated and inspired learning outside the typical school day for both university and the local middle school students by combining Fitness & Nutrition activities to engage and guide learning. The program made significant contributions to the social achievement of all of the participants. Relationships were established between the university, school corporation, and the community. As a result of the program and interaction with mentors, the students are now considering college as an option.

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# Intercollegiate Sport Camps

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## Abstract

Many young athletes attend summer camps and clinics on college campuses every year. This exploratory study investigated the extent intercollegiate sport camps are aligned with American Camp Association (ACA) standards in three areas: camp management and operations, staff training, and transportation. Results indicate the majority of institutions have a risk management plan and mandatory accident reporting; but, fewer than half of institutions established emergency action plans, performed background checks, required CPR and first aid certification, conducted staff training, and established driver safety procedures. Given this current state of affairs, three recommendations are offered.

## Introduction

Many young athletes attend sport camps and clinics on college campuses every year. For some participants, attending camp is a means to develop and refine specialized sport skills in the hope of obtaining a future college scholarship. For others, the goal is to experience a different challenge, make new friends, and have fun. Intercollegiate sport camp administrators aim to gain exposure for the institution and its athletic programs, generate revenue, and identify future talent. While there is much to be gained from conducting campus based sport camps, we should not overlook the importance of providing safe programs and environments.

A routine camp practice is for the summer camp administrator to purchase general liability and accident medical insurance for all participants. Parents are asked to complete a health history form and sign a waiver form. However, in many states, parents are not allowed to waive a minor child's right to sue for damages caused by ordinary or gross negligent actions. Moreover, a

standard camp general liability insurance policy does not cover liability arising from allegations of sexual harassment or other offense related to camp employment practices (7). Clearly, buying insurance is not enough.

The public's expectation and demand for safe programs and environments continues to grow. Judges and juries expect more care from defendants (6). Increased awareness about how current practices are aligned with national standards will allow sport camp administrators the opportunity to take greater control of their sport programs (6). Therefore, the purpose of this exploratory study was to determine the extent intercollegiate sport camps are aligned with American Camp Association (ACA) standards in three areas: camp management and operations, staff training, and transportation.

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## Background Information

### *Youth Sport Participation*

Youth sport in the United States is very popular. Approximately 47 million young people between the ages of 5 and 18 years take part in sport activities each year, primarily in school and community sponsored programs (2). Boys and girls participate in sport activities for similar reasons such as to develop and demonstrate skill(s), make friends, belong to a team, gain recognition from family and peers, experience challenge and excitement, and have fun (4). Other purported benefits of participation include the reduction or prevention of health problems (e.g., obesity, diabetes, other chronic disease), development of peer networks, lower drop out rate, higher academic achievement, and enhanced occupational outcomes (3). To cater this growing demand for organized sport experiences, many intercollegiate sport coaches and athletic departments sponsor residential and day camps and clinics for boys and girls. While no “hard numbers” exist, anecdotal evidence suggests thousands of young athletes attend summer sport camps and clinics each year.

In response to the proliferation of youth sport programs, the Youth Sport Council of the National Association for Sport and Physical Activity (NASPE) published a resource paper titled *Choosing the Right Sport and Physical Activity Program for Your Child* (8). This checklist was designed to help parents assess program quality in five areas: administration and organization of the program, safety considerations, child’s readiness to participate, parent/guardian commitment to child’s participation, and evaluation of program. In particular, parents are urged to review written camp policies related to:

- Selection and training of coaches;
- Practice and competition areas are free of obstacles and hazardous materials;
- First aid supplies are on site and accessible at all times;
- Emergency medical forms, provisions, and personnel are available and easily accessible;
- Ratio of staff to participants (1:10) is appropriate for providing adequate instruction, supervision, and safety at all times for the age and skill level of the participants;
- Program philosophy promotes adequate participation in practices and contests with no discrimination based on ability, gender, or race.

Moreover, the resource paper outlines the Bill of Rights for Young Athletes. The Bill of Rights indicates children in all sport and physical activity programs have a right to:

- Have qualified adult leadership,
- Participate in safe and healthy environments,
- Equal opportunity to strive for success,
- Be treated with dignity,
- Have fun in sports.

### *Oversight of Summer Camps and Clinics*

Summer camps come in a variety of shapes and sizes. The range of possible settings, participants, and activities suggests no two camps are alike. However, underlying this diversity camp experience are ACA standards and in the case of intercollegiate sport camps and clinics, NCAA regulations.

*The American Camp Association.* Established in 1910, the ACA is a private, nonprofit educational organization. With members in all 50 states and several foreign countries, ACA (2007) aims to educate camp directors and staff about practices and procedures typically followed within the camp industry. At the present time, the ACA is the only national organization that accredits all types of organized camps. ACA (2007) standards identify practices, considered basic to a quality camp experience, in six areas: (a) site and food service standards, (b) transportation standards, (c) health-care standards, (d) operational management standards, (e) human resources standards, and (f) program standards. With respect to intercollegiate sport camps and clinics, three areas are particularly relevant.

Operational management standards include basic administrative practices related to creating a positive, protective environment for all participants. The standards include policies and procedures that address emergencies, protection of participants, and other areas of risk management. Human resources standards require minimums to be established in screening, hiring, training, and supervising staff. Transportation standards allow camp administrators to oversee critical aspects of driver qualifications and vehicular safety.

*National Collegiate Athletic Association.* Current NCAA (2008, p. 119) regulations define sport camps and clinics as:

*Any camp or clinic that is owned or operated by a member institution or an employee of the member institution’s athletics department, either on or off its campus, and in which prospective student-athletes participate. An institution’s sports camp or clinic shall be one that: (a) places special emphasis on a particular sport or sports and provides specialized instruction or practice that may include competition; (b) involves activities designed to*

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improve overall skills and general knowledge in the sport, or (c) offers a diverse experience without emphasis on instruction, practice, or competition in any particular sport.

Current regulations restrict participate type and camp location, advertisements, and employment of prospective student-athletes, current student-athletes, high school, preparatory school, and two year college coaches, and athletics staff members. There are no regulations related to camp management and operations, staff training, and transportation. Further, member institutions are not required to report any information about sponsored sport camps and clinics to the NCAA.

## Methodology Participants

Four mid-western intercollegiate conferences, representing all levels of the NCAA, were included in this study. Data was collected from athletic directors, compliance officers, or sport camp directors from member institutions of the Big Ten Conference (Football Bowl Subdivision), Missouri Valley Football Conference (Football Championship Subdivision), Great Lakes Valley Conference (Division II), and Heartland Collegiate Conference (Division III).

### Study Design & Instrumentation

Institutional representatives were contacted by email to schedule a phone interview. Phone interviews were conducted October 13-18th, 2008. The American Camp Association's Standards for Accreditation of Camps (2007) was used to generate the survey instrument. Each participant responded to seventeen (17) questions on a dichotomous scale (i.e., yes or no) regarding camp management and operations, staff training, and transportation. Descriptive statistics were generated for all the variables included in the survey.

## Results

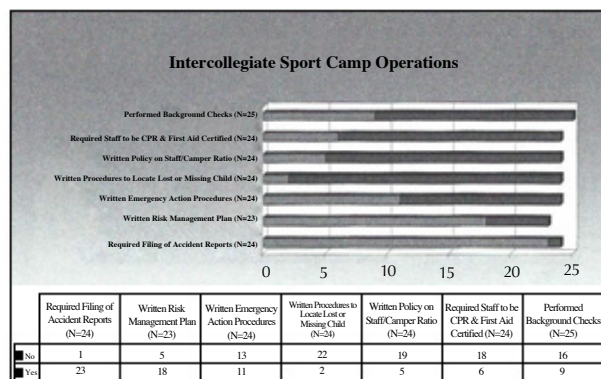
Twenty-five of the 43 member institutions completed the survey (58.2% response rate). The distribution across the four levels of the NCAA (e.g., FBS, FCS, DII, and DIII) was equivalent with at least 50% of institutions from each conference responding.

### Camp Management and Operations

Participants indicated whether the administrator(s) of the summer sport camp(s): (a) performed background checks on all camp staff members, (b) required all camp staff members to be certified in CPR and first aid, (c) established a written policy on camp staff member to camper ratio, (d) established written procedures to locate a lost or missing camper, (e) established written procedures for emergency action related natural disasters and building or site evacuations, (f) established a written risk management plan, and (g) established a written policy to require filing of accident reports. Results show that most summer camps have a policy requiring written accident reports (96%) and have a written risk management plan (78%). Yet, less

than half of summer camp administrators have established written procedures for emergency action (49%), performed background checks (36%), require all camp staff members to be certified in CPR and first aid (25%), established a written policy on camp staff member to camper ratio (21%), and have established written procedures to locate a lost or missing camper (8%) (Chart 1).

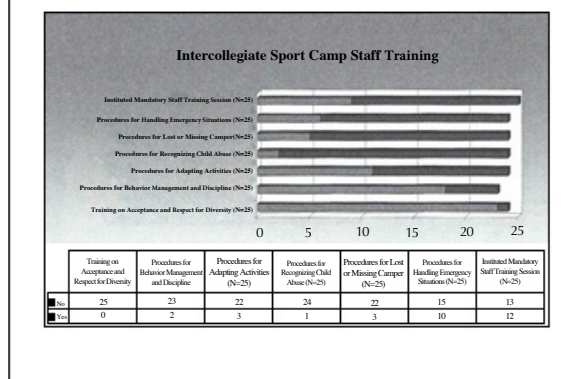
Chart 1: Intercollegiate Sport Camp Operations



### Staff Training

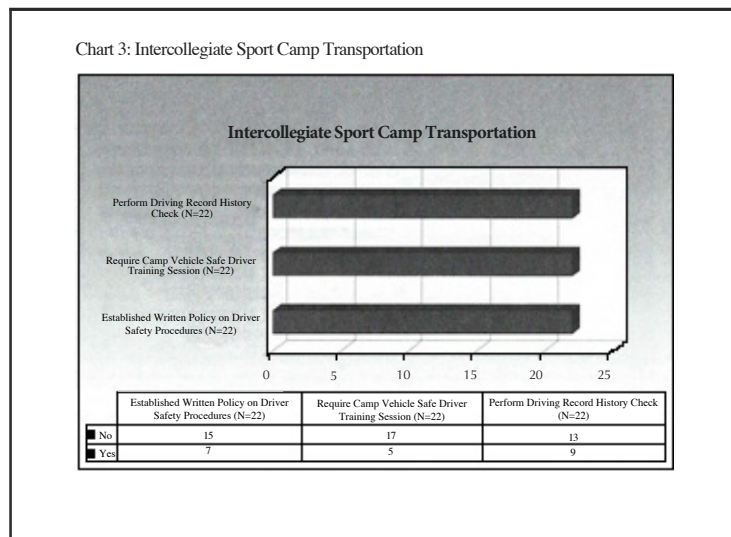
Participants indicated whether the administrator(s) of the summer sport camp(s) instituted a mandatory staff training session prior to the start of summer camp. If the answer was "yes", participants were asked to indicate if the training included (a) procedures for handling of emergency situations, (b) procedures for locating lost or missing campers, (c) procedures for recognizing child abuse, (d) procedures for adapting activities to match child needs, (e) procedures on behavior management and discipline, and (f) acceptance and respect for diversity. Forty-eight percent of sport camp administrators reported there was staff training prior to camp. In sport camps with training, 83% covered procedures for handling of emergency situations. To a much lesser extent, procedures on behavior management and discipline (33%), procedures for locating lost or missing campers (25%), procedures for adapting activities to match child needs (25%), and procedures for recognizing child abuse (8%) were covered. There were no instances where staff training reviewed concepts related to acceptance and respect for diversity (Chart 2).

Chart 2: Intercollegiate Sport Camp Staff Training



## Transportation

Participants indicated whether the administrator(s) of the summer sport camp(s): (a) perform a driving record history check, (b) required a camp vehicle safe driver training session, and (c) established a written policy on driver safety procedures. Results indicate that less than half of sport camp administrators perform a driving record history check (41%), established a written policy on driver safety procedures (32%), and required a camp vehicle safe driver training session (23%) (Chart 3).



### Discussion & Recommendations

The purpose of this exploratory study was to determine the extent intercollegiate sport camps are aligned with ACA standards in three areas: camp management and operations, staff training, and transportation. While the majority of institutions in this study had a written risk management plan and a policy for mandatory accident reporting, fewer than half had emergency action plans, perform background checks, required CPR and first aid certification, established staff/camper ratios, or had procedures for locating lost or missing campers. Less than half of institutions reported having a mandatory staff training session prior to the start of camp. And, less than half of institutions reported performing a driving record history check, required safe driver training, and established a driver safety procedures.

Given this current state of affairs, the following recommendations are offered:

**Recommendation 1: Intercollegiate sport camp administrators should use the ACA standards to complete a comprehensive audit of all sponsored camps and clinics.**

Risk management is the process by which sport camp administrators use operational policies and practices to reduce exposure financial and personal injury losses. At present, ACA is the only national organization that accredits all types of organized camps. Moreover, ACA standards delineate those practices and procedures typically followed in the camp industry. Thus, it would be reasonable for sport camp administrators to use the ACA criteria to review all facets of camp operations and to make the necessary changes to better aligned with the industry standards.

**Recommendation 2: Parents should be critical consumers of intercollegiate sport camps and clinics.**

Given the widespread availability of organized sport programs for children by many reputable organizations, it is easy to understand why parents may become complacent. Yet, as this study revealed, it is not prudent for parents to assume intercollegiate sport camp administrators are complying with standard practices and procedures. Therefore, parents are strongly urged to review sport camp policies and ask questions about all aspects of camp operations.

**Recommendation 3: IAHPERD – Sport Management Council should establish a taskforce to investigate the management of intercollegiate sport camp and clinics and prepare a position statement with recommendations for action.**

The IAHPERD – Sport Management Council is in a unique position to educate and advocate for positive change. Its members possess the expertise to conduct a detailed assessment of the management practices of intercollegiate sport camps and clinics across the nation. Results could be used to educate parents and youth sport coaches about specific criteria to use to select a camp and what conditions to avoid. IAHPERD could also urge its parent organization, AAHPERD, to partner with other national associations (e.g., ACA, NCAA) to develop, disseminate, and promote the use of guidelines or “best practices” for the operation of intercollegiate sport camps.

### Conclusion

Anecdotal evidence suggests thousands of young athletes attend summer camps and clinics every year for a variety of reasons. Sport camp administrators also benefit from sponsoring sport camps on campus. However, results from this study indicate that to a large extent, intercollegiate sport camps are not aligned with American Camp Association (ACA) standards. To address this issue, it is recommended that sport camp administrators conduct a comprehensive audit of a sport camps and clinics using current industry standards, parents become more critical consumers of the management of intercollegiate sport camps, and the IAHPERD – Sport Management Council take an active role as educators and advocates for “best practices” in the operation of intercollegiate sport camps.

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# The Efficacy of Three Interventions for Increasing Mammography Utilization

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## Abstract

In 2008, about 565,650 Americans are expected to die of cancer. Cancer is the second leading cause of death in the United States taking more than 1500 lives a day. Approximately one out of every four deaths in the United States is from cancer. It is expected that 40,480 women will die of breast cancer in the United States and approximately 182,460 women will develop breast cancer (American Cancer Society, 2008). Thus, the purpose of this study was to investigate the effectiveness of three different interventions for increasing mammography utilization among women in Northern Kentucky.

The three interventions targeted low-income women at bingo halls, hair salons, and senior citizen centers/housing. The bingo hall intervention included dissemination of brochures. The senior citizen/housing intervention included a video presentation on mammography and teaching demonstration on breast-self examinations. The hair salon intervention used trained hair stylists who agreed to participate by watching a video on mammography receiving a short presentation about the purpose of the intervention and additional breast cancer information. All women were given a brochure with a coupon to receive a free gift as an incentive to getting a mammogram.

Overall, seven hundred and eighty nine brochures were distributed at bingo facilities, hair salons, and senior citizen/housing centers to women. A one year follow up survey was completed. There was no evidence that giving women a brochure with an incentive to receive a free gift was a motivating factor in women getting a mammogram regardless of the interventions. However, four of the women said the brochure made them consider getting a mammogram. Women in the main study stated that the reason they did not get a mammogram was due to the lack of physician or nurse practitioner recommendation for getting a mammogram, their lack of knowledge about mammograms, and they were too old or never had any problems with their breasts.

## The Efficacy of Three Interventions for Increasing Mammography Utilization

In 2008, about 565,650 Americans are expected to die of cancer. "This is more than 1,500 people a day. Cancer is the second leading cause of death in the United States. Approximately one out of every four deaths in the United States is from cancer" (American Cancer Society, 2008). It is expected that 40,480 women will die of breast cancer in the United States and approximately 182,460 women will develop breast cancer (American Cancer Society, 2008). Currently, there is no primary prevention strategy for breast cancer; therefore, secondary prevention is the key to fighting breast cancer. A good health plan includes mammography, clinical breast exams, and breast self-examinations (ACS, 2004). According to the Department for Public Health (2001), "Early detection improves the probability of survival and thus prevents the suffering, disability and financial burden that accompany a late diagnosis,"(p.5).

Mammograms are an important part of a good health plan; but, many women do not receive the screening for a variety of reasons. Several studies have been conducted to identify barriers associated with mammography use by women. Some of these factors were high cost of mammography, the lack of awareness of the need to have regular mammograms, and inconvenience (Rimer, Trock, and Engstrom, 1991). Previous studies (Flynn, B.

S., Gavin, P., Worden, J. K., Ashikaga, T., Gautam, S., et al. 1997; Rimer, B. K., Resch, N., King, E., Ross, E., Lerman, C., et al., 1992; Sung, J. F., Coates, R. J., Williams, J. E., Liff, J. M., Greensberg, R. S., et al., 1992) have exhibited varying levels of success in increasing mammography utilization.

Also, the studies have recruited participants from a variety of sources. The study conducted by Rimer et al. (1992) showed women from retirement communities who received tailored health education programs, mobile mammography services, a letter from the medical director of a retirement community, and reduced cost in services were significantly more likely to have a mammogram.

Even though previous studies have indicated some success in implementing interventions to increase mammography screening, there is still a need to determine if interventions will be effective when participants are obtained from a variety of sources. Thus, the purpose of this study was to examine three innovative ways of reaching women to increase mammography utilization among low income women in Northern Kentucky.

## Methods

### *Participants/Procedures*

Seven hundred and eighty-nine (n=789) low income women from bingo halls (n=179), hair salons (405), and senior citizen centers (n=205) were chosen to participate in the study. Only seven (n=7) of the women responded to the survey. Therefore, a convenience sample of 36 women was approached at the same bingo facility (n=16), hair salon (n=9), and senior citizen (n=11) to conduct a follow up survey. The managers were more than accommodating in allowing the researcher to ask participants to answer questions as they arrived or left their establishment. Therefore, a total of 43 (N=43) women participated in the study.

### *Intervention #1: Brochure-Bingo Halls*

The bingo halls were selected from a convenience sample. The bingo intervention took place at the first of the month. The first of the month was the selected time because most individuals received their welfare or disability checks and bingo participation was at its peak. As the women came through the door of the bingo facility, they were handed a brochure and a snack of choice. The women were given a brief explanation about the brochure with an attached coupon. Next, the women were directed to a table to fill out an entry form to win a prize. The women were encouraged to pick up additional literature on mammography and breast cancer provided by the American Cancer Society and Northern Kentucky Health Department.

### *Intervention: #2: Brochure, Presentation & Training-Hair Stylists*

The second intervention targeted women who go their hair stylist at hair salons. A letter was sent to those hair salons listed in the yellow pages of the Northern Kentucky phone book based on addresses and zip codes. The zip codes were used to target areas where low income people resided. The letter asked for participation in the study. Only two hair salons responded; so, phone calls were made to the remaining. The first three hair salon managers who agreed to participate in the study from each county were chosen. The hair salon intervention used trained hair stylists who agreed to participate by watching a video on mammography and by receiving a short presentation about the purpose of the intervention and additional breast cancer information. Each salon was given a sign that read, "Ask your hair stylist how you can receive a free gift." When the client asked her hair stylist about receiving the free gift, the hair stylist gave the client the brochure with coupon and explanation. The hair stylist also showed the client a fact sheet containing mammography and breast cancer information. Each stylist who participated received 25 brochures to distribute.

### *Intervention #3: Brochure, Presentation, & Demonstration-Senior Citizen Centers*

The senior citizen centers were selected on a first come first serve basis. Two senior center/housing sites from each of the three experimental counties were chosen. The senior citizen centers were contacted for permission to conduct

the presentation. The senior citizen/housing intervention included a video presentation on mammography and teaching demonstration on breast-self examinations conducted by the researcher. The presentations were delivered at the regular meeting of the senior citizen center to encourage maximum participation. At the conclusion of the thirty-minute presentation, the women received the brochure with coupon. Women were encouraged to take additional literature on mammography and breast cancer.

### *The Brochure*

The Health Belief Model was the theoretical framework for the brochure. The brochure was designed to get the women to start thinking about mammograms (cue to action), identify the barriers and how to overcome them (cost, where to go) associated with obtaining a mammogram (perceived barriers), identify the benefits of early detection (perceived benefits), and get the women to perceive their risk for breast cancer (perceived susceptibility). The brochure was color-coded to track the different interventions. The following colors were used: (a) purple for the pilot project, (b) pink for the bingo intervention, (c) blue for the senior citizen/housing intervention, and (d) yellow for the hair salon intervention. The brochures contained a coupon for a free gift.

### *The Pilot Study*

The purpose of the pilot study was to test the feasibility of both the procedures and the intervention. Upon entering the bingo hall, women received brochures with a coupon to receive a free gift, an explanation, and a choice of a snack (pretzels or popcorn). After receiving the brochure and snack, women were directed to a nearby table to register for a free gift. The entry form to register for the free gift included the questions of name, address, and phone number, whether the women intended to get a mammogram this year, and why women do not receive mammograms. The number of women receiving information was tracked by counting the number of brochures before the bingo sessions stated and again after the intervention and by counting the number of entry forms. Once the program had been piloted and revised, the program was phased in at three different locations in the study area on different days and times of the week. The pilot study entry form was revised for use in the main study.

## Data analysis

The planned analysis was to calculate the percentage of screening mammograms for the intervention counties and compare it to the percentage of screening mammograms in the control county using analysis of covariance. The investigator planned to calculate Pearson correlations between the demographic variables (age, income, education level, and ethnicity) and percentage of women screened in each county. These analyses could not be performed due to the low rate of return of the mammography coupons. Therefore, an analysis on the historical data was conducted which consisted of the number of mammograms for each month beginning in October, 1997 to March 1998 (Period 1) then October, 1998 to March, 1999 (Period 2) and

finally October, 1999 to March, 2000 (Period 3) for each mammography site. Calculations of the percentage of change between Period 1 and Period 2 for each site were performed as follows: The sum of Period 2 minus Period 1 divided by Period 1. Similar numbers were calculated in the same manner for comparing Period 1 and Period 3 and for comparing Period 2 and Period 3. Period 3 occurred during the intervention period.

## Results

Overall, there were 43 participants who responded to the survey. Of the 43 participants, 86% of the women completed high school and 14% completed the 8th grade. All the women were white and had an average age range between 69-76. Seventy-one percent of the women had a yearly income of less than \$30,000. Finally, 71% of participants resided in Kenton County and Boone and Campbell Counties.

### *The Interventions*

There were three interventions that were evaluated during the study: (a) brochure, (b) brochure, presentation, and training, and (c) brochure, presentation, and demonstration. Out of the six percent returning the survey, 57% of the women said a doctor or nurse prompted them to get a mammogram and the remaining 43% of the women indicated they were prompted after receiving the brochure. The main reason stated for those participants not getting a mammogram was due to physician or nurse practitioner's recommendations, too lazy, did not find a lump while performing breast self-exams, and too old even though 94% of the women had insurance coverage. Based on the historical data, the number of women who received mammograms during the intervention period went up from the previous two years (Period 1, October 1997-March 1998 and Period 2, October 1998-1999) for two of the mammogram facilities.

### *Limitations of the Study*

One of the main limitations of the study was the low response rate. The researcher established that 61% of the women did not receive brochure. Therefore, the researcher conducted a follow-up survey in person at each of the three sites (bingo hall, senior center, and hair salon). Thus, the follow-up survey provided the researcher with a 100% response rate.

## Discussion

The brochures the women received were aimed at increasing perception of susceptibility, overcoming barriers, providing a cue to action, and increasing perceived benefits. It is possible the brochure made an impact and motivated the women to get a mammogram. Lipkus, Rimer, Halabi, and Strigo (2000) found women who received print materials said those materials made it easier for them to consider getting a mammogram. Follow-up questions showed that most women would get a mammogram if their health care practitioner would recommend getting a mammogram. Also, health care coverage/cost did not seem to be an issue because the majority of women interviewed said that they had coverage for a mammogram.

Women in the main study stated the reason they did not get a mammogram was due to the lack of physician or nurse practitioner recommendation for getting a mammogram, their lack of knowledge about mammograms, and they were too old or never had any problems with their breasts. Derose, Fox, Reigadas, and Hawes-Dawson (2000) found lack of physician recommendation as a common barrier for women to get a mammogram.

This study utilized some innovative interventions for addressing mammography utilization. However, the coupon method did not allow for an appropriate evaluation. It is possible the intervention could have influenced later behavior; but, this study was not designed to measure that. It is possible that there were other factors that increased mammography utilization. One of the mammogram facilities reported the addition of another machine. This would indicate women could have more access to allow the women to get a mammogram.

### Implications and Future Research

This study should be repeated using a better method for documenting how women who participated in the intervention actually got a mammogram. Until better data can be collected to support these interventions, emphasis should be placed on more traditional interventions such as recommendations from a health care practitioner.

## Conclusion

This study attempted to address the use of brochures which is a popular method to educate people on health related issues. However, the types of interventions tested in this study do not appear to have as much promise as physician or health care provider recommendations.

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# Indiana Elementary Physical Education Facility, Equipment, and Curriculum Analysis

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## Abstract

The overall quality and effectiveness of physical education programs are significantly impacted by the facilities, equipment, and curriculum utilized within each school. This study was developed because there is a lack of published data regarding the key factors in elementary physical education in Indiana. In order to assess the current status of elementary physical education in the state, a 60-item survey instrument, developed with expert input, was deployed to all 956 elementary physical educators in the state. The survey instrument included questions regarding teacher demographics, indoor and outdoor facilities, available equipment and budget, teaching time, assessment, and obstacles faced in teaching physical education. A response rate of 37.1% was achieved with 355 valid and complete surveys obtained from a combination of on-line submission and hard-copy submissions via the United States Postal Service. The highest rated barrier to elementary physical education, lack of teaching time, was one of the key findings of this study. The descriptive data resulting from this study created a tremendous amount of baseline data regarding the current condition of elementary physical education. This data is vital for informing all key stakeholders in elementary physical education and more specifically for the elementary physical educators to advocate for their programs with this data.

## Acknowledgement

The authors wish to acknowledge that this research was funded in part by a Mini-Grant from the Indiana Association of Physical Education, Recreation, and Dance.

## Introduction

Effective physical education classes play a crucial role in motivating children's active lifestyle. Children who enjoy participating in physical activity during childhood tend to be involved in games and sports throughout the life span (Haywood & Getchell, 2005). Elementary physical education is a building block to provide children with opportunities to learn and develop motor skills, fitness concepts, and an enjoyment of physical activity. However, the Shape of the Nation Report (2006) shows that 30% of the American schools do not require elementary physical education. Unfortunately, the state of Indiana is one of the states that does not currently mandate elementary physical education.

Although national reports (e.g., Surgeon General; Health People 2010) have documented that lack of physical activity and poor nutrition have a tremendous impact on rising levels of overweight

and obese citizens, compulsory physical education has weakened throughout the years (Buck, Jable, & Floyd, 2004). A report of the Surgeon General's Call to Prevent and Decrease Overweight and Obesity showed that the proportion of overweight children between 6 and 19 years of age has tripled in the last 20 years. The consequences of overweight conditions in children and youth are risk factors for heart disease, hypertension, elevated cholesterol levels, and type 2 diabetes during adulthood, in addition to social discrimination and low self-esteem (Buck et al., 2004).

The troubling trend of more individuals becoming overweight and obese during the last two decades, the increase of yearly deaths associated with these problems, and the high public health costs related to physical inactivity have led to a consensus on the importance of the quality of physical education programs for kindergarten through 12th grade students (NASPE, 2000). In 1992, The National Association for Sport and Physical Education published the Outcomes Quality of Physical Education Programs which



fully defined a physically educated person. Following this publication, NASPE adopted National Content Standards (1995; 2004) to establish benchmarks of both what students should know and what students should be able to do as a result of participating in a quality physical education program.

Factors identified that directly impact the quality of physical education program are: (a) content taught and assessment and (b) facilities and equipment. Content taught includes the types of games and activities that have become curriculum choices for the instructors. (Lund & Tannehill, 2005) Assessment of student learning and performance is a major factor linked to student achievement and learning because through assessment physical educators are able to identify areas of students' success and areas where students need remediation. (Lund & Tannehill, 2005) The facilities and equipment available can greatly impact the proportion of students that are motivated to participate in physical activity during class (Sallis, Conway, Prochaska, McKenzie, Marshall, & Brown, 2001).

This study was crucial as an effort to obtain baseline data specifically on Indiana elementary physical education programs. It builds upon the prior broad based Indiana Fitness Assessment Taskforce (IFAT) survey conducted in 2000 that was funded by the Department of Education (Assmann & Ignico, 2003). Data from this study is critical for the detection of strengths and weaknesses in the current elementary physical education programs of Indiana. Consequently, these data can build a case for advocacy for improved physical education programs in our state at the elementary level.

Based on the established need for quality of physical education, it is imperative to analyze how the state of Indiana has responded to the issues of (a) offering elementary physical education classes, (b) content taught and assessment, and (c) types of facilities and equipment available. The objectives of this study were to determine the amount and type of instruction occurring at the elementary level and to determine what facility and equipment obstacles these physical educators currently face in elementary schools in Indiana. This study contributed to the state of Indiana in two ways. First, it provided baseline data to document the curricula and facilities and equipment specifically found in Indiana elementary physical education programs as there currently is no such data available in the research literature. Second, this study served to both inform and alert educators, administrators, and legislators of the current status of elementary physical education regarding facilities, equipment, and curricular challenges present in the state.

## Research Questions

The following basic research questions guided this study:

1. Who is teaching elementary physical education in Indiana?
2. What are the basic physical education facilities in these elementary schools?
3. What types of equipment are available for physical education in these elementary schools?
4. What teaching time is allocated for elementary physical education?
5. What curricular topics are included in elementary physical education?
6. What assessment methods are utilized in this teaching setting?
7. What are the greatest perceived obstacles to elementary physical education improvement?

## Methodology

### *Participants*

In order to conduct a comprehensive survey of elementary physical education facilities, equipment, and curriculum in Indiana, all current elementary physical education teachers in this state were contacted to participate in this study. The Indiana Department of Education (DOE) database served as the source for all teacher contact information. According to the DOE data base, there were a total of 956 elementary physical education teachers in the public schools and private elementary schools comprising the subjects for this study. Since the DOE database did not include all email addresses, a search of school district websites was conducted to extract all possible email addresses for potential study participants. All participants with valid email addresses were sent an online version of the survey administered via the inQsist system and those subjects without email addresses were sent the survey instrument via the United States Postal Service (USPS).

### *Procedure*

A comprehensive 60 item survey was developed to gather data regarding the current status of facilities, equipment, and curricula within the state. This survey was developed by the researchers and was modeled after some elements from the Indiana Fitness Assessment Taskforce (IFAT) questionnaire sent to scholastic physical educators throughout the state in 2000. That prior questionnaire focused on teacher and school demographics, program characteristics, types and frequencies of physical activities, assessment information, obstacles to improving programs, and adapted programs (Assmann & Ignico, 2003). The survey developed for this study is focused only on the elementary level and included teacher and school demographics, indoor and outdoor facility analysis, equipment analysis, program characteristics, types and frequencies of physical activities, assessment information, and obstacles to improving programs. This survey was reviewed by a six member panel of experts and practitioners in the field of elementary physical education in order to create a survey that would be clear, concise, and accurate.

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with a student or your  
Principal.*

Surveys were distributed via email to all subjects with valid email addresses and were given an email reminder to respond two weeks after the initial contact. The hardcopy versions of the survey were mailed with a pre-paid return response envelope and a postcard reminder to complete the survey was sent to these subjects approximately two weeks after the initial mailing. All data from the hardcopy surveys was initially entered into the inQsit system and then the complete combined data file of all the surveys was transferred to SPSS version 15.0 for all descriptive statistical analyses.

## Results

A total of 355 complete survey responses were obtained for a 37.1% response rate. Key demographic information was collected regarding the elementary physical educators in this study in order to address research question 1. The educational preparation of these teachers included 70.4% with a bachelor's degree in PE, 37.5% with a master's degree in PE, 0.3% with a doctoral degree in PE, 11.0% with a bachelor's degree in another field, 30.1% with master's degrees in other fields, and 5.4% had an adapted PE certification. The gender breakdown of the participants was 36.1% male and 63.9% female and the ethnic categories represented in the sample were as follows: 96.9% white – non Hispanic, 1.1% black, 0.9% Native American, 0.6% Hispanic, and 0.3% Asian. These teachers reported a high level of current involvement in coaching (67.3%) in the following areas: 23.7% high school, 12.1% middle school/junior high, 22.3% elementary, 12.7% community youth recreational, 11.3% community youth competitive. Only 32.7% reported no current involvement in coaching.

The final two demographic variables considered were the number of schools covered by the teacher and the grade levels taught. A vast majority (71.3%) of teachers served only one elementary school while the remaining 28.7% served in multiple schools as detailed in Table 1.

Elementary Physical Educators also indicated a wide range of grade levels included in PE instruction at their schools as noted in Table 2

Table 1	
Number of Schools Served by Elementary PE Teachers	
Schools Served	Percentage of Teachers
1 school only	71.3%
2 schools	22.5%
3 schools	4.2%
4 schools	0.6%
5 or more schools	1.1%
Table 2	
Grade Levels Included in Elementary PE Instruction	
Grade Level	Percentage of Schools
Kindergarten	79.40%
First Grade	93.50%
Second Grade	94.10%
Third Grade	94.90%
Fourth Grade	93.20%
Fifth Grade	84.50%
Sixth Grade	37.80%

The analysis of facilities available for elementary physical education in Indiana included both indoor and outdoor components. For the indoor teaching areas, 68.4% of schools indicated having a teaching space equivalent or greater in size than a full size basketball court with a detailed depiction of these spaces in Table 3. Wood was the most frequently reported type of flooring found in these indoor teaching areas at 45.6% with other flooring reported at the following rates: vinyl tile 23.4%, synthetic poured flooring 9.9%, carpet 8.7%, synthetic rolled flooring 7.0%, concrete 2.5%, and sport court or other portable modular tiles 1.4%. Storage space for PE equipment was available in 96.1% of the schools with the most commonly reported storage room size ranging between 100-200 square feet. A total of 91.0% of the teachers reported having an office or personal workspace outside of the gymnasium with the most commonly reported office size between 51 and 100 square feet. Outdoor teaching areas assessed included both hard surface and grass play areas available for physical education instruction. A total of 78.3% of schools indicated outdoor hard court availability with the type of courts detailed in Table 4. Grassy play/game areas were available in 94.4% of the schools with the following types of areas indicated: multi-purpose field space 80.3%, baseball/softball field 41.7%, soccer field 33.2%, football field 12.7%, and other field space 20.0%.

Table 3	
Indoor Teaching Area Space Summary	
Space Size	Percentage of Schools
Less than 1 full-sized basketball court	31.60%
1 full-sized basketball court	49.30%
1 ½ full-sized basketball courts	13.20%
2 full-sized basketball courts	4.20%
More than 2 full-sized basketball courts	1.10%
Table 4	
Outdoor Hard Surface Courts Available	
Court Type	Percentage of Schools
Basketball court(s)	68.1%
Tennis court(s)	13.2%
Volleyball court(s)	2.5%
Other outdoor court(s)	24.5%
None	21.7%

The types of equipment available for instructional were limited to 26 types of items due to the constraints of the survey tool. The percentage of schools with these equipment items are summarized in Table 5. The nine most common equipment elements found within the state that were all reported at a 95% level or higher for the schools were in rank order: cones, hula hoops, basketball equipment, parachutes, playground balls, alternative balls, scooters, and volleyball equipment. A total of 83.1% of schools indicated an annual budget available for physical education equipment purchases with the most common budget level from the \$251 to \$500 range. A more detailed report of annual budget allocations is provided in Table 6. Additionally, the sources for annual equipment purchases

included: school district funds 70.1%, PTA or other parent group donations 58.3%, fundraisers 25.9%, and external grants (PEP, IAHPERD, etc.) 14.7%.

Table 5

Types of Equipment Available

Type of Equipment	Percentage of Schools
Cones	98.6%
Hula hoops	98.3%
Jump ropes	98.3%
Basketball equipment	96.9%
Parachute	96.6%
Playground balls	96.3%
Alternative balls (yarn, whiffle, nerf, foam, etc.)	95.8%
Scooters	95.2%
Volleyball equipment	95.2%
Bean bags	93.8%
Frisbees	93.0%
Soccer equipment	91.2%
Floor hockey equipment	84.2%
Poly spots	82.0%
Softball/baseball equipment	77.5%
Bowling equipment	74.1%
Flag football equipment	69.0%
Sound system	66.8%
Racquet sports equipment	66.8%
Scarves	65.6%
Balance beam	65.6%
Television with DVD/VCR	64.8%
Track & field equipment	48.5%
Pedometers	47.0%
Heart rate monitors	19.7%
Skating equipment	4.8%

Table 6

Elementary PE Annual Equipment Budget Amounts

Annual Budget Amount	Percentage of Schools
\$ 100 or less	10.4%
\$ 101 - \$ 250	15.8%
\$ 251 - \$ 500	27.9%
\$ 501 - \$ 1000	20.6%
\$ 1001 - \$ 1500	4.5%
\$ 1501 - \$ 2000	2.3%
\$ 2001 - \$ 3000	0.3%
\$ 3001 - \$ 4000	0.6%
More than \$4001	0.6%
None	16.9%

Teaching time allocation for elementary physical education was assessed in three areas. First, the areas of number of PE teaching session per week for each class was most commonly set at two times per week reported by 51.6% of the schools. Other teaching sessions per week for each class included the following rates: 3.1% for 5 or more per week, 2.0% for 3 per week, 41.7% for 1 per week, and 0.9% for less than 1 per week. The length in minutes for PE teaching sessions were reported as follows: 28.7% at 21 to 30 minutes, 42.8% at 31 to 40 minutes, and 28.2% at 41 minutes or more. Teaching time was also impacted by the number of teaching days lost per year due to closure of the facility for other uses with 89.0% of schools indicating a loss of at least one PE teaching day per year and further results regarding lost teaching days are detailed in Table 7.

Table 7

PE Teaching Days Lost Annually due to Unavailable Facility

Days Missed	Percentage of Schools
None	11.0%
1-2 days	24.5%
3-4 days	25.6%
5-6 days	18.6%
7-8 days	9.6%
9 or more days	9.9%

A total of 25 curricular topics were assessed in the survey with the amount of teaching days dedicated to instruction in these topics indicated. The seven topics with the highest rate of inclusion were as follows: locomotor skills, manipulative skills, jump rope, stability skills, cooperative games, fitness units, and basketball. A complete summary of curricular inclusion is provided in Table 8. Additional curricular topics indicated by the study participants to a high degree included: cup stacking ( 5.1%), golf (3.4%), obstacle course (3.4%), juggling (3.1%), kickball ( 2.3%), yoga (1.7%), swimming (1.4%), cross country running (1.1%), lacrosse (1.1%), sharbade (1.1%), and tinikling (1.1%).

Table 8

Elementary PE Curricular Topics and Units of Instruction

Activity/Unit	Unit Length Indicated in Percentage of Schools				
	None	1-4 Days	5-10 Days	11-20 Days	21Days or More
Locomotor skills	0%	13%	20%	16%	50%
Manipulative skills	0%	4%	16%	28%	51%
Stability skills	3%	30%	38%	23%	6%
Cooperative games	1%	19%	39%	25%	15%
Gymnastics	49%	28%	17%	5%	0%
Dance	18%	43%	29%	8%	2%
Fitness Unit	4%	14%	29%	19%	32%
Soccer	5%	36%	42%	14%	2%
Basketball	4%	34%	47%	12%	2%
Hockey(field/floor)	20%	43%	32%	5%	0%
Football	34%	37%	25%	3%	0%
Volleyball	6%	35%	45%	11%	2%
Softball/baseball	15%	50%	28%	5%	0%
Ultimate Frisbee	48%	38%	12%	1%	0%
Team handball	74%	17%	6%	0%	0%
Pickleball	85%	11%	3%	0%	0%
Badminton	63%	21%	13%	1%	0%
Tennis	50%	33%	13%	2%	0%
Track & Field	23%	41%	26%	6%	3%
Jump Roping	1%	29%	36%	17%	16%
Wall climbing	83%	6%	5%	3%	2%
Orienteering	88%	8%	2%	0%	0%
Cycling	96%	2%	0%	0%	0%
Skating	83%	9%	6%	1%	0%
Bowling	25%	46%	24%	3%	1%

Research question six addressed assessment and the assessment methods and frequency were analyzed. Overall, the instructors indicated that assessment is used in 94.9% of the schools and that 54.4% assess their units of instruction most of time or always. The types of assessment utilized are summarized in Table 9 with teacher-based assessments being the most common modality. The types of teacher-based assessments were further analyzed and the following methodologies were used: scanning/monitoring at 67.6%, checklists at 52.1%, rubrics at 34.9%, and rating scales at

24.2%. Specific to fitness testing and assessment, a total of 78.1% of schools conducted formalized fitness testing and from those schools 67.5% utilized the Presidential Physical Fitness Test, 18.8% utilized the Fitnessgram, and 13.7% utilized the Physical Best testing program.

Assessment Type	Percentage of Schools
Teacher assessment	89.3%
Peer assessment	35.2%
Self-assessment	51.3%
Quizzes	30.1%
Homework	14.1%
Logs	15.5%
Journals	11.8%

The final research question focused upon barriers to elementary physical education. Seven obstacles were analyzed with a 5-point Likert scale and the single greatest obstacle of the seven items was also indicated in a separate question. The time available for instruction was deemed to be the greatest barrier in both the Likert rating and in the identification of the single greatest obstacle at 60.4%. The summary of these barrier factors is included in Table 10.

Obstacle	Mean Likert Value* (+/- Standard Deviation)
Time Available for PE Instruction	3.77 (+/-1.19)
Emphasis on Core Academic Subjects	2.89 (+/-1.16)
Equipment for PE Instruction	2.54 (+/-1.25)
Facilities for PE Instruction	2.53 (+/-1.30)
Administrative Support	2.04 (+/-1.04)
Student Interest in PE	1.70 (+/-0.92)
Parent/Community Support	2.08 (+/-0.96)

\*note that a high Likert score indicates a greater obstacle

## Discussion

Due to the lack of prior research in this area, this study provides important baseline data regarding numerous aspects of elementary physical education in Indiana. This data is vitally important to the elementary teachers currently in the field as this data can be used not only to assess the current status of their program in relation to the factors and trends identified but also to advocate with data to school administrators for program support and improvement.

The identification of lack of teaching time as the most significant barrier to the elementary program was a significant finding of this study. It should be noted that the second greatest barrier identified was the emphasis placed

on core academic subjects, and this type of emphasis also reduces the time allocated for physical education instruction in many schools. This finding is consistent with the research of Morgan and Hansen (2008) that indicated that lack of teaching time to be the greatest obstacle in physical education and with the research of Hardman and Marshall (2001) that found on a global basis that lack of time and resources for physical education result in lessons resembling supervised play. These findings all support the need for dedicated and ample time to be invested in the elementary physical education program.

Additional analysis of the current data should be conducted in order to explore significant differences between physical education programs in the state based upon factors such as: teacher demographics, public/private classification, assessment types, and facility and equipment factors. An analysis and exploration of significant relationships between factors such as teaching time and assessment, equipment and curricular topics, facilities and curricular topics all have merit for further research. Additionally, a replication of this methodology would be beneficial on a five to ten year time interval in order to create a longitudinal data for analysis of changes and trends for elementary physical education in the state. A comparative analysis of the Indiana data to other states and regions from a replication of this methodology would also be valuable.

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## Teaching Majors Help Raise Funds for Jump Rope for Heart

The Sport, Health, and Physical Education (SHAPE) Club at Manchester College is setting its student members on a path for service and learning even before they enter the real world of public education. In the middle of spring semester courses, health and physical education teaching majors spent their day at a local elementary school teaching children and administering a Jump Rope for Heart program to raise money and awareness for heart research as well as the benefits of a physically active lifestyle.

Before finishing final exams and heading home for the summer, the SHAPE Club leaders presented a check for \$1500 to the American Heart Association (AHA). The mission of the AHA is to build healthier lives, free of cardiovascular diseases and stroke. "We chose the American Heart for one of our annual service projects because it is a great community health resource," said Jordon Knox, Service Coordinator of the SHAPE Club.

The SHAPE Club is the professional student organization for students preparing for a career in health and physical education. Student officers include Kyle Leffel, Chelsea Bower, Dan Jones, Andrew Scolaro (front row), Kalie Carlisle, Melanie DeGrandchamp, Jordon Knox, and Jordon Snyder (back row). IAHPERD members, Dr. Ryan Hedstrom and Prof. Andy Stout, are Faculty Advisors for the MC SHAPE Club.





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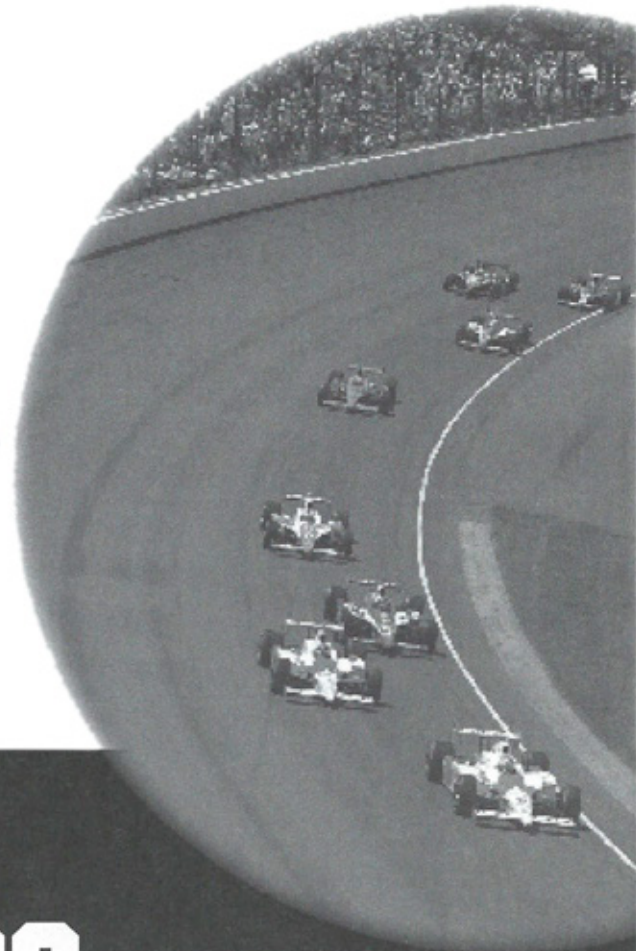
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# Nutrition Policy in Indiana Schools: Who Sets the Rules?

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## Abstract

This research assessed the state of school nutrition policies and practices in Indiana prior to the passage of Indiana Senate Bill 111 and compared results with the previous work of French, Story, & Fulkerson. (French, Story, & Fulkerson, 2002) Another goal was to compare the perspectives of high school principals and food service providers concerning school nutrition policies. The sample included 146 participants, 81 high school principals, 4 assistant principals, 31 food service managers, 29 district food service directors, and one unspecified participant from both public and private schools, located in rural, suburban, and urban locations. Results were consistent with findings of French et al. (2002) in Minnesota, indicating that there were few policies related to food and nutrition in Indiana high schools, with only 35% of respondents claiming their schools had any type of food policies. A large majority of participants claimed to have strong opinions about the importance of having school nutrition policies and a healthy school nutrition environment; though, no such official policies were in place. It also was discovered that food service providers were making many healthy changes in school cafeterias; but, these healthy changes were not occurring in vending machines controlled by school administrators. In conclusion, few Indiana high schools had nutrition policies in place before the passage of Indiana Senate Bill 111 that encouraged a healthy eating environment and participants believed little change would occur without federal or state mandates, especially in relation to foods sold outside the cafeteria. Since the passage of Senate Bill 111, the role of health and physical educators should now be as active members of their school wellness councils, working diligently to develop strong policies for healthy nutrition and physical activity environments.

## Introduction

Overweight and obesity have become leading public health concerns in the United States. Of grave concern also is the fact that childhood overweight is increasing so rapidly, rising approximately 23% from the National Health and Nutrition Examination Survey 1999-2000 to the 2003-2004 survey. (Ogden et al., 2006) This is a concern for both public health and economic reasons. First, overweight children, defined as a Body Mass Index (BMI) at or above the 95th percentile on gender-specific BMI-for-age growth charts developed by the Centers for Disease Control and Prevention (CDC)(2007), tend to become overweight and obese adults. (Anderson & Butcher, 2006) The unhealthy eating and activity patterns established in childhood are commonly carried into adulthood. (Hoelscher, Evans, Parcel, & Kelder, 2002) Second, overweight and obesity have an economic impact on the health care costs of the nation. Obesity related health issues cost the United States approximately \$75 billion in direct medical costs in the year 2003 alone. (Finkelstein, Fiebelkorn, & Wang, 2004)

The issue of childhood obesity has become such a concern that the Institute of Medicine (2005,

p. 6) stated, "Prevention of obesity in children and youth should be a national public health priority." Researchers have proposed that this problem is due in part to the environment in which children exist – an environment of video games, fast food, little physical activity, and an abundance of soda and junk food. (Dietz & Gortmaker, 2001; Nestle & Jacobson, 2000) One factor contributing to calorie increases is the consumption of excess fat and sugar, specifically from foods such as soda and high-fat foods of minimal nutritional value which may be purchased through school vending machines or the school cafeteria. (French & Stables, 2003; Vereecken, Bobelijn, & Maes, 2005)

Schools are in a unique position to promote positive nutrition and physical activity, with most children attending school 180 days per year for six or more hours per day. (Peterson & Fox, 2007) Because of the amount of time spent there, it likely would benefit children to be surrounded by a health-promoting environment while in school. School health policy advocates in many communities have recognized this and voiced the need for providing healthy food options in both the hallways and cafeterias. (Calderon, 2002; Dietz, Bland, Gortmaker, Molloy, & Schmid, 2002) With the urging of such

advocates, the United States legislature and numerous states, including Indiana, have been developing legislation to force healthy changes to school nutrition and physical activity policies. (Christie, 2003) The Child Nutrition WIC Reauthorization Act of 2004 (108th U.S. Congress, 2004) and Indiana Senate Bill 111 (Indiana General Assembly, 2006) are both examples of legislation that begins to force the establishment of healthier school environments; but, some schools have been lagging behind, slow to adopt the stricter healthy food policies. In an attempt to determine why some communities may be delayed when it comes to adopting healthy school nutrition environments while others have been quick to jump on board, this research focused on exploring the state of Indiana school nutrition policies during the 2005-2006 school year and the perspectives of high school principals and food service managers/directors concerning these policies, along with the factors they believed must be met in order for schools to implement healthier food policies. Another purpose was to compare the results of this study with the previous work of French, Story & Fulkerson (2002) that surveyed high school principals concerning their school food policies and practices. The results revealed the vast majority of surveyed principals believed a healthful food environment was important and 64% stated that only healthful food choices should be provided to students at school; but, only 32% of principals reported that their schools had any policies about food and nutrition.

## Methodology

### *Participants and Procedures*

Each high school principal and foodservice director at all 559 Indiana high schools was mailed a questionnaire. A total of 146 participants, 85 (58.2%) principals, 60 (41.1%) food service managers/directors, and one "other" responded to the survey for a response rate of approximately 13%. Of those responding, 81 (55%) were high school principals, 4 (3%) were assistant principals, 29 (19.9%) were district food service directors, 31 (21.2%) were school food service managers, and one selected "other". Respondents reported that 90 (61.6%) of their schools were in rural locations, 27 (18.5%) were suburban and 22 (15%) were urban, with six missing responses. Of these schools, 21 (15%) were described as private and 119 (85%) were public. The majority of schools (99) had less than 1000 students, while only 38 (27%) had more than 1000. Approximately 62% of survey respondents were from rurally located schools, 18.5% were in suburban locations, and 15% were in urban locations.

### *Measures*

Materials mailed to participants included a description of the research including contact information for the lead researcher, informed consent, stamped return envelope, and the Indiana School Nutrition Policy Questionnaire. This questionnaire was a revised version of the original 36-item questionnaire, Food Policies and Practices in

Minnesota High Schools, developed by researchers at the University of Minnesota for use with high school principals. (French et al., 2002) The original survey contained selected response items assessing school food and nutrition policies and practices, principals' attitudes concerning the current environment, and demographic questions. The revised version included a majority of the original questions, with the addition of questions concerning the use of vending machine profits, the most influential individuals in shaping the current food policy, and factors that would likely lead to the adoption of stricter food policies. These additional questions were developed through examining the literature base, discussions with researchers and school administrators, and consulting committee members. A final section provided excerpts from the National Association of State Boards of Education (NASBE) sample school nutrition policy (NASBE, 2000), which participants were asked to evaluate for importance, feasibility of implementation within their schools, and financial sustainability. This last section also included six general questions about links between school nutrition, physical activity, the school environment, and childhood obesity. Following each section, participants were given the opportunity to provide additional comments. The questionnaire was piloted with a small number of local high school principals and sent to both the Indiana School Principal's Association and Indiana School Nutrition Association for recommendations and approval.

Possible participants were contacted through mailings addressed to the high school principal and food service manager at each Indiana public and private school containing grades 9-12. School addresses were accessed through the 2005 Indiana School Directory, available at the Indiana Department of Education website. Each questionnaire contained a numeric code, indicating the school and type of participant as either food service manager or principal. This allowed for response comparisons between participants at the same location, along with comparison of aggregate data without revealing identity.

The same *Indiana School Nutrition Policy Questionnaire* was utilized with both principals and food service managers. Participants were asked to complete the survey within a two week period, at which time, postcard reminders were mailed to all sites.

### *Analysis*

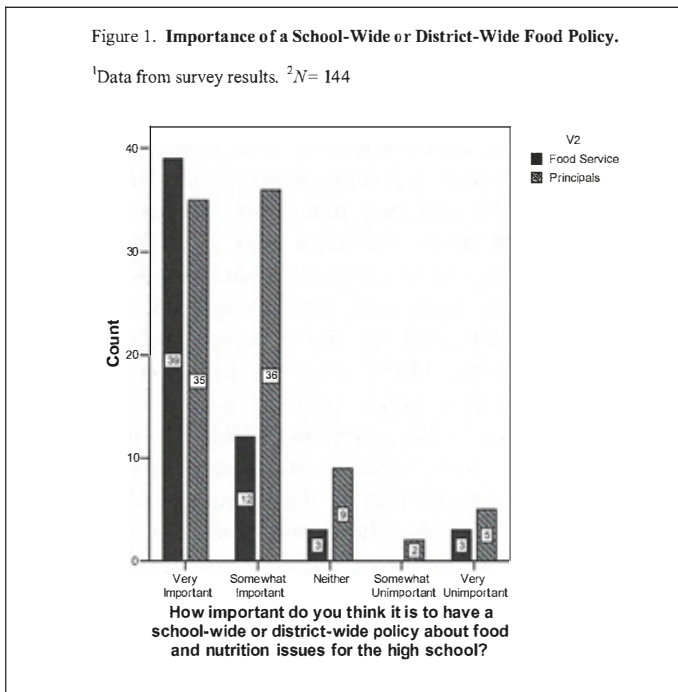
Data analysis was conducted using the statistical software package SPSS 12.0. Simple frequencies were used to demonstrate demographic data and calculate number and percentages of responses to individual questions. Differences in mean responses were measured through t-tests, which were calculated from originally non-parametric data by transforming it to parametric data. A Chi-square analysis was also used on one occasion to determine whether vending machine regulation varied by school type. Statistical methods to control for clustering effects were originally discussed, but were not needed because only six sites returned surveys from both the

principal and food service manager or director. Therefore, to control for independent samples, these six school sites were omitted in all mean comparison analyses.

## Results

### *School Food Policies and Policy Development*

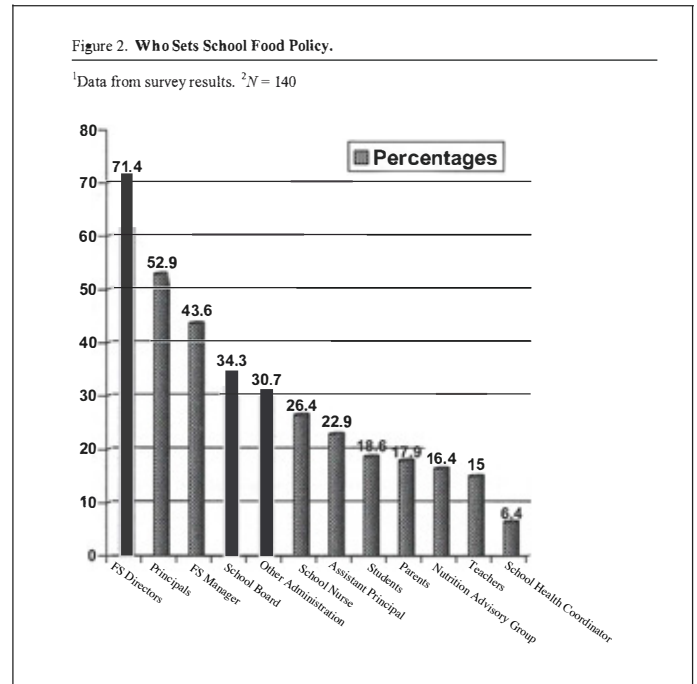
While 51 (90.4%) food service respondents and 71 (80.7%) principals felt it was either very important or somewhat important to have a school-wide or district-wide policy about food and nutrition issues for their high schools (Figure 1), only 49 (35%) participants claimed their schools had any school policies about nutrition and food in general. This difference was even greater than expected based on the past research of French et al. (2002).



More specifically, only 37 schools (26.4%) reported any school policies about what is sold in school vending machines. Eleven (28.2%) of the 39 schools who reported having school snack bars conveyed having policies about the types of foods sold in the stores. One school (.7%) reported the existence of a policy about the types of foods that are served at school board meetings, two schools (1.4%) reported policies for foods served at faculty/staff meetings, eight (5.7%) for school sporting events, two (1.4%) for other trainings such as in-service and seminars, and eight (5.7%) for school assemblies.

Survey respondents reported that food service directors (71.4%) and principals (52.9%) were most likely to be involved in setting school food policy, followed by the food service cook manager (43.6%), school board (34.3%), other school administrative staff (30.7%), school nurse (26.4%), assistant principal (22.9%), students (18.6%), parents (17.9%), a nutrition advisory group (16.4%), teachers (15%), and a school health coordinator (6.4%). (Figure

2) An apparent inconsistency in the data exists at this point because respondents are claiming that food service directors and principals are most likely to be involved in setting policy; but, these same respondents claim that there are no policies in their schools. These responses may refer to the informal practices established by these individuals instead of actual formal policies.



In terms of foods and beverages served in vending machines, principals were overwhelmingly rated as being the most influential in establishing the policies. Principals were followed by food service directors, other administrative staff, assistant principals, school board, and food service manager, in that order. Again, the inconsistency exists in the fact that respondents also claim that there are not formal nutrition or food policies; so, it is assumed that they are here referring to the actual practices of these individuals.

According to respondents, the factors most likely to result in the adoption of healthier food policy inside their cafeterias would be state mandates (60.7%), students advocating for healthier policy (49.3%), parents advocating for healthier policy (46.4%), food service staff advocating for healthier policy (45.7%), increases in school funding (36.4%), teachers and other staff advocating for healthier policy (33.6%), and a change in school board or district policy (30%). (Figure 3) Similar results were seen for factors leading to the adoption of healthier vending policies. (Figure 4) A total of 9 (6.4%) did not believe any factors would lead to the adoption of healthier vending policy.

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Figure 3. Factors Leading to Schools Adopting Healthier Cafeteria Policies.

<sup>1</sup>Data from survey results. <sup>2</sup>N = 137

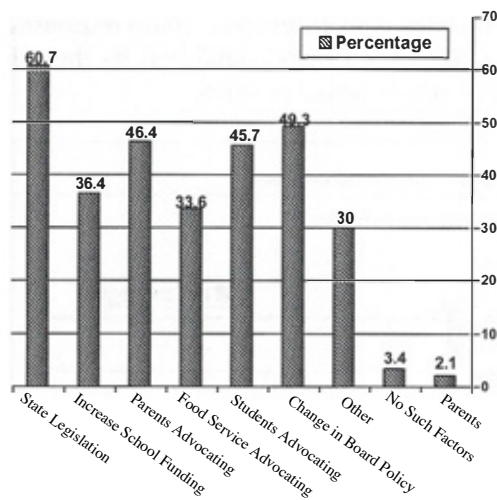
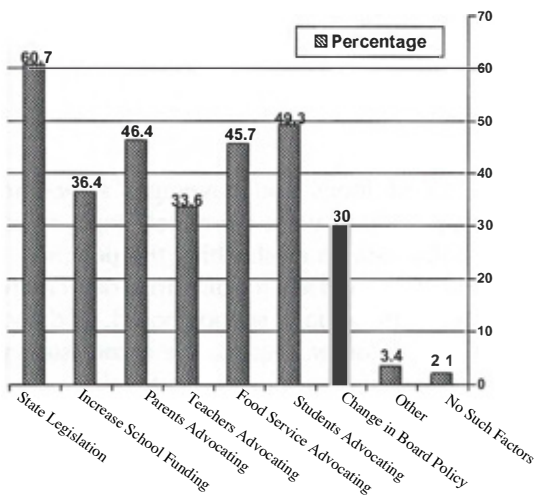


Figure 3. Factors Leading to Schools Adopting Healthier Cafeteria Policies.

<sup>1</sup>Data from survey results. <sup>2</sup>N = 137



### School Food Beliefs vs. Practices

In terms of the school nutrition environment, 88.5% of food service and 63.2% of principals felt it was very important for schools to provide an environment to encourage healthy food choices while 9.6% of food service and 31% of principals felt it was somewhat important. Of these same respondents, 59.6% of food service and 67% of principals stated that schools should provide mostly only healthful foods to students in school; but, only 35% of schools actually claimed having policies in place related to nutrition. This is similar to the findings of French et al. (2002) where they discovered that 64% of principals reported that “only healthful food choices should be provided to students at school.” But only 32% reported that

their schools had a policy related to nutrition.

It seems respondents believe the goal of a healthy nutrition environment is being met in cafeterias where 75% of food service and 56.8% of principals believed their schools were serving only healthy or more healthy than unhealthy foods and beverages. However, responses for vending machines were not as consistent with only 7.7% of food service and 18.2% of principals stating that their vending machines offered only healthy or more healthy than unhealthy foods and beverages. This lack of healthy food and beverage options may pose a problem when considering that schools reported having an average of 4 soft drink machines and 1.6 snack/candy machines but only 2.57 juice/water machines.

The unbalanced number of soft drink machines in comparison to juice and water may be due to the fact that 117 of the 140 schools, 84%, had a contract with a soft drink company such as Coca-Cola or Pepsi Co. This is similar to the findings of French et al. (2002) where 77% of high school principals reported their school or district having a contract with a soft drink company.

While much money is made from school vending, only 14 (10%) schools reported that food service controlled profits from soft drink machines and 25 (18%) schools reported that they had control over snack machine profits. The profits from these soft drink machines were most likely to be controlled by the principal (60%) and/or the athletic director (43%) with the top two financially benefiting programs being athletic teams (55%) and/or other extracurricular activities (45%). Similar to soft drink machines, snack vending machine profits were also most likely to be controlled by the principal (51%) and/or athletic director (38%). The profits from these machines were dispersed similarly with athletic teams (75 schools) and/or extracurricular activities (69 schools) benefiting the greatest majority of the time. This control by administration instead of food service over funds and their distribution may be drastically influencing the types of policies (or lack of policies) that are in place.

According to survey results, many soft drink and snack vending machines were left on during lunch hours with 24 (17%) schools reporting no restrictions at all on hours of operation for snack machines and 30 (21.4%) reporting no restrictions for soft drink machines. In general, 73.6% of respondents reported that their schools limited vending machine operation in some way which was consistent with, but slightly less than, the finding of French et al. (2002) where 81% of principals stated the same. Approximately 35.7% of schools in the current study limited snack vending and 38.6% limited soda vending to before and after school only or at least after all lunch periods, which is consistent with the finding in the French et al. study of about one third limiting vending to before and after school only or after all lunch periods. Though not reported in the French et al. study, it was discovered in the current research that public schools included in the survey were much more likely to limit the hours of operation for their vending machines than were private schools 2 (1, N=129)

= 15.35,  $p < .0001$ , as demonstrated by their positive responses to question #36, "Are the hours of operation for the vending machines limited in any way?" Though these exact findings were not mirrored by the interview data, the overall lack of restriction on the times soda and snack foods are available to students in vending machines is likely to be negatively influencing the sale of healthier foods and beverages in the cafeterias, which would impact the types of foods consumed by students and the amount of income generated by school cafeterias.

## Discussion

Based on this research sample, the picture painted of Indiana school nutrition policy during the 2005-2006 school year was not a particularly positive one. While the vast majority of both principals and food service providers supported the statement that having a school-wide or district-wide policy concerning food and nutrition in their high schools was either very important or somewhat important, only a small few of these schools had actual written policies in place. This finding is consistent with previous research; though, the difference in opinions and practice was even stronger than expected based on the previous work. (French et al., 2002) The majority of both food service respondents and principals also felt schools should provide mostly only healthful foods; though, this practice was not necessarily followed in their own schools. Although 88.5% of food service workers and 63.2% of principals felt it was very important for schools to provide an environment to encourage healthy food choices, few of their schools, as described by their policies and practices, seemed to exhibit a healthy food environment. It appears that school food policies most commonly consisted of the very general stipulations put in place by the USDA for those schools participating in the National School Lunch Program; but, very few schools had written policies that went beyond these stipulations. As schools continue to develop and rework nutrition policies to maintain compliance with the Child Nutrition WIC Reauthorization Act of 2004 (108th U.S. Congress, 2004) and Indiana Senate Bill 111 (Indiana General Assembly, 2006), health and physical educators must be involved in those discussions.

While many principals and food service providers in this sample felt the nutrition environment within the cafeteria was positive, the findings were not as positive related to vending machines, where the vast majority of schools had a contractual vending agreement with Coca-Cola or Pepsi Co. and less than three-quarters of these schools limited their vending machine operation in any way. More disturbing was the finding that greater than one out of six schools placed no restriction at all on the hours of operation for snack machines and greater than one of every five had no restrictions on soft drink machines. While district food service directors may have the most control over foods served inside, the cafeterias and principals often control the foods and beverages served outside the cafeteria; in general, both groups seemed to agree that the best way to get schools to make the needed changes to the school nutrition environment was through a state or federal

mandate dictating school nutrition policy development. As long as vending machines are controlled by school administrators interested in funding athletic or other extra-curricular programs with profits, schools are unlikely to see many changes in the foods and beverages offered in these machines without some type of local or state school wellness policy that goes beyond that which is spelled out in the Child Nutrition WIC Reauthorization Act of 2004 (108th U.S. Congress, 2004) or Indiana Senate Bill 111 (Indiana General Assembly, 2006).

Indiana Senate Bill 111 took effect on July 1, 2006 (Indiana General Assembly, 2006) and goes slightly beyond the stipulations placed on school wellness policies; but, the legislation still demonstrates many of the same flaws as the national policy. It will be interesting to see whether the new policy has the intended impact on the state's school nutrition environments, as it addresses thoroughly only a few areas of the NASBE recommendations (NASBE, 2000) and fails to address others related to nutritious food choices and food sales. The legislation also fails to establish any type of real monitoring or evaluation mechanism. This type of legislation is definitely a needed step in the right direction for the State of Indiana; but, the effectiveness of the policy remains to be seen. Health and physical educators should continue advocating to tighten up state-level legislation and give more control of foods served outside cafeterias to food service staff.

## Conclusion

Though this was a small study in the State of Indiana, information gleaned from this work may be applicable in other settings. One main suggestion is for food service providers to control all foods and beverages served in the school, both inside and outside the cafeteria. This recommendation is in agreement with the school nutrition recommendations made by NASBE (2000) and supported by the findings in the current research. It also was demonstrated that the beliefs about school nutrition policy held by principals and food service directors are not enough to lead to positive changes in policy. Instead, it appears that modifications in state legislation may be necessary to bring about the needed changes in the school food environment. If these policies fail to include monitoring mechanisms or clearly outlined penalties for schools failing to comply, there may not be enough incentive for schools to follow the specifications of the legislation. This is especially true when the perception is that they may suffer financial loss by doing so. Another interesting question is whether the policy and practice changes that are so quickly evolving in today's school nutrition environment will manifest themselves in evident and measurable changes in the health behaviors of students. The answer remains to be seen and future research should focus on trying to measure the health behavior changes and health outcomes resulting from these school policy changes.

Today's school health environment is quickly changing and is likely to continue doing so with recent emphasis placed on the subject. Health and physical educators may

be on the forefront of this research and change; but, appear to be having difficulty getting some school administrators on board. Health and physical educators need to continue advocating diligently for policies that provide students with a healthy school environment in ALL areas of the school.

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# Lead-up to Skillfulness

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## Lead-up to Skillfulness

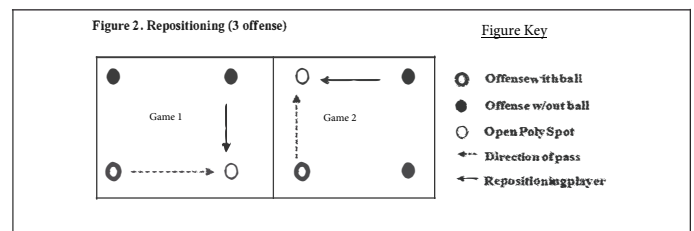
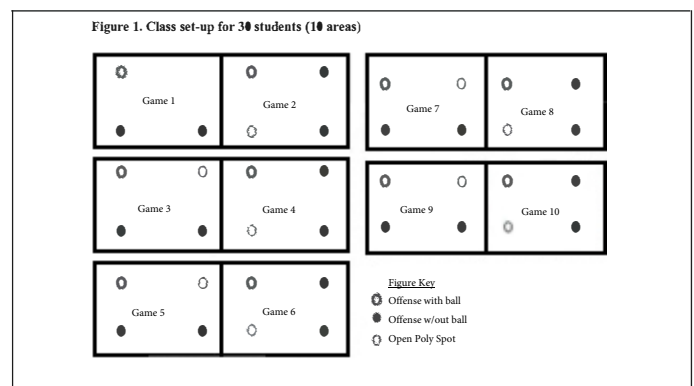
In physical education, it has long been thought that if students become more competent and proficient in games and sports, they are more likely to be active participants in activities that lead to a more active lifestyle. (Rink, French, & Tjeerdsma, 1996) However, many physical education teachers deliver traditional sport-oriented curriculum (Siedentop, Doutis, Tsangaridou, 1994) without giving students the understanding of why and how to use certain skills in a game. (Hooper, 2002) Many of these traditional teachers believe that students need to learn how to play the “real game” with the appropriate number of people and the full rules. (Kern & Calleja, 2008) According to Stodden & Goodway (2007), when students cannot perform complex motor skills and strategies needed in a game, they often get frustrated; these repeated frustrations lead to students avoiding participation. Researchers believe that by using small sided lead-up games to teach strategies, students can begin to gain a better understanding of “what to do” and “how to do it” in a game to reduce the frustration level and increase skill development. (Graham, Holt/Hale, & Parker, 2007; Kern & Calleja; Rink, 2006; Rink, French, & Tjeerdsma)

The purpose of this article is to provide examples of offensive lead-up games that can be taught in physical education classes to increase student success in invasion gameplay. Invasion games (i.e. basketball, soccer, speedball, lacrosse, hockey, team handball, and football) focus on controlling an object while sharing the same field or area with an opponent. (Belka, 1994) For students to be able to transfer knowledge from small sided activities, teachers need to establish progressions that gradually add to the complexity of activities to achieve the full context of the game. (Rink, French, & Tjeerdsma, 1996) The progressions used for these activities include: (a) changing speed, (b) changing from stationary to moving, (c) adding participants, (d) modifying space, and (f) modifying equipment. These activities were also designed for maximum student practice time and adaptability to students’ ability levels.

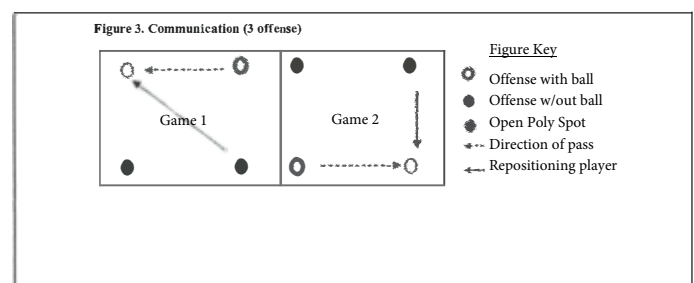
## Synopsis of Activities

The activities designed here were created as small sided lead-up games for team handball but can be easily adapted for all invasion sports (i.e. basketball, soccer, speedball, lacrosse, hockey, football, and other similar games). To maximize student participation for a class of 30, a teacher would divide the space into 10 different play areas (four poly spots in a square) with students standing on 3 of the 4 poly spots (see figure 1). The teacher would begin by discussing the offensive concept of repositioning to open space. Inexperienced students in games rarely

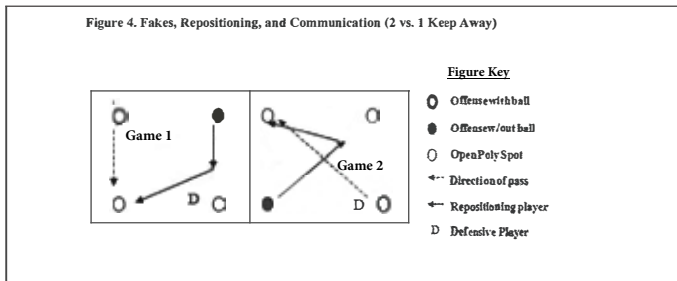
reposition to open space and generally stand in one area hoping for a chance to catch the ball. To assist students in understanding the importance of repositioning, one student in each square starts with a ball (stationary) and another student without the ball repositions to an open poly spot to receive a pass (see figure 2). To simplify the rules of the initial activity, a student can only move to an open poly spot that is open to his or her immediate left or right. Students are not allowed to move across the center of the square. This forces students to keep moving (repositioning) to a different area to receive the ball.



Next, to help teammates learn to work together and recognize player movement the teacher can add a communication element. In this task students will continue to reposition to poly spots that are open to their immediate left or right; but, this time, they may also move diagonal across the play area (see figure 3). Again, the person with the ball stays stationary while the other two students use verbal cues (i.e. calling for the ball), visual signals, or body language to communicate with teammates to reposition.



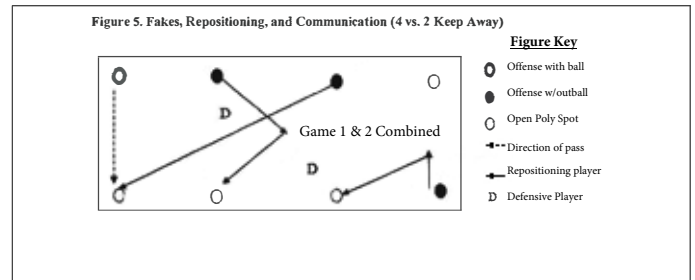
Once students become more proficient at repositioning and communicating with each other, a defender is added to create a two offense verses one defense keep away game within the square. The idea here is to help learners begin to understand the need for basic skills for maintaining possession of the ball while being guarded by a defender. Specifically, the concept or strategy of using fakes is incorporated. (see figure 4) Students with the ball are still stationary on a poly spot; but, now, the other offensive player, without the ball, can reposition to two open poly spots. Building on task progression, students are still encouraged to communicate with their partner using verbal cues, visual cues, or body language; but, now, two more offensive strategies are introduced, on-the-ball fakes and off-the-ball fakes, to confuse the defender and help the offensive players maintain possession of the ball. In on-the-ball fakes, the player with the ball can vary the type, speed, force, level, and direction of the pass to get the ball to his or her partner while the offensive player without the ball can try to confuse the defender by using change of speed, change of direction, or body fakes. It is suggested that teachers first focus on either on-the-ball fakes or off-the-ball fakes but not both at the same time. As students learn one aspect, the other can be added as a progression.



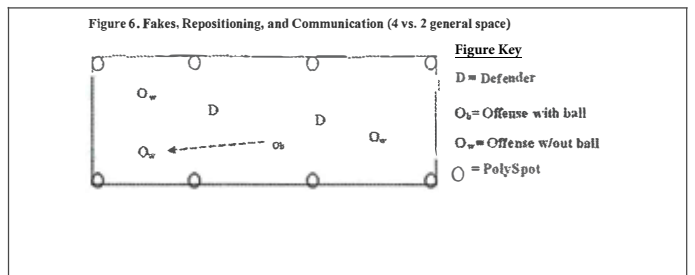
Even though the focus of this article is on offensive strategies, it is important to mention the role of the defender for organizational purposes in this setting. To increase the success of the offensive player, it is suggested that the defender play a medium (zone) type of defense. If the ball is intercepted by the defensive player, he or she will change roles with the offensive player. However, to maximize student practice time, it is also suggested that teachers incorporate a 3-5 successful pass rule that would allow the defender to rotate into the offensive player's position frequently to allocate more practice at every position. This position rotation concept should be used throughout the rest of the offensive verses defensive tasks presented here.

The next progression would be to increase the number of offensive and defensive participants by folding two game areas into one. Now the lead-up game becomes four offensive players against two defensive players. The same rules apply as before when the student with the ball stays stationary on a poly spot; but, now, the other offensive players, without the ball, can reposition to any of the open poly spots to receive a ball (see figure 5). Again, students are encouraged to work on the skills of repositioning, communication, and fakes. Other progression variations

to consider within this four verses two keep away game include: (a) adding a time limit (i.e. 3 seconds) to pass the ball, (b) changing the type of ball being thrown, and/or (c) adding more balls to the game. Each of these variations would still have the practice emphasis focused on student repositioning, communicating with teammates, and using fakes to maintain possession of the ball.



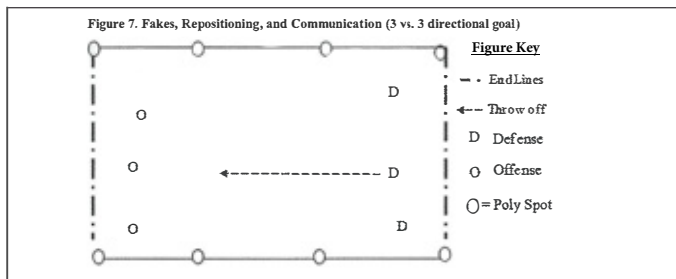
As students become skillful at repositioning, communicating, and using fakes to receive a pass to a designated area (poly spots), it is time to increase the difficulty by having students play a four offense verses two defense game of keep away while moving in general space (see figure 6). The poly spots now become the boundaries of the game and both offensive and defensive players are free to move around inside the specified area. Again, progression variations for this task could include: (a) adding a time limit such as 3 seconds to pass the ball, (b) changing the type of ball being thrown, and/or (c) adding more balls to the game.



Now that students have practiced decision making of offensive strategies to maintain possession of the ball with a higher number of offensive players than defensive players, it is time to increase the difficulty by evening out the teams. This time, students will play a three offense verses three defense game scenario. A directional goal can be added where teams must successfully pass the ball down the court until they are able to make a pass over the boundary end line. In the same eight poly spot boundary area, students will start on opposite ends from each other. (see figure 7) One team will throw off to the other (similar to a kick off in football). After a player receives the ball, he must come to a stop and pass the ball to a teammate who is moving down the court, similar to the game of team handball or ultimate frisbee. Offensive players without the ball will continue to reposition, communicate with teammates, and use fakes to find an open area away from the defenders to receive



the ball. The player with the ball can vary the type, speed, force, level, and direction of the pass to get the ball to a teammate. This time, if a pass is intercepted by the defense, they gain possession of the ball and become the offense, which is now trying to go the other length of the court to score a point. Other variations to this lead-up game to add to the complexity include: (a) keeping score, (b) adding more players, and (c) using goals.



## Conclusion

The progression of tasks in this article was designed from simple to complex to allow students to develop strategies for game play. By changing people, space, and equipment, a teacher can modify the environment to help students better understand how strategies are used in invasion games. Even though the focus of the activities in this article is related to team handball, they can be modified for any invasion game. Instead of throwing to an open receiver, a student could pass a soccer ball, basketball, or hockey puck. By learning the strategies in these lead-up games, students are well on their way to becoming skillful game players.

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## Figure Captions

- Figure 1. Class set-up for 30 students (10 areas)
- Figure 2. Repositioning (3 offense)
- Figure 3. Communication (3 offense)
- Figure 4. Fakes, Repositioning, and Communication (2 vs. 1 Keep Away)
- Figure 5. Fakes, Repositioning, and Communication (4 vs. 2 Keep Away)
- Figure 6. Fakes, Repositioning, and Communication (4 vs. 2 general space)
- Figure 7. Fakes, Repositioning, and Communication (3 vs. 3 directional goal)

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All submissions must include four hard copies and an electronic version or prepared on a CD. These should be mailed to: Tom Sawyer, Editor, 5840 South Ernest Street, Terre Haute, IN 47802, pmsawyer@aol.com. All publications must use APA style (5th ed.).

## Author'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.

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Would you like to nominate someone for the 2009 IAHPERD Awards?  
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All current Indiana AHPERD members have the privilege of submitting nominations for each award. Non-members such as school principals or colleagues may also recommend candidates. Nominees must be an Indiana AHPERD member (except for the Special Contribution Award). Retirees may be nominated for the Honor Award or Leadership Award.

Completed nomination forms are due February 15, 2009 to the Awards Committee Chair.

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Nominees shall submit application materials that follow the award criteria and procedures for the specific award to the Awards Committee Chair by April 1, 2009.

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The Awards Application Cover Sheet should be attached to the applicant's responses to each of the criteria listed for a specific award and the letter of recommendation. Complete application materials should not exceed seven (7) typed pages.

Award criteria and application forms can be downloaded from the IAHPERD award web page. Complete 2009 nomination information will be available on December 1. Please visit [www.indiana-ahperd.org/awards.html](http://www.indiana-ahperd.org/awards.html) for award descriptions and criteria. Contact the Chair of the Awards Committee for additional information or clarification of procedures.

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