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FITNESS AND ENJOYMENT OUTCOMES OF A PHYSICAL EDUCATION
FITNESS CONDITIONING CURRICULUM

Authors: Jane M. Shimon, Tyler Johnson, Scott Moorecroft, and Ken Bell, Boise State University

Abstract

Project: Health-related fitness and enjoyment outcomes were analyzed on a physical education program that adopted an exclusive fitness conditioning physical education curriculum. Means: Freshmen enrolled in physical education (n = 228; Mean age = 14.12 years ± .91; Females = 117 (51%); Males = 111 (49%)) completed pre and post FitnessGram curl-ups, push-ups, and the PACER, height and weight measurements, a modified Physical Activity Enjoyment Scale (PACES), and two open-ended questions (likes and dislikes of PE). Pre and post assessments were analyzed using Paired t-tests, one-way ANOVAs, and qualitative categorizing. Outcome: Significant fitness improvements for females occurred in the push-ups (F(1, 105) = -5.286, p < .000), curl-ups (F(1,107) = -4.171, p < .000), and the PACER (F(1, 89) = -6.680, p < .000) and for males in push-ups (F(1, 98) = -2.939, p < .004) and the PACER ((F(1, 80), -6.196, p < .000). Males reported significantly higher PACES enjoyment scores (F(1, 184) = 19.843, p < .000) compared to females. Four categories were formed that encompassed open-ended responses: teacher, social/friends, content/curriculum, and affect. Reflection: Although this fitness conditioning program enhanced health-related fitness levels, and many students perceived value and benefits of participating in such a program, males clearly enjoyed their physical education experience more than females.

INTRODUCTION

National attention has been dedicated to childhood obesity (CDC, 2010; Ogden, Carroll, Kit, & Flegal, 2012) and the need for physical education (PE) programs to support youth in becoming more physically active (NASPE, 2012). Consequently, the development of fitness-related PE curricula is increasingly significant. While some high school PE programs support traditional sports and activities as part of their curriculum, others favor a lifetime fitness curriculum, such as Fitness for Life (Corbin & Lindsey, 2007), which emphasizes health knowledge and individual and dual activities that students can engage in for a lifetime.

One physical education program has developed an abbreviated version of fitness education by focusing exclusively on physical conditioning and strength training exercises. The highlight of an
exclusive fitness conditioning curriculum is to develop and enhance health-related fitness 
(cardiovascular endurance, muscular strength and endurance, flexibility, and body composition) 
and performance-related fitness (power, speed, agility, coordination, and balance) levels through 
the use of agility, cardiovascular, and strength training activities. This type of program mimics 
athletic/sports conditioning, where the objective is to focus on explosive power and strength in the 
weight room and quickness, agility, and cardiovascular skills in the gym or on the field.

Based on the structure and aim of a fitness conditioning PE program, one could assume that 
students would become more physically fit – a worthy endeavor in the eyes of PE teachers, 
administrators, and parents alike. In addition, however, it is also important to understand what 
impact this type of PE program has on affective factors, such as student enjoyment of physical 
activity. Enjoyment in physical activity settings can be described as deriving pleasure, joy, 
satisfaction, and/or fun from participation in the activity. Enjoyment, as a construct, has been 
linked to intrinsic motivation and has been positively associated with continued physical activity in 
youth (Chung & Phillips, 2002; DiLorenzo, Stucky-Ropp, VanderWal, & Gotham, 1998; Dishman et 
al., 2005; Mott et al., 2001) and enjoyment in physical education (Bibik, Goodwin, and Omega-
Smith, 2007; Prochaska, Sallis, Slymen, & McKenzie, 2003). It is due to this connection of enjoyment 
and physical activity that national PE standards emphasize the importance and promotion of 
enjoyment and positive attitudes towards physical activity (NASPE, 2004, 2013).

As part of a PE fitness regime, and without the addition of game play, skill development, and 
instructional content, would students enhance fitness levels and would they enjoy the fitness-only 
curriculum? To date, there are no studies that have investigated a fitness-only conditioning 
curriculum model. Hence, the purpose of this study was to examine enjoyment and fitness level 
outcomes of 9th grade PE students who participated in a fitness conditioning program.

METHODS

Participants and School Program

This study included 9th-grade PE students from one area high school located in the 
northwest United States. The school was part of the largest school district in the state, which 
comprised approximately 34,581 K-12 students. The investigation was approved by the 
University’s IRB, the school district’s Board of Trustees, and school principal. High School A was 
chosen due to the uniqueness of its PE curriculum, which exclusively followed a health- and 
performance-related fitness conditioning routine (e.g., cardiovascular endurance, muscular 
strength, muscular endurance, flexibility, speed, power, and agility drills). No individual, dual, or
team sports skills were taught, and no educational fitness-related content knowledge was included as part of the curriculum. The PE staff consisted of three males and one female teacher. Freshmen participated in physical education class two or three times per week for 90 minutes (block schedule). School A had an enrollment of 1,959 students, with 18.7% of the students receiving free or reduced lunches. Although fitness testing was required as part of the school district’s PE requirements, student grades were not based on fitness testing outcomes.

As part of the fitness conditioning program, all 9th grade PE students would complete a 15-20 minute dynamic warm-up, followed by various combinations of agility, cone, line, and ladder drills, speed work, cardiovascular training (i.e., running; circuit training), and strength training activities for each class throughout the term. Because class sizes/class periods were often large (i.e., in access of 220 students per 4 teachers), all students would complete 40-50 minutes of warm-ups, interval gym/field drills in waves and on commands from a teacher to help facilitate lesson flow. When classes were split into their respective work-out areas (i.e., weight room), this same procedure would be followed: in the weight room pairs of students would be positioned at bench racks, squat racks, and free-weight and body-weight stations. Repetitions and rotations would all be on the command of the teacher to help facilitate flow. The female teacher often utilized additional pieces of exercise equipment and training tasks with her students, such as exercise and Bosu balls, stretch cords, and various combinations of circuit training activities.

**Instruments**

**Height and weight.** Weight was measured to the nearest 0.1 kg on a digital scale (Tanita BWB800-S), while height was assessed to the nearest 0.1 cm using a Seca 214 Stadiometer. Students wore socks for all anthropometric measurements.

**FitnessGram.** FitnessGram testing protocol (Meredith &Welk, 2010) was followed for this study. School A was furnished with a complete FitnessGram/ActivityGram Test Kit, in addition to an extra CD and 30 curl-up strips. PE teachers were instructed on the testing protocol for the 20 meter PACER, curl-up, and push-up tests. Researchers were present for most class periods to help administer selected pre and post fitness tests. Fitness scores were recorded by a student assistant, a physical education teacher, or a researcher.

**Enjoyment survey.** The Physical Activity Enjoyment Scale (PACES) is a commonly used tool to measure enjoyment of physical activity (PA). PACES is an 18-item bipolar scale originally developed to measure exercise enjoyment in college-aged populations, but was modified to assess enjoyment in PA (Kendzerski & DeCarlo, 1991). A seven-point semantic differential scale was used.
to rate the feelings perceived when doing physical activities (i.e., I enjoy it versus I hate it; I find it energizing versus I find it tiring; I dislike it versus I like it). The initial scale (Kendzierski & DeCarlo, 1991) has demonstrated high internal consistency ($\alpha = .93$), and further studies have modified the PACES survey and validated the instrument with youth sports (Crocker, Bouffard, & Gessaroli, 1995), adolescent girls and high school students (Dunton, Tscherne, & Rodriguez, 2009; Molt et al., 2001), children (Moore et al., 2009), and older adults (Mullen et al, 2011).

A modified version of the Physical Activity Enjoyment Scale (PACES) was implemented in this study. The 18-item PACES (Kendzierski & DeCarlo, 1991) was revised using a six-point Likert scale ($1 = \text{totally true}$ and $6 = \text{totally false}$). Modification to the response options removed a midpoint choice and narrowed the span of option preferences (Heesch, Masse, & Dunn, 2006). In addition, students responded to the following open-ended questions at the end of the survey: (a) describe anything you like about your PE class and (b) describe anything you dislike about your PE class.

Procedures

At the start of fall term, parental consent forms were initially dispensed to all 9th grade students enrolled in PE ($n = 424$). Students were given one week to return the signed forms to their PE teachers. Those students who returned the forms also indicated their willingness to participate by signing an assent form. Height, weight, and physical fitness data were collected during PE classes three weeks into the fall semester, and again 1-2 weeks prior to the Christmas holiday using a station-type format (i.e., Station 1: height and weight; Station 2: curl-ups and push-ups). All fitness testing was completed in two class days. The PACES was also administered at the beginning and end of the term, although on separate days of fitness testing.

Statistical Analyses

Paired t-tests determined results of pre and post fitness scores, and one-way ANOVAs were used to compare pre and post enjoyment PACES outcomes among teachers and between females and males. Rasch Modeling analyzed best fit of the modified PACES and determined construct validity and reliability of the survey. Each dimension of the scale was assessed as to its contribution to the overall measure of the scale. Rasch analyses verified the relative proportion each response held on the scale’s range of options, allowing results to be interpreted as interval-level measures (Bond & Fox, 2007). Significance for all analyses was set at $p < .05$. IBM SPSS Statistics 19 (SPSS, Inc., Chicago, IL) was used to perform fitness analyses, and construct validity and reliability was analyzed using Rasch partial credit model with Winsteps software. Analyses of the open-ended
responses were first collated by gender, examined independently by four researchers, and then collectively discussed as a group to determine common themes (Kvaleh & Brinkman, 2008).

RESULTS

Of the 424 9th-grade students enrolled in physical education, 266 (63%) returned the necessary parental consent form and agreed to participate in the study. Due to student absenteeism and incomplete fitness data, 228 (53.8%) students (mean age = 14.12 years ± .909; females =117 (51%); males = 111 (49%)) were used in final fitness data analyses. Overall, 80% of the students were Caucasian, followed by those who were of Hispanic (8%) origin.

Fitness Assessments

Females significantly improved on three fitness assessments: push-ups ($F(1, 105) = -5.286, p < .000$), curl-ups ($F(1, 107) = -4.171, p < .000$), and the PACER ($F(1, 89) = -6.680, p < .000$). Males demonstrated significant improvement in two fitness tests: push-ups ($F(1, 98) = -2.939, p < .004$) and the PACER ($F(1, 80), -6.196, p < .000$) (see Table 1). Average post-fitness scores revealed both females and males clearly reached FitnessGram Healthy Fitness Zones (HFZ) for BMI, curl-ups, push-ups, and aerobic capacity (PACER laps) for 14 year-olds. Based on the number of PACER laps and BMI, females reported an estimated $\text{VO}_2\text{max}$ of 55.6 and the males acquired a $\text{VO}_2\text{max}$ of 52.5 (Cooper Institute, 2010).

Table 1. Pre and Post Health-Related Fitness Assessment Scores

<table>
<thead>
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<th>Assessment</th>
<th>n</th>
<th>PRE Mean (SD)</th>
<th>POST Mean (SD)</th>
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<tbody>
<tr>
<td>BMI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>98</td>
<td>20.72 (3.15)</td>
<td>20.99 (3.36)</td>
</tr>
<tr>
<td>Male</td>
<td>99</td>
<td>20.84 (3.49)</td>
<td>21.01 (3.23)</td>
</tr>
<tr>
<td>Push-ups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>106</td>
<td>16.73 (7.34)</td>
<td>*20.57 (8.87)</td>
</tr>
<tr>
<td>Male</td>
<td>100</td>
<td>23.03 (11.38)</td>
<td>*25.25 (11.65)</td>
</tr>
<tr>
<td>Curl-ups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>108</td>
<td>65.92 (19.01)</td>
<td>*71.93 (15.10)</td>
</tr>
<tr>
<td>Male</td>
<td>100</td>
<td>71.31 (17.51)</td>
<td>73.31 (15.46)</td>
</tr>
<tr>
<td>PACER LAPS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>90</td>
<td>43.72 (20.25)</td>
<td>*56.07 (20.10)</td>
</tr>
<tr>
<td>Male</td>
<td>81</td>
<td>64.43 (30.23)</td>
<td>*76.53 (28.28)</td>
</tr>
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*< $p .05$

Enjoyment Assessments

PACES. The construct validity of PACES was determined by examining dimensionality, item Infit and Outfit statistics, and person-item map. Reliability was evaluated by checking the Rasch
separation indexes. Of the 18 PACES items, five (i.e., “I feel bored”, “It makes me depressed”, “It’s very invigorating”, “I am very frustrated by it”, and “It’s not at all stimulating”) were identified as misfit items (Infit and Outfit statistics < 0.75 or > 1.33 logits) and were removed from final analyses. The remaining 13 good-fit items (difficulty level ranged from .81 for Item “I feel good physically while doing it” to .66 logits for Item “I felt as though I would rather be doing something else”) demonstrated one dimension which accounted for 62.4% of the variance in the measure. The separation index for person measures was 3.01 logits, with a reliability of 0.90 (equivalent to traditional Cronbach’s Alpha), and the separation index for item measures was 6.12 logits with a reliability of 0.97. Over, the Rasch analysis supported the construct validity and reliability of the revised PACES to assess physical activity enjoyment among 9th grader students after removing five misfit items.

Based on survey analyses, no significant PACES differences were found among teachers; however, significance was found between females and males. Males reported higher pre \( (F(1, 279) = 44.704, p < .000) \) and post \( (F(1, 184) = 19.843, p < .000) \) enjoyment scores from participating in the fitness conditioning program than did females. Of the 13 items used in the final PACES, the lower scores represented higher levels of enjoyment. The average pre PACES score for males was 28.35 (±11.15), followed by a post score of 28.31 (±12.14), compared to female pre and post scores (37.80 ±15.38 and 37.80 ±16.29, respectively). Based on the 6-point Likert scale of the survey \( 1 = \text{totally true} \) and \( 6 = \text{totally false} \), average scores for males fell closer to \textit{true}, while average female enjoyment PE scores were closer to \textit{somewhat true}. There were no significant PACES score differences within gender from beginning to end of the study.

**Open-ended Questions.** Finally, 9th-graders responded to two open-ended questions as to what they liked and/or disliked about their physical education classes. Some students wrote comments to both questions, while others only responded to one or none of the statements. There were 245 post comments, with 151 (62%) likes and 94 (38%) dislikes for the final assessment. Females \( (n = 138) \) had the highest percentage (43.5%) of \textit{dislike} responses while males had the highest \textit{like} responses (68%). Four categories were formed that encompassed the responses which included teachers, social, curriculum/content, and affect.

**Teachers.** Both females and males liked the motivation, being pushed to do their best, and being complemented by teachers. Some of the student comments included: “They teach us hard work.” “They make me want to do my best.” “The teacher is cool, kind, understanding.” Only females responded to \textit{dislikes} in this category. Some girls interpreted “pushing” and motivation as
yelling and pressure. Some of the comments included "Sometimes I’m yelled at and forced to do stuff." “[The teacher ] makes me feel worthless if unable to complete the course.

**Social.** Both females and males liked that they were able to be with friends and work in groups. Limited _dislike_ comments were made in this area. Some boys were discouraged when “others don’t work hard” or “have a mentality [bad attitude] toward the class.”

**Curriculum/Content.** Both females and males commented substantially on the positive nature of being able to lift weights and work out during class. Males tended to enjoy speed and agility activities, vigorous activities, difficulty, and “working very hard”. Females mentioned circuits, balance, and availability of lots of equipment as favorable aspects of the program. As for _dislikes_, there were a wide range of responses. The most frequently occurring _dislike_ comment in this category involved the lack of playing fun games, sports, and activities. Other repeated general _dislike_ comments included ”not enough water breaks”, ”class is too short – more time is needed in the weight room”, ”class is too long”, ”classes are too large/too many students”, ”weight room is too small”, ”gym is too hot”, ”first period is too early to work out”. Both gender mentioned running, especially outside when the weather was hot, as a common dislike response. There were several comments from the males regarding doing the same thing all the time, boring activities, waiting in lines, and standing around. A few of the females commented that activities were unfair: ”I can't do some things.” ”I don't like doing stuff in front of others.” Finally, less favorable comments from both genders involved the intensity of the program: ”I’m exhausted.” ”It makes me too tired.” ”Some activities are too fast.” ”There is not enough rest.” ”I get sore afterwards”. Perhaps the following response by one of the students sums up this area: ”It’s really hard, but I can’t get fit any other way.”

**Affect.** Females repeatedly responded positively to this category. They liked feeling better afterwards. They felt “healthier”, “stronger”, “energized”, and “more fit.” They indicated that the workouts made them feel good about themselves (“pumps me up”) and accomplished (“I actually was able to do it”). Males’ comments were more specific, such as gaining muscle (“getting lots of muscle”), getting stronger (“I can see my muscles getting bigger”), and ”I’m feeling changes.” As for the _dislikes_ in this category, females did not like getting sweaty or stinky for the rest of the day, and did not like that there was limited time to dress for the next class.

**DISCUSSION**

The current study measured pre and post health-related physical fitness outcomes and enjoyment levels of 9th grade students from one area high school. The school adopted an exclusive
approach to improving student physical fitness levels through the implementation of what may be termed a fitness conditioning PE curriculum. This PE program did not include participation and instruction in any sports and game activities, skill development, or educational content.

As expected from a fitness-only program, both females and males in this study significantly improved their fitness scores over the course of 3 months (approximately 32-33 lessons; 48-50 contact hours). Although both gender met FitnessGram Healthy Fitness Zones (Cooper Institute, 2010), one may question why males didn’t significantly improve on curl-up scores. During pre- and post-fitness assessments, many of the boys (and some of the girls) maxed out at the 80 curl-ups allowance on the Fitnessgram program, which affected overall mean scores. The authors and PE teachers believed that many males could have completed more curl ups if the Fitnessgram CD included more repetitions in the test.

Despite the fact that some experts may question the likelihood of improving fitness levels in children due to genetic factors and environmental constraints (Pangrazi, 2010; Tomkinson & Olds, 2007), fitness results from this study support the premise that, overall, adolescents can improve their fitness levels with exercise training (Murray, Eldridge, Silvius, Silvius, & Squires, 2012). Though conscious debate exists on whether or not to concentrate on improving fitness levels or conduct regular fitness testing as part of a PE program (Lloyd, Colley, & Trembly, 2010), there are clear supporting health benefits of physical activity and enhancing levels of fitness in children and adolescents that are linked to reducing cardiovascular disease, overweight and obesity rates, and type II diabetes, and enhancing bone health and psychosocial outcomes (Janssen & LeBlanc, 2010; Kim, 2012; Strong et al., 2005).

In addition to the health benefits associated with increased physical activity and fitness, recent research has also demonstrated a positive link between increased levels of fitness and academic performance, school attendance, and disciplinary problems (California Department of Education, 2005; Castelli et al., 2007; Cooper Institute, 2009). Although the current study did not address these additional benefits of fitness, anecdotally, the PE teachers at School A all indicated the positive reaction they have received from classroom teachers and administrators. Seemingly, a noticeable turnaround has been observed in the academic performance and behavior of freshman students since the inclusion of the fitness curriculum. This feedback, alone, has given credibility to the PE teachers and their fitness program.

While enhancing physical activity and fitness levels is one of the national PE standards (NASPE, 2004; NASPE 2013), another standard that warrants parallel consideration is that of
enjoyment in physical activity participation. The affective attributes of participating in physical activity (i.e., enjoyment) are critical to the success any PE curriculum and may affect students' motivation to further engage in additional physical activity (Yli-Piipari, Watt, Jakkda, Liukkonen, & Nurmi, 2009). Results of this study indicated that males reported a higher level of enjoyment participating in a fitness-conditioning PE program than females. These findings are consistent with previous studies that have indicated significant differences in enjoyment in physical education between boys and girls (Coulter & Woods, 2011; Minjeong & Gill, 2011; Prochaska, Sallis, Slymen, & McKenzie, 2003). Nonetheless, while males in this study did report higher enjoyment scores, average scores for both gender were on the favorable side of the PACES scale, indicating that most 9th-grade students enjoyed their physical education experience at some level.

It was anticipated that students would miss the “fun factor” and enjoyment of a fitness-only conditioning PE program due to the omission of playing a variety of sports and games (Hannon & Pellet, 2005; Rice, 1988; Strand & Scanling, 1994; Tannehill & Zakrjesek, 1993); however, based on student responses to the likes and dislikes of PE, the lack of game play apparently played a small factor in the overall enjoyment experienced by most 9th-grade students. This outcome supports another study where fitness-type activities were favored over traditional sports and games. In a study by Wilkinson and Bretzing (2011), 31% of girls’ comments reflected the health benefits of fitness activities of their PE program and 74% of them preferred fitness units over sports units. Most notable responses from both gender in this study also included comments favoring the health benefits, challenges, and physical outcomes of such a fitness-based program.

Many students also made positive comments regarding their teachers and being able to work-out with friends. The motivation and support they received from their teachers, along with their peers, may have influenced their overall enjoyment of the conditioning PE program. These findings complement other studies that have found teacher (Cecchini et al., 2001) and peer influences (Carlson & Hasti, 1997) to be associated with PE enjoyment.

This study had limitations that warrant mentioning. First, this study did not measure participants’ physical activity and exercise participation outside of PE class. It is possible that the significant increase in participants’ health-related fitness levels could be attributed to their participation in interscholastic, intramural, recreational sport and activity programs, or other opportunities for physical activity. Therefore, it is difficult to determine if physical fitness levels increased solely as a result of student participation in PE. Second, issues conducting fitness testing (Martin, Ede, Morrow, & Jackson, 2010), especially with large numbers of participants, were not
uncommon. Individual class sizes were often in excess of 50 students making it difficult to ensure all students completed fitness testing protocol correctly, particularly concerning curl-ups and push-ups. The bands used during curl-ups would often slip/move on the floor, affecting correct body position and successful attempts. In addition, sometimes lines on the floor had to be used when the number of students outnumbered the available bands. Observing correct body position during push-up testing, even when using peers to help, also posed a problem. Although physical education teachers and/or a researcher were present to administer the fitness tests, additional assistance is recommended to confirm that students understand and perform fitness tests appropriately.

CONCLUSION

Although the exclusive fitness conditioning PE program described in this study demonstrated enhanced health-related fitness levels by females and males, and students perceived value and benefits from participating in such a program, the males in this study enjoyed their physical education classes more than the females. Thus, this type of fitness conditioning climate appeared to be more supportive to males, which could positively impact their future physical activity behavior; the opposite could be argued for females (Pate, Dowda, O’Neill, & Ward, 2007; Wenthe, Janz, & Levy, 2009). Researchers have repeatedly found a significant relationship between student attitudes and enjoyment towards PE and student participation in physical activity and/or leisure time exercise outside of school (Coulter & Woods, 2011; Prochaska, Sallis, Slymen, & McKenzie, 2003; Sallis, Prochaska, & Taylor, 2000; Yli-Piipari et al., 2009). In addition, a lack of enjoyment in PE may contribute to the decline in physical activity, especially seen during the adolescent years (Prochaska, Sallis, Syment, & McKenzie, 2003; Sallis, Prochaska, & Taylor, 2000; Casperson, Pereira, & Curran, 2000).

While the PE teachers and administration at School A lend support and credence to the fitness and conditioning curriculum, the authors support the premise that the use of one particular physical education curriculum model (i.e., exclusive fitness conditioning) should not be assumed to provide all the benefits for student learning in PE (Culpepper, Tarr, & Killion, 2011). Because physical activity is at the center of our field (Corbin, 2012), it is important for curricular programs to have a foundation that includes fitness-related activities as well as fitness and wellness education. Programs that promote fitness knowledge, concepts, include participating in a variety of activities, and support health-related fitness can be effective in encouraging lifelong physical activity for everyone (Corbin, 2012; Corbin & Lindsey, 2004; Culpepper, Tarr, & Killion, 2011; NASPE, 2004).
REFERENCES


PERSONAL AND RELATIONAL WELLNESS IN A COMMUNITY-BASED WEIGHT LOSS PROGRAM FOR WOMEN: IMPLICATIONS FOR WEIGHT LOSS PROGRAMS

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Abstract

The purpose of this research was to describe the participants’ perspectives of a community-based weight loss program for women. Five focus groups were conducted with participants from the Weight Wise Women program in two community facilities in southeastern North Carolina. Focus group participants (N= 50) from three cohorts of the Weight Wise Women program were between 40-64 years of age, and all had a body mass index of > 25. Data analyses consisted of coding and organizing information from observations, notes and transcriptions into themes. Three broad categories emerged. The first, personal wellness, included learning, health, control over life, and self-efficacy and secondly relational wellness included social and peer structure, support from instructors, and collaboration. The final category was specific comments about the program. Participants viewed this program as an effective way to lose weight. Implications include suggestions for community weight loss programs that could improve participant experiences, outcomes and the health of the community.

INTRODUCTION

Obesity is considered one of the most prevalent health problems for individuals and communities in the United States. In New Hanover County, 60% of adults surveyed were overweight or obese while 48.1 % of females were either overweight or obese (North Carolina State Center for Health Statistics, 2006). In Bladen/Brunswick/Columbus/Pender Counties, 63.2 % of adults surveyed were overweight or obese while 61.3% of females were either overweight or obese (North Carolina State Center for Health Statistics, 2006). Based on the rates of obesity in New Hanover County and Bladen/Brunswick/Columbus/Pender Counties, the need for a community-based weight loss initiative was established.

Community-based weight loss programs have been explored as an option for producing individual weight loss and as a way to address obesity in communities throughout the United States (Graffagnino et al., 2006; Paschal et al., 2004). Faith-based community programs such as weight loss programs held in churches have also been assessed as a way to combat obesity in communities (Kim et al., 2008; Resnicow et al., 2005; Reicks, Mills & Henry, 2004). To address the community
health issue of obesity, a free, 16 week community-based weight loss program designed by the CDC was offered between 2006 and 2009 to women in Brunswick and New Hanover counties. Participants were recruited by physician practices, community advertisements, and word of mouth. Inclusion criteria was a BMI > 25 and to be female, between the ages of 40 to 64. Permission of a health care provider was required if the participant had diabetes or had a history cardiovascular disease.

The Brunswick County program was housed in a municipal building. The New Hanover County program was held in a church, but was not a faith-based community initiative. The program was facilitated by a nurse and a former program participant, both of whom received training to lead the program. Facilitators taught participants about weight loss and management through lessons about nutrition and physical activity.

The concept of wellness has been used to describe the holistic health of individuals and is increasingly being used to discuss the well-being of communities as a whole. In this research, the concept of wellness is used to explore participant participation in a community-based weight loss program. Totikidis and Prilleltensky (2006) propose a community wellness model that identifies well-being on three levels: personal, relational, and collective. Personal well-being includes intrapersonal factors like physical health, love, competence and self-esteem. Relational well-being includes interpersonal factors like social support, affection, belonging, collaboration, respect for diversity and democratic participation. Collective well-being includes economic security, social justice, adequate health and social services, low crime, adequate infrastructure, and clean environment.

In this study, women's experiences with the Weight Wise Woman program were explored by applying two components of the community wellness model: individual and relational wellness. Totidis and Prilleltensky (2006) describe individual wellness as intrapersonal factors like physical health, love, competence and self-esteem and relational wellness as interpersonal factors like social support, affection, belonging, collaboration, respect for diversity and democratic participation.

Much research about weight loss for women is focused on the outcomes related to weight loss with less consideration of the participants’ perspectives of the experience. In order to create effective weight loss programs for women, it is important to understand the individual's experiences with weight loss and the program. This is not only salient for formal weight loss programs, but may be essential information to help participants to be successful after the
program’s completion. Therefore, the purpose of this research was to describe the participants’ perspectives of a community-based weight loss program for women.

**METHODOLOGY**

**Weight Wise Women program**

The Center for Health Promotion and Disease Prevention at the University of North Carolina at Chapel Hill began developing Weight Wise Women in 2004 with funding from the CDC. Weight Wise Women is a 16-week behavioral weight loss intervention developed from several evidence based programs including the Diabetes Prevention Program (DPP), PREMIER, Weight Loss Maintenance (WLM) Programs, and the DASH diet. The program focuses on lifestyle behaviors with special emphasis on increasing fruit and vegetable consumption and lowering high calorie, high fat foods. Participants are encouraged to participate in a minimum of 150 minutes of physical activity each week. The program incorporates theories of behavior change by encouraging participants to set weekly achievable goals, build self-efficacy and confidence, and engage in group activities focused on problem solving. The weight loss program specifically addressed planning meals, overcoming psychological barriers to weight loss such as stress, balancing calorie intake with energy expended, increasing exercise, and overcoming negative social influences.

The Weight Wise Women participants observed in this study attended 1.5 hour sessions once a week for 16 weeks. Sessions typically consisted of three components: education, physical activity, and meal preparation. The program was facilitated by two females within the age range of program participants. One facilitator was a health professional with a background in nursing and health education and the other had training in education and weight loss programming. Both program facilitators were available during meetings and outside of the normal meeting times to answer participant inquiries.

**Data Collection**

While triangulation of methods included observations and field notes, focus groups were chosen as the primary research method. Due to the number of participants (n=50), focus groups were the most time efficient and cost effective method of exploring the experiences of participants. During the 15th week of the program, five focus groups (one pilot) were held after the Weight Wise meetings. The focus group moderator conducted observations of the meetings held immediately before the focus groups (except for the pilot focus group) to understand group dynamics and to
take notes. Institutional Review Board approval was given for the focus groups and participants gave informed consent before participating in the focus group.

The focus groups were conducted by the focus group moderator and the co-moderator was responsible for distributing and collecting consent forms, creating a seating chart for participants and taking detailed notes during the focus groups. The interview guide that focused on questions about participants’ experiences with the Weight Wise Women program included round robin check-ins and check-outs, which served as ice breakers and then summaries as well as 11 open-ended questions.

Examples of questions from the focus group guide were "What were your reasons for participating in the Weight-Wise Program?"; "What did you learn during the Weight-Wise program?"; "How did goal setting affect your participation in the program?" "What did you like most about the Weight-Wise program?" and "What was your greatest barrier to succeeding at weight loss?" While there was an interview guide with pre-set questions, the focus group moderator encouraged the discussion to flow naturally.

Information from participants was audio-taped and transcribed by the co-facilitator. The co-moderator used the seating chart and notes to help identify who made each statement. A debriefing session was held immediately after the focus groups that included the moderator and co-moderator. Notes taken by the moderator from meeting observations and during the focus group were expanded to more detailed notes after the focus groups were completed.

**Sample**

Each participant was pre-screened before beginning the program. The women answered a series of self-report questions about their health history, diet, physical activity, and weight management behaviors, and psycho-social attributes. Height, weight, blood pressure, and body composition was also measured before and after the program. In the three cohorts of the Weight Wise Women program, 50 participants attended the focus groups. For the participants in Brunswick County, the mean age was 55 ± 7.1, and 77% of participants were white, 19% were black and 4 % were Hispanic, all had a high school diploma/GED or more education, 50 % earned between $10,000-29,999, and a majority had health insurance. In New Hanover County, the mean age was 54 ± 6.7, 71% were white, and 29% were black, most had a High school diploma/GED or more education, 29% earned between $10,000-29,999, and 75% had health insurance.
Data Analysis

This study was conducted to achieve more complex understanding of the experiences of the women participating in the program. To accurately represent the participants’ perspectives and to bolster internal validity, analyst triangulation (Patton, 2002) was employed by having three practitioners analyze data including the focus group moderator, a program evaluator and program assistant/co-moderator.

First, the program assistant/co-moderator transcribed the focus groups verbatim and referred to focus group seating charts to assure accuracy. Next, content analysis consisting of reviewing transcriptions to discover recurring themes (Patton, 2002) was employed by all authors. Each author read through transcripts independently and coded through line by line. Initial codes were recorded using the Comment tool in Microsoft Word. Based on patterns in the data, general categories involving individual experiences and their relationships to the group and instructors were identified. Based on these patterns, authors recognized components of the community wellness model. Authors re-read the transcripts and applied the community wellness model in analysis, which led to revised themes that were related to personal and relational wellness.

FINDINGS

Personal Well-being

Participants cited elements of personal well-being including the following themes: learning, health, control over life, and self-efficacy that resulted from participation in the program.

Learning. At the beginning of each focus group, participants were asked to describe their experience with the program in one word. Many participants said, “educational” or “enlightening.” One participant described her feeling about the learning that took place in the program as “we now have informed consent on what we’re doing to our bodies.” Adams (2008) found acquiring knowledge through a weight loss program was essential for improving eating habits.

In all focus groups, participants reported perceived learning related to portion control, food labels, meal plans, healthy recipes, calorie /physical activity balance, fruit and vegetables, food journals and lifestyle changes. For example, one participant said “The foods that are good for you can also taste good. We had the samples, stuff I would have never sampled on my own.” Participants expressed learning about balancing calorie intake with physical activity with statements like “Eat smart and move more, learn how to move more” and “If you’re gonna lose anything you have to burn more than you consume. It’s just a simple concept but you know, if you just keep that mind all
the time it works.” Another woman summarized what many participants expressed as “I learned that you still can eat anything you want but it's basically portion control.”

Focus group participants said they learned about planning meals through comments like “when you plan your meals you need to plan healthy meals, and be concerned about your calories because sometimes you eat all your calories in one meal if you don't plan” Another participant said “I've learned to pack my lunch to get me through the entire day.”

Food journaling was a topic that participants discussed but they varied about whether they liked food journaling. Participants commented “Writing down the food is very important. That's part, a great part, of your success.” Journaling seemed to help the participants understand the relationship of daily food intake and success.

Participants learned about making lifestyle changes through descriptions of the program like “It's not a diet. It's a life change, and they show us how” and “I liked the idea that it was based on changing your lifestyle as a whole rather than just do Slim Fast for a while.” Herriot et al. (2008) found a predictor of successful weight loss, was a change in attitude from a ‘dieting’ to a permanent lifestyle change.

**Health.** The personal wellness component of health was a primary reason for participating in the program. One participant said “My reason for participating in this program is so that I can have longevity in life and be healthier.” Another participant said “I want to avoid taking medications and I've been unsuccessful at losing any weight at all on my own and maintaining a correct weight and eating healthy seems to be the way to avoid the diseases that cause people my age to have to be on all kinds of medication.” Another participant stated “There's a lot of satisfaction in ending the day knowing that everything you've taken in is healthy.” Bliksen, Singh and Thacker (2006) found “health” as the primary reason for participants’ current attempts at weight loss. In Adams (2008) participants reported an improved sense of health and well-being as an outcome of participating in a weight loss program.

**Control over life.** With much agreement from the group, one participant purported “It just gives you a sense of control.” Another participant statement was “I feel better. I had the knowledge before...and I'm back in control.” Another women said her participation in the program gave her strength to say to restaurants servers, “You know, I really don't want that fried I want it baked. I don't want it sitting in grease.” Another participant discussed the program as “You get to take control over what you consume and you get to quantify that in a way that works for you and then you get to manage it so it’s like running your own business.”
**Self-efficacy.** Self-efficacy in general refers to an individuals’ confidence in their ability to complete something. A participant discussed self-efficacy that she developed through the program as: My biggest accomplishment is that I now have the tools. I mean, ya’ll have made me aware, this program has made me aware of what I need to do. So it’s up to me to use these tools and I do have it and I’m motivated.

Other participants discussed self-efficacy as “You realize just from when you lose the first few pounds that it’s only because of what you’re doing and not any outside source. It’s really up to you.” Self-efficacy was also described as “no one’s gonna do it for me and then when it works you have only yourself to thank.” In Adams (2008) weight loss program participants reported strengthened self-efficacy. Reicks, Mills and Henry (2004) found that women felt more confident about maintaining program principles because of personal weight loss and the success of other group participants. Success was also defined by participants having an improved sense of health and well-being, as well as strengthening one’s self-efficacy (Resnicow et al., 2005).

**Relational Wellness**

Participants described components of relational well-being including social and peer structure, support from group, support outside of group and collaboration. Relational well-being includes interpersonal factors like social support, affection, belonging, collaboration, respect for diversity and democratic participation (Totikidis & Prilleltensky, 2006).

**Social and peer structure.** Reinforcement from other program members was significantly important for motivation. Participants liked that the program was comprised of a peer structure. A participant said “One thing was the age structure–it’s peers,” which was met with agreement from the focus group. She continued “It’s not high school skinny minis and those that think they’re fat and really aren’t. There were criteria that had to be met and it made me feel more comfortable.”

All participants cited support from the group as a significant, positive factor in their experience with the program. For example, one participant described support in the group as “fellowship,” which was met with agreement from the group. Other participants agreed by saying “Here is a group and other programs don’t have groups” and “It’s just totally non-judgmental.” Reicks, Mills and Henry (2004) found that confidence for losing weight was achieved with interaction with other group members sharing experiences, and being supported. The findings in this study were also supported by Ely et al. (2009) who found that participants stated that group support and inclusiveness were essential to effective weight control programs.
Participants described liking weekly meetings through statements like “I don’t have a social life so this was nice for me. At least I have a group of women that I saw once a week” and “I met new people and that’s important to me.” Hayward et al. (2000) found that support networks were important to the women when joining organized weight loss programs.

**Support from instructors.** Support received from instructors was discussed often in the focus groups. One participant said “She encouraged us even if it (weight) was up a little bit or you didn’t lose as much as you wanted to; it was always you’ll do better next time.” Other participants commented on the instructors through statements like “they bring out good points and ask us questions” and “they were supportive.” Adams (2008) describes formal support as professional leaders/investigators and other women participating in a weight loss program.

**Collaboration.** Collaboration between participants and instructors influenced the program. A participant talked about collaboration as “I liked hearing the other people’s ideas and what they were doing. I just thought they were so creative and fascinating. You know, the support.” With agreement from the group, another participant added “Just hearing different eating plans or their recipes. It was just very encouraging and you just learned so much that you could take those things for yourself.” Adams (2008) discussed that participants negotiated support through compromise and/or mutual agreement.

**Implications for community-based weight loss programs.**

The following suggestions for programming and implementation of community-based weight loss programs are based on participant feedback.

**Free or low-cost programs.** Community weight-loss programs may be more appealing to potential participants when they are offered for free or at a low-cost. In this study, participants purported that Weight Wise Women program was unique compared to other weight loss programs because of the cost and convenience. Participants noted the program was better than most because it was free. There were a wide range of reported incomes of participants, which were less than 10,000 to more than 70,000 dollars per year. Free to low-cost of programming would make the program accessible to all members of the community regardless of income.

As noted earlier, 50% of participants earned less than $30,000 per year. Therefore, the cost of a weight-loss program and the expense of eating healthy and exercising may have been a significant concern from some participants. The Weight Wise Women program was originally designed for participants with a gross income less than or equal to 200% federal poverty level.
Thus, the curriculum and facilitators were sensitive to participants’ needs to eat healthy foods on a budget. In addition, facilitators were trained to help participants address barriers to weight loss associated with socioeconomic challenges through goal setting and problem solving.

Convenience. Community weight-loss programs should be convenient to participants. Through observations and notes, we observed that the Brunswick County group consisted of many participants that worked on the site where the meeting was held. This seemed to lead to increased morale, cohesiveness and participation in physical activity with each other on lunch breaks or after work. Because it seems to promote collective wellness, it may be helpful to locate community weight loss programs close to work or home with access to public transportation.

Physical activity opportunities. If possible, community weight-loss programs should include some type of physical activity. One way that members of the focus groups thought the program could be improved was through adding more physical activity opportunities and equipment. Turner et al. (2008) found in an interdisciplinary wellness program, the more exercise classes attended the greater weight loss. Throughout the program, participants were offered and given free passes to local gyms, however, very few participants used the passes. For many participants, cost was a concern and they may have felt that even if they tried the facility that they could not afford to join. In order to increase physical activity in communities, access to exercise and/or recreational facilities must be free or offered at low cost and communities must strive to increase green space.

LIMITATIONS

One obvious limitation of this research was the convenience sample from five cohorts of the Weight Wise program and is not representative of all women in weight loss programs. However, facilitators of weight loss programs may find this study valuable as a model for learning about participant experiences and for planning intervention efforts for community-based weight loss program.

Another limitation of this study was the self-report method of data collection of participants that chose to participate. The responses may have been influenced by participants providing responses they deemed as favorable. This is especially important since they were invited by the programs facilitators to participate in the focus groups. The overall evaluation of the program also included pre/post surveys and biomedical outcome measures that will be reported after follow-up data is collected. The qualitative data for the focus groups and quantitative data will be combined to provide a complete understanding of the effectiveness of this program.
CONCLUSIONS/IMPLICATIONS

Community-based research has indicated the need for community-based programs that address nutrition and physical activity to decrease behaviors that put individuals at risk for obesity (Paschal et al., 2004). Participants that completed a structured community-based weight management program were found to lose weight and reduce cardiovascular risk factors (Graffagnino et al., 2006). Community-based weight loss programs implemented in church settings have successfully recruited and retained participants and have shown positive health behavior changes (Resnicow et al., 2005). Based on the participants’ experiences, recommendations on how community weight loss programs may contribute to the management and prevention of obesity are provided.

In conclusion, findings from this study indicated that the benefits of participating in the program extended beyond weight loss and included both personal and relational wellness. This study provided the unique perspectives of the participants that can be used to improve the effectiveness of the program. Effective community-based weight loss programs have the potential to improve the health of individuals and may be a key component in decreasing obesity rates in our communities.

REFERENCES


THE EFFECTS OF GAME SIZE ON THE PHYSICAL ACTIVITY LEVELS AND BALL TOUCHES OF ELEMENTARY SCHOOL CHILDREN IN PHYSICAL EDUCATION

Authors: Kenneth Bell, Tyler G. Johnson, Jane M. Shimon, Boise State University, and John Bale, Riverside Elementary School, Boise, ID

Abstract

The purpose of this study was to determine the impact of participating in small (3v3), medium (6v6), and large-sided (12v12) games on the physical activity levels (pedometer step counts, accelerometer counts, and minutes of moderate-to-vigorous physical activity) and ball touches of children in physical education class. Participants were 29 students (55% boys and 45% girls) age 10-11 yrs. All participants wore a Yamax SW-200 pedometer and had their ball touches monitored and recorded. Twelve participants also wore an ActiGraph GT3X accelerometer. Repeated measure ANOVAs were computed to test for significant differences for each dependant variable with corresponding post hoc tests. Results indicated the 3v3 and 6v6 game conditions yielded significantly higher accelerometer counts and ball touches than the 12v12 condition. The 3v3 game condition also produced significantly higher ball touches than the 6v6 condition. These findings highlight the importance of utilizing smaller-sided games in physical education to promote increased involvement and physical activity.

INTRODUCTION

In an age where childhood obesity and sedentary behaviors are increasingly abundant, physical education continues to be viewed as an opportunity for children to obtain physical activity and develop motor and/or activity skills (National Association of Sport and Physical Education [NASPE], 2004, 2008). Game play is a fundamental component of physical education lessons that can help students accumulate physical activity and foster skill acquisition. Game play has the potential, however, to reduce the likelihood that some children will obtain adequate levels of physical activity and acquire or develop motor skill competencies. For this reason, research has explored the impact of game size (e.g., 3v3, 6v6, 11v11) on physical activity levels and ball or object of manipulation touches of students in physical education class (Arnett & Lutz, 2003; Kern & Calleja, 2008).
The National Association for Sport and Physical Education (NASPE) recommends using small sided games to maximize learning and physical activity engagement at all levels in the *Appropriate Instructional Practice Guidelines* (NASPE, 2009). Physical education curricula that have included small-sided game-based activities (3v3, 2v2, or 1v1) have been shown to increase the likelihood that middle school girls, regardless of skill ability level, engage in moderate-to-vigorous physical activity (MVPA) for greater than 50% of class time (Arnett & Lutz, 2003). In another study, Arnett (2004) found that small-sided soccer games (i.e., 3v3 or less) significantly increased the likelihood that college-aged participants obtained MVPA compared to middle- (5v5) or large-sided soccer games (11v11). Furthermore, Kern and Calleja (2008) observed that middle- and large-sided games typically end up being like small-sided games because only the highly skilled participants stay actively involved. The persistent theme across each of these studies is that small-sided games result in increased physical activity compared to middle- and large-sided games.

The number of times a student touches the object of manipulation during game play likely influences the amount of skill acquisition or development that occurs. Designing game play activities that keep all students involved is of paramount importance. Kern & Calleja (2008) found that the number of ball touches among middle school students ranged from 14 to 33 during small-sided (3v3) soccer games lasting 14 minutes each. During middle- and large-sided games of similar durations, the number of ball touches ranged from 0 to 27 highlighting that some students never touched the ball. The importance of utilizing small-sided games, in this case, to promote active engagement and skill development is observed.

The question as to whether small-sided games (compared to middle- or large-sided games) results in increased physical activity and level of engagement (i.e., ball touches) amongst elementary-aged children during physical education class remains unanswered. Therefore, the purposes of this study were to (a) determine the effects of participating in small- (3v3), medium- (6v6), and large-sided (12v12) throwing and catching games on the physical activity (i.e., pedometer step counts, accelerometer counts, and MVPA) and actual ball touches of 10-11 year-old elementary school children in physical education class and (b) examine the effects of gender on pedometer step counts and ball touches by game condition.

**METHODS**

**Participants**

The participants of this study were 29 students (13 girls, 16 boys) age 10-11 years ($M = 10.93$, $SD = .258$) from one intact physical education class. The children attended an elementary
school located in a middle-to-upper class neighborhood in a small metropolitan area of the northwest United States. The particular class chosen for this study was selected because a variety of skill ability levels were represented. To ensure homogeneity of teams, each team in each game condition consisted of an equal number of high, medium, and low skilled participants. High, medium, and low skilled participants were categorized by the physical education teacher who has 12 years of teaching experience. The framework for skill level classification was derived from Graham’s (2010) Generic Levels of Skill Proficiency (GLSP) specifically relating to throwing, catching, and moving to open spaces.

Institutional review board (IRB) approval and school principal and physical education instructor permission was granted prior to introducing participants to the study. After being informed about the expectations of the study, each potential participant was given informed consent for review and signature by a parent/guardian. Only participants who returned signed informed consent were allowed to participate.

Instruments

All participants wore a single function Yamax SW-200 pedometer and twelve randomly selected participants also wore an ActiGraph GT3X accelerometer, which measures physical activity in three axes. Both motion sensors have demonstrated appropriate levels of validity and reliability in field settings with children (Beighle, Morgan, Le Masurier, & Pangrazi, 2006; Freedson, Pober, & Janz, 2005; Schneider, Crouter, & Bassett, 2004). A 60-second epoch or time sampling interval was employed for the accelerometers. Six adults (three university PETE faculty, the school PE instructor, and two graduate research assistants) were employed to record the number of ball touches each participant accumulated during the three game conditions. A ball touch was defined as any time a study participant made contact with the ball whether it was caught, dropped or intercepted. For identification purposes, each participant was assigned a number and wore that number on the front and back of a pinnie. Each time a participant touched the ball a researcher would record their number.

Procedures

Three researchers provided a 20-minute motion sensor orientation that instructed participants on proper placement and usage of the devices. Participants were instructed to wear the motion sensor(s) above the right knee on the waist band of their pants or shorts. A short movement-oriented learning activity was employed to further familiarize participants with the
function of the devices. Each participant was randomly assigned a numbered motion sensor(s) to wear throughout the study.

A throwing and catching game was chosen for this study because it incorporated two skill themes (throwing and catching) and one movement concept (GLSP, "moving to open spaces") typically used in a variety of activities children engage in during physical education class. The equipment and rules for the throwing and catching game were as follows:

- 8-inch gator skin balls
- Cones marking all play areas on grass fields
- Stop watch to time each game and the transition time between games
- A point was scored by completing five consecutive passes with teammates
- Teammates could not continuously pass back and forth with a single partner
- Turnovers occurred when a ball was dropped, thrown out of bounds, or intercepted by the other team
- All games started and ended at the same time

These rules were implemented in all game size conditions. The three game size conditions utilized in this study were small- (3v3), medium- (6v6), and large-sided (12v12) and were administered in that order on three separate days during regularly scheduled physical education classes. Game play was limited to 12 minutes for each condition. A round robin format was utilized where six 2-minute games were played with a minute for rest and team rotation in between games. Playing area size was 10x10 yards for the 3v3 condition, 20x20 yards for the 6v6 condition and 40x40 yards for the 12v12 condition to standardize the amount of playing space utilized per player.

During the 3v3 and 6v6 game conditions, seven additional non-study participants were included from another 5th grade class. The 12v12 game condition required an additional 19 non-study participants. Non-study participants from one other physical education class were selected by utilizing the GLSP protocol to ensure consistency on all teams and so that all study participants were engaged during the same time period (no waiting for a team to play).

At the beginning of each physical education lesson, the physical education instructor invited participants to attach one or both motion sensors to the waistband of their pants or shorts; an instant activity was then administered to prepare participants for game play. Immediately prior to beginning game play, the instructor invited students to reset their pedometers. A whistle blow would then initiate game play and prompt a researcher to start the timer. Each participant’s ball
touches during each game-size condition were monitored and recorded by research team members. At the end of each 2-minute game a whistle blow would stop play and teams would be instructed to rotate to play a new team. One minute was allowed for rest and rotation and to ready teams for the next game. Fields were adjacent to each other to minimize the amount of ambulatory activity accumulated during the transition period. The procedure would repeat until 12 minutes of game play had been completed (six separate games). At the end of 12 minutes of game play study participants were instructed to remove their pedometers and accelerometers. Research team members would then record pedometer and accelerometer readings for each day.

**Design and Data Analyses**

This was a repeated measure design with three game size conditions (3v3, 6v6, and 12v12). Descriptive statistics (means, standard deviations) were calculated for pedometer step counts, accelerometer counts, minutes of MVPA, and ball touches overall and by gender. The accelerometer cutpoint for moderate or greater intensity physical activity was 2059 (>4 METs) and was derived from Freedson et al. (2005) age-specific prediction equation. Due to student absentism, motion sensor malfunction, or a limited number of accelerometers, the N for each dependant variable was reduced and/or different. For this reason, four separate repeated measure ANOVAs (one for each dependent variable) were computed to test for significant differences between the three game size conditions with corresponding post hoc tests using a Bonferroni adjustment. Significance was established at $p \leq 0.0125$ by dividing .05 by four (the four dependent variables) to guard against making a Type I error. Six one-way ANOVAs were also computed to test for significant differences in pedometer step counts and ball touches by gender across each game condition. Significance for the one-way ANOVA tests was established *a priori* at $p \leq 0.05$. All statistical analyses were calculated using SPSS version 19.0 (SPSS, Inc., Chicago, IL).

**RESULTS**

Descriptive statistics (means and standard deviations) are presented in Tables 1 (overall) and 2 (by gender). Sphericity was assumed for pedometer step counts and ball touches but not for accelerometer counts or minutes of MVPA. In the latter two cases, the Greenhouse-Geisser adjustment was employed. Results of the repeated measure ANOVA tests indicated treatment effects for pedometer step counts ($F(2, 50) = 8.787; p < .01; \eta = .26$), accelerometer counts ($F(2, 12.35) = 9.922; p < .01; \eta = .50$), and ball touches ($F(2, 52) = 84.575; p < .001; \eta = .76$). Post hoc tests revealed that participants (a) accumulated significantly less pedometer step counts in the 3v3 than the 6v6 ($p < .001$) or 12v12 ($p < .05$) game conditions, (b) accrued significantly more accelerometer
counts in the 3v3 and 6v6 than the 12v12 condition ($p < .05$), (c) obtained significantly more ball touches during the 3v3 than the 6v6 or 12v12 game conditions ($p < .001$), and (d) obtained significantly more ball touches during the 6v6 than the 12v12 game condition ($p < .01$). Results of the one-way ANOVA tests indicated boys accumulated significantly more pedometer step counts than girls in both the 6v6 ($F(1, 26) = 4.874; p < .05$) and 12v12 ($F(1, 26) = 8.436; p < .01$) game conditions.

**Table 1.** Descriptive statistics for physical activity and ball touches by game condition

<table>
<thead>
<tr>
<th>Game Condition</th>
<th>3 v 3</th>
<th>6 v 6</th>
<th>12 v 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>26</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Pedometer Step Counts</td>
<td>1318 ± 189*</td>
<td>1445 ± 184</td>
<td>1432 ± 194</td>
</tr>
<tr>
<td>Accelerometer</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>4124 ± 883</td>
<td>3747 ± 686</td>
<td>3114 ± 1028*</td>
</tr>
<tr>
<td>Minutes of MVPA</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>11.64 ± 0.67</td>
<td>11.45 ± 1.21</td>
<td>9.82 ± 2.86</td>
</tr>
<tr>
<td>Ball Touches</td>
<td>27</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>28.5 ± 10.2**</td>
<td>14.1 ± 6.7***</td>
<td>9.1 ± 5.0</td>
</tr>
</tbody>
</table>

*significantly different from other two groups at $p < .05$  
**significantly different from other two groups at $p < .001$  
***significantly different from 12v12 at $p < .01$

**Table 2.** Descriptive stats for pedometer step counts and ball touches by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>3 v 3</th>
<th>6 v 6</th>
<th>12 v 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Mean ± SD</td>
<td>N</td>
<td>Mean ± SD</td>
</tr>
<tr>
<td>Ped Step Counts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>12</td>
<td>1282 ± 177</td>
<td>13</td>
</tr>
<tr>
<td>Boys</td>
<td>16</td>
<td>1370 ± 196</td>
<td>15</td>
</tr>
<tr>
<td>Ball Touches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>13</td>
<td>26.77 ± 10.05</td>
<td>13</td>
</tr>
<tr>
<td>Boys</td>
<td>16</td>
<td>29.0 ± 9.88</td>
<td>15</td>
</tr>
</tbody>
</table>

*$_{p < .05}$.  **$_{p < .01}$.

**DISCUSSION**

This study examined the physical activity levels and ball touches of children participating in small- to large-sided games during elementary physical education. The major findings indicated (a) participants accumulated significantly more accelerometer counts and ball touches in the 3v3 and
6v6 than the 12v12 game condition, (b) participants obtained significantly more pedometer step counts in the 6v6 and 12v12 than the 3v3 game condition, and (c) boys accrued significantly more pedometer step counts than girls in the 6v6 and 12v12 conditions but not the 3v3 condition.

Data from this study support other investigations that have focused on the effects of playing in small-sided games. While a majority of studies in this area have examined the game of soccer with elite athletes or skilled players, the general outcomes are similar to the current study. For example, when addressing engagement in small-sided games, elite boy soccer players had more individual ball contacts and overall game involvement when player numbers were decreased (Jones & Drust, 2007). Similarly, 11 year-old soccer players had significantly more passes when playing 7v7 than 11v11 (Capranica, Tessitore, Guidetti, & Figura, 2001). This increase in ball touches indicated that children had greater opportunities to be in possession of the ball to work on improving their skills. Katis & Kellis (2009) reported related findings when looking at soccer games of 3v3 and 6v6 with 13 year olds. These young adolescents had significantly more opportunities for technical improvement when playing games of 3v3. They had accumulated higher numbers of passes, kicks, dribbles, and shots on goal compared to playing in the larger-sided game. Overall, Katis and Kellis noted that smaller-sided games (i.e., 3v3) allowed better stimulus for technical improvement. Associated findings have also been reported with adults. Adult soccer players who played in games with fewer players, such as games of 3v3 and 4v4, had more changes in activity (i.e., standing, walking, jogging, sprinting) and had more performance opportunities (i.e., number of tackles, headers, shots, and turns) compared to playing in larger-sided games of 7v7 (Randers et al., 2010).

More opportunities to become engaged in a game often translate into higher participation levels, which may affect higher intensity levels. While various studies have examined heart rate intensity as it relates to playing smaller-sided games (Capranica, Tessitore, Guidetti, & Figura, 2001; Foster, Twist, Lamb, & Nicholas, 2010; Jones and Darst, 2007; Katis & Kellis, 2009; Rampinini, et al., 2007; Randers et al., 2010), the current study addressed changes in physical activity levels using pedometers and accelerometers. Interestingly, children in this study participating in larger-sided games (6v6 and 12v12) accumulated higher step counts than playing in the smaller-sided game (3v3). This result, in part, was due to the increase in field dimensions to accommodate larger numbers of players. It is plausible that children had to move around more often within the extended playing areas and larger team sizes to get open to receive a pass, accounting for the higher step counts.
One would reason that increasing pedometer steps would also translate to higher physical activity levels. This assumption was not, however, the case in this study. Based on accelerometer analyses, when children played in smaller-sided games (3v3 and 6v6), they recorded higher levels of physical activity (i.e., accelerometer counts) than when playing in the large-sided game. One possible reason for this result could be due to the decrease in space that was used to play the smaller-sided games. It may be that there was a greater need for students to assume more of a player-to-player strategy in the smaller-sided games, thus affecting the intensity of their movements (Tessitore, Meeusen, Piacentini, Denaire, & Capranica, 2006). Higher physical activity levels could have been due to the mere fact that students had more ball possessions when playing in smaller-sided games, which ultimately created more opportunities for involvement in the game (Jones & Drust, 2007; Rampinini, et al., 2007). Perhaps the most likely reason for the higher accelerometer counts with smaller-sided games was the result of quick spurts of energy students used to find a space to get open for a pass. Similar reports by Foster et al. (2010) noted that elite junior rugby players appeared to increase their heart rate intensities in smaller-sided games (4v4) due to the small amount of anaerobic bursts of movements that supported game play. Participants in this study also appeared to make more sudden, sharp, and quick movements when playing in smaller-sided games confined to smaller spaces. While students may have accumulated higher step counts in the 6v6 and 12v12 games, their movements were not near as intense compared to playing in games of 3v3 or 6v6. Whether or not greater accelerometer counts translate into higher levels of MVPA for children in this study can only be conjectured. A previous study, however, did find higher percentages of MVPA levels when college-aged participants played small-sided soccer games (Arnett, 2004).

Gender is a well known correlate of physical activity (Van der Horst, Paw, Twisk, & Van Mechelen, 2007). In this study, boys obtained significantly higher step counts than girls in the 6v6 and 12v12 conditions but not the 3v3 condition highlighting the importance of utilizing small-sided games to allow girls equal opportunities for physical activity participation.

This study contained a considerable limitation: the number of participants who wore accelerometers (N = 11) during the intervention was low. A larger N would have likely shown significant differences between game size conditions in minutes of MVPA. It is important to note that even with the low N, the difference in minutes of MVPA among the three game size condition was extremely close to significance (p = .044).
Overall, the results of this study support the importance of using smaller-sided games in elementary physical education to enhance higher levels of skill engagement and physical activity. Developing skills and game-play tactics are objectives of most physical education programs. Students need the opportunity to be actively involved and learn, and utilizing smaller-sides games can help provide students with more occasions to improve their skills. Additionally, increasing physical activity levels is most likely a product of engaging students in small-sided games. All in all, the results of this study suggest using smaller-sided games in elementary physical education because they provide more opportunities to handle the object of manipulation and obtain physical activity.

REFERENCES


TEACHING SPORT ETHICS: ONE PERSPECTIVE

Authors: Pete Van Mullem, Ph.D., Lewis Clark State College, Sharon Stoll, Ph.D., University of Idaho, and Heather Van Mullem, Ph.D., Lewis Clark State College

Abstract

Over 300 universities across the United States offer a degree in sport management and the number of schools developing new sport management curriculum continues to grow (NASSM, 2013). As new curriculum is being developed and programs are starting to be implemented, a discussion on the best methodological approach to teach each class is becoming more frequent. Often courses in a sport management curriculum include: sport finance, sport marketing, sociology of sport, sport ethics, sport facilities, event management, and sport law. Of the courses listed, the one course that tends to be the most challenging because of its theoretical basis, abstract, and subjective nature is teaching about ethics. This article examines an effective methodological approach to teaching sport ethics based on established research and provides an example of an effective pedagogical method for teaching sport ethics in the classroom.

INTRODUCTION

In 1966, Ohio University started the first graduate-level curriculum aimed at preparing students for jobs in the sport industry (Parks & Quarterman, 2003). Since that time, the number of sport management programs in the United States has grown to over 300 undergraduate and graduate programs offering degrees in the area of sport management (NASSM, 2013). Within a typical sport management program, various courses are offered including: sport finance, sport marketing, sociology of sport, sport ethics, sport facilities, event management, and sport law. Of the courses listed, the one course that tends to be the most challenging because of its theoretical basis, abstract and subjective nature, and multiplicity of pedagogical methods is teaching sport ethics (Piper, Gentile, & Daloz Parks, 1993). What does it mean to teach a class in sport ethics? What approaches to instruction are currently being utilized and what methods or combination of methods for teaching ethical decision-making in sport are the most effective (Van Mullem, Stoll, & Beller, 2010)? Therefore this paper will: 1) discuss common methods for teaching sport ethics in the classroom, 2) examine an effective methodological approach to teaching sport ethics, and 3) provide an example of an effective pedagogical method for teaching sport ethics in the classroom.
Common Methods for Teaching Sport Ethics

For the sport ethics instructor, the common misconception is that if one is ethical then “one can teach sport ethics.” This could lead to placing an instructor in the classroom, who is ill prepared for the difficult abstract theoretical basis and ability to lead knowledgeable and effective discussion sessions (Lumpkin, Stoll, & Beller, 2011). Possibly lacking adequate study and training in both the complexities of content and application (e.g., teaching sport ethics in the formal educational setting), instructors, are left to search for an effective pedagogical approach (Piper, Gentile, & Daloz Parks, 1993). Furthermore, the instructor is faced with a multiplicity of methods when considering their approach to teaching sport ethics. The variety and number of textbooks on applied sport ethics focus on everything from philosophy and theory to sportsmanship and case studies (DeSensi & Rosenberg, 2010; Lumpkin, Stoll & Beller, 2011; Malloy, Ross, & Zakus, 2003). Influenced by their own training or non-training in the study of morality and personal experience in the sporting realm, the sport ethics instructor may be challenged to create a learning environment conducive for open discussion and reflection.

Two basic methods prevail in the teaching of sport ethics within the sport management curriculum, the theoretical – model based method and the less theoretical learning through case studies approach (Malloy et al, 2003). A theory-based approach reaches the learner through the reading of great works, classical pieces, or combinations found in anthologies (Boxhill, 2003; Morgan, 2007; McNamee & Parry, 1998; French, 2004). The student learns to act as a philosopher, asking questions such as: are moral standards universal, is an ethical decision based on individual subjectivity, and why do people behave morally (DeSensi & Rosenberg, 2010)? Supposedly, a background in theory develops a student’s confidence for more in-depth discussion of ethical dilemmas. Nevertheless, theory must be taught with a focus of practical application to the world of sport (Klein, 1998). If left to study theory for too long a period the student will cease to engage in the material and lose interest in the course (Malloy et al, 2003).

In contrast, the case study method challenges students to become active participants in the learning process, working together in small groups (Malloy et all, 2003). However, it is important to consider the training of the student and his/her readiness to discuss ethical issues. “Otherwise, case discussion can quickly turn into a rambling debate or favor those who most vociferously advocate a personal point of view (Murphy, 2004, p.16).

The case study method offers the students a cursory description of theories, but the strength lies in various scenarios in which the students are to ferret out the solution and to give
their reason why. Additionally, teaching research currently argues against these techniques because the result usually is a relativistic point of view. As Murphy so pointedly states, “...the discussion is hardly philosophical but rather busy and noisy with little moral reasoning development” (Murphy, 2004, p. 17).

An Effective Methodological Approach

In the classroom setting the topic of sport ethics does not easily lend itself to the lecture format unless the instructor is highly trained and educated in theory, application, and practice (Gill, 1993). Rather, active participation by the student is not only beneficial but a necessity to a successful learning environment (Reimer, Paolitto, & Hersh, 1990). The instructor must first recognize, discuss, and reflect on the scenarios in establishing a learning environment conducive to the growth and development of the students. However, it must be noted that increasing interaction and discussion in the classroom should not solely rest on the actions of the instructor. Students must read assigned materials and be prepared to contribute to the classes they attend. The relationship must be a reciprocal one. Teachers must be prepared to provide discussion and students must be prepared to engage in the learning process through adequate preparation and participation (Young, 2009; Gill, 1993). A discussion of ethical issues in sport requires preparedness from the student and instructor on current issues in sport, development of a clear vision and personal mission about what it means to be ethical (Stoll, Beller, Van Mullem, Brunner, & Barnes, 2009), what it means to be ethical in the greater world (in this case sport management)(Lumpkin et al, 2011), the actual skills and tools to do moral reasoning (Fox & DeMarco, 1990), plus a time of personal reflection to increase cognitive skills for personal growth (Piper, Gentile, & Daloz Parks, 1993; Gill, 1993). To accomplish the above, the instructor must facilitate an environment conducive for the student to develop the ability to reason about moral issues (moral reasoning). Moral reasoning is a skill requiring the process of reading, writing, and reflection to develop a personal mission with ethical principles (Lumpkin et al, 2011). Subsequently, the student can then reflect and discuss ethical dilemmas that occur in sport.

The written personal mission statement should act as the overarching guide for each student’s journey through the study of sport ethics. What do they believe? What do they value? Who are they? A thoughtful mission statement might read as follows: As a professional sport manager, I believe that I should be responsible, honest, fair, and respectful toward my clients, my duties, and the mission of the organization.
Writing the personal mission statement is not something done quickly or spuriously. Rather, the writing should be a diligent process in which the student learns the differences between moral and social values. The writing should also focus on the importance of an organization’s honorable mission, and why personal missions should support the honorable mission of the organization. Once written, the student then has a personal mission statement as a guide in reflecting and solving ethical dilemmas.

An ethical dilemma involves making choices based on the conflict between two good: a non-moral good and a moral good (Lumpkin, et al., 2011). Typical conflicts in sport are the seeking of external goods (success, winning, and fame) which often conflict with the internal goods of following an ethical mission that supports moral values such as integrity, fair play, respect, and human dignity (McIntyre, 1984). When faced with a true ethical dilemma, a person experiences cognitive dissonance, a situation where one must choose between two competing goods (external and internal). If the instructor focuses on getting students to develop a clear principled personal mission statement and then uses the moral reasoning process to make ethical decisions, the instructor, will have taken a significant step in conducting a successful class discussion and helping students come to grips with the tensions that exist between the external and internal goods of sport (Lumpkin, 2008; McIntyre, 1984).

For example, a discussion of ethical issues in intercollegiate sport may include, but is not limited to: paying student athletes, deciphering gender equity issues, and recruiting violations (Hums, Barr, & Gullion, 1999; Lumpkin, et al., 2011). The challenging part of teaching sport ethics is that the instructor must overcome the misconception that there are no good answers and that ethical decisions are based purely on personal opinion (Kretchmar, 2005). The approach to teaching sport ethics should involve an intended purposeful cognitive dissonance approach. The dissonance occurs when what one actually believes is truth, in relation to the greater world (in this case sport management), is stressed by, alternative information that doubts or challenges the believed truth (Fox & DeMarco, 1990).

A sport scenario provide excellent opportunities for further cognitive dissonance and moral development, but only after each individual has ferreted out their own personal ethical mission and how that mission works in the greater world of sport management. The process occurs when the instructor recognizes, discusses, and reflects with their students the moral implications of the sport scenario (Piper, Gentile, & Daloz Parks, 1993; Gill, 1993).
…discussion will ask us to make and evaluate moral judgments about cases...The challenge will be to develop positions that we can impartially affirm, that are consistent with our views in related areas, and that rely on principles whose consequences for action are acceptable (Simon, 2010, p.16).

How does this then play out in the sport ethics classroom? What might be an effective method to assist students in learning how to make ethical decisions?

**An Effective Approach**

**Developing the classroom environment.** Sport is considered a microcosm of society (Eitzen & Sage, 2009) and there are many scenarios in sport and society that can be discussed in the classroom (McMillan & Gentile, 1988).

Given the great impact of sports on society, it is critical that they exemplify this broader moral agreement. Sports both reflect and actively affect society. This is one reason for their moral significance. Sports teach us what is acceptable and what is unacceptable, what is condoned and what is shunned (Boxill, 2013, p. 16).

Implementing a successful pedagogical approach involves identifying ethical dilemmas in sport and being able to develop interactive discussion sessions on sport that represent or dramatize elements of our personal and social life (Clifford & Feezell, 2010). Classroom discussion is greatly enhanced when the instructor and student have a common knowledge base of the current and significant historical, philosophical and sociological events involving ethical dilemmas in sport. In order to have a common starting point, time must be invested in reading and discussing these events and why they have moral significance. Having a common starting point provides the student relevance, a sense of reality (Schaupp & Lane, 1992), level of confidence, openness, and readiness to learn.

If the instructor connects with the learner that there is an optimal ethical mission this will help overcome common rationalizations regarding ethical dilemmas in sport; “it’s part of the game,” “it’s good strategy,” and “if you don’t get caught, it isn’t wrong,” there will be less of a roadblock in the learning process (Kretchmar, 2005). The connection to the student is imperative and without the teacher student interaction, the process of actually doing “ethics” is highly limited. Therefore the classroom environment and teacher personality are imperative to the successful implementation of teaching sport ethics (Gill, 1993). The instructor returns to the personal mission statement that each student has written to argue for why honorable action is important. The initial
learning of moral reasoning and the writing of the mission statement will influence the student’s ability to solve ethical dilemmas.

Selecting sport scenarios. The culture of sport provides numerous examples and opportunities for discussion on ethical issues as well as acting as a base to develop a moral point of view. For example, let’s consider the role of the athletic administrator when hiring a coaching staff. One of the most difficult processes is selecting an individual who will be both successful in obtaining the external goods (winning) and the internal goods (developing players to be good human beings). In the hyper-competitive environment of college sports, this dual role often challenges coaches to make decision based on the conflicting external and internal goods.

One highly successful coach was caught in just such a dilemma. Basically, he violated recruiting rules and then lied about it. The coach questioned by the National Collegiate Athletic Association (NCAA) in regards to potential recruiting violations involving prospective student-athletes and improper benefits stated,

I provided incorrect and misleading information to the NCAA. I’ve learned some invaluable lessons. After I provided the false and misleading information, subsequently I went back and corrected the record...I learned that it’s not OK to tell the truth most of the time, but you’ve got to tell the truth all of the time (O’Neil, 2010).

This ethical scenario is an excellent choice to help students understand the tensions between external and internal goods. It is a multi-faceted dilemma. The first question here is why did the coach violate the rules? Usually the ethical dilemma occurs in the tension of gaining an advantage (external goods), winning, and success against following a rule (the internal goods of integrity). The second question occurs when the coach, faced with possible sanctions for recruiting violations, chose to lie (internal goods, integrity) when he was caught. Why? Perhaps he lied to maintain loyalty to their team and/or institution or to cover for his own or their misdeeds (external goods).

Application into the Classroom

The following steps provide one perspective in developing an effective pedagogical approach in teaching sport ethics in the classroom.

Step One: Application of Personal Mission to the Scenario. The goal of the instructor in step one is to provide opportunities for students to explore their values and beliefs when discussing a scenario. It is important to make linkages to the study of ethics in relation to the actual doing of
ethics. To do so, students need to be refreshed on their study of internal and external goods linked to personal values. A value is something one gives worth to; it drives and motivates actions. A value may be non-moral (often the external goods) or moral (often the internal goods). A non-moral value is an extrinsic object or the “means to the good life.” Whereas a moral value is an intrinsic behavior directed towards other human beings, based on motive, intention, and action. An example of a non-moral value might be a car, money, or a house. Examples of moral values include honesty, justice, responsibility, and beneficence (Lumpkin, et al., 2011; Stoll, 2007). In assisting students to examine values, the instructor may ask questions such as: what do you value and what do you give worth to?

To put this step into action have the students list a minimum of three values. Next to each value ask the students to provide an action statement. An action statement clarifies what the value means to them (Covey, 2012). For example if one values responsibility their action statement might read, “being accountable for my actions and holding others to the same standard.” Following a reflection period by the student on their own personal values, the instructor can initiate questions about the scenario in relation to the general purpose of the activity within a sport management arena: what is the purpose of the activity, what is the purpose of college sport, and what is the purpose of youth sport? Each question stimulates the student to prioritize and examine the activity and its value not only to the student, but also to society.

Therefore, armed with a more clearly defined personal belief system the student is ready to examine the scenario about the coach violating NCAA guidelines. A typical discussion could begin, (Instructor) “Place yourself in the role the athletic director at an NCAA institution. In examining this scenario from your own personal mission, vision, and belief system about what it means to be ethical, how might you handle this scenario if your coach was caught lying to NCAA investigators?”

The student is now considering the scenario from a leadership position in sport by reflecting on their belief system, personal values and what it means to be ethical. By partaking in this process the student is creating a value-driven mission, providing a foundation for growth to occur (Van Mullem, Brunner, Stoll, 2008). Having established their belief system, the student is ready to match their beliefs to the sport organization they are working for.

**Step Two: Matching Belief Systems.** Having well-established values and a belief system about what it means to be ethical provides a platform to support the student in solving sport scenarios. However to apply what they have learned in their sport ethics course to the “real world, the student needs to be able to identify the mission of the organization. A sport organization is
responsible to stakeholders; (e.g. employees, alumni, fans, shareholders, customers, suppliers, and the government) (Lussier & Kimball, 2009). Therefore, when developing a mission and vision for the organization all the stakeholders are taken into consideration and the purpose of the organization becomes driven by achieving end results deemed important to the stakeholders. However, the mission of the organization should have an honorable end. In most public or private educational athletic organizations, the honorable end is focused on responsibility, respect, fairness, and honesty – all moral values.

Driven by a purpose to please the stakeholders and achieve a moral and ethical desirable end, the organization influences the belief system and values of each individual employee and stakeholder. Thus, an environment is created where a purposeful driven vision and mission is demonstrated by the action of the employees. Having prepared the student to understand the potential difference between one’s own moral point of view (belief system) and the mission (belief system) of the organization, the class can revisit the sport scenario.

(Instructor) What is the purpose of sport at the collegiate level? In an NCAA DI institution, what is the purpose of sport? Revisit your own beliefs about the purpose of sport and what you believe the purpose of sport is at the collegiate level. Does your belief system match the belief system of the institution, athletic department, or the coach?

An important goal here is to assist the sport management student in understanding the challenges and importance of working for and with individuals and organizations that match the student’s personal belief system. Being able to recognize the purpose of an individual or organization facilitates the student’s growth and readiness for doing moral reasoning.

**Step Three: Doing Moral Reasoning.** The theoretical approach presents challenges for the instructor in delivery and maintaining the student’s interest. However, the importance of having a background and understanding of ethical theory lays the foundation for successful discussion sessions. In our sport scenario, the coach is faced with an ethical dilemma when confronted by NCAA investigators. At that moment he is making an ethical decision based on his ability to reason about moral issues (moral reasoning). In addition, the athletic director faces a decision that may challenge his or her own belief system in upholding the vision and mission of the university.

Moral reasoning is the ability to think through a moral problem using a systematic approach that implements one’s own values and beliefs while considering them against societal values and beliefs (DeSensi & Rosenberg, 2003). The reasoning process is a cognitive skill that can be learned through reading, discussion, writing, and personal reflection (Gill, 1993). Good reasoning can occur
if the process is impartial, consistent, and employs reflective judgment (Lumpkin, et al., 2011; Stoll, 2007).

Furthermore, one’s reasoning is driven by personal values and a moral point of view (belief system). At this point the student is ready to recognize which of the values and goods (external and internal) are conflicting in the sport scenario.

(Instructor) Once again place yourself in the role as an athletic director and examine the scenario previously presented regarding the coach lying to NCAA investigators. Building on your own personal belief system, what are the values (non-moral and moral) and goods (internal and external) involved in this scenario? What are the conflicting values and goods for the coach? What are the conflicting values and goods for you, the athletic director?

The process should help the student understand the importance of developing and reflecting on values and dealing with the conflicting external and internal goods in making ethical decisions. The student is now ready to proceed to the final step, learning how to develop new ideas and consider better alternatives when making decisions regarding ethical dilemmas.

Step Four: Personal Reflection. The student is now equipped with the skills and tools to make sound ethical decisions in sport. However, successful decision-making is greatly enhanced if the student learns to implement personal reflection. The classroom environment provides a framework for the instructor to encourage deliberate reflection by assigning reading material, written reflection papers, and in-class discussions. The process of deliberate reflection assists the sport management student in connecting their actual classroom knowledge with their intuitive knowledge or belief system. During reflection the student may consider the “best practices” and develop ideas for change (Knowles, Gilbourne, Borrie, & Nevill, 2001).

The sport scenario presented in this paper can be revisited one more time using a personal reflection paper. For example, building on the steps already completed for this scenario a writing assignment could be: As an athletic director how would you help your coaching staff develop their personal mission, vision, and goals to match the ethical mission of the program? This paper would have assigned outside readings that would be referenced and discussed within the paper. The writing process facilitates an avenue for the student to discuss a sport scenario while reflecting on their personal experiences and a newly developed belief system.
CONCLUSION

The ability to make ethical decisions is a critical skill for future sport leaders (DeSeni & Rosenberg, 2010), as decision-making encompasses a variety of the tasks a manager is responsible for (Chelladurai, 2006). Therefore through a comprehensive ethical pedagogical format of moral reflection, study, class preparation and environment, the posing of ethical dilemmas in a controlled setting of the classroom can occur. Through open discussion of alternatives, predictions can occur and the instructor can assist the class in developing the ability to think both critically and ethically (McMillan & Gentile, 1988). “Moral excellence should be the foundation upon which the sport manager’s academic preparation rests (DeSeni & Rosenberg, 2010, p.15).”

The perspective presented in this paper is one example of an effective method in teaching sport ethics. More importantly, having a foundation and framework for making ethical decisions as a sport leader is a necessity for students completing a degree in sport management. Their success as a member of the sport profession depends on it.

REFERENCES


RECOGNIZING A SPONSOR’S NAME IS DIFFERENT FROM BEING ATTRACTED TO A SPONSOR

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Abstract

As mainstream as sport sponsorship has become, it may be unreasonably optimistic to expect that simply placing product logos, banners, and signs at a sporting facility will automatically attract the sport spectator’s attention (Choi, Stotlar, & Park, 2005; Park & Choi, 2011). A number of factors beyond simple logo exposure may determine the likelihood of a stimulus being attended to and remembered. The main purpose of this study was to identify whether the sponsored promotional activities at a sporting venue, such as logo placement, product demonstrations, hospitality centers, etc., actually can attract the eye and attention of fans. A total of 27 graduate and undergraduate students (18 years or above) who were enrolled in a sport management program at a college in the Northwestern United States were asked to participate in this study. The participants attended the Spokane Shock games on March 12th, March 30th, and April 14th of 2012. A total of 13 people (138 photos) successfully provided the photos and short essays in a timely manner. Photos were analyzed and separated into four categories (see table 1): (1) visual signage (VS) – standard non-digital signage including field signage, (2) PA announcement (PA) – digital signage and products brought onto field as announced by the public address announcer, (3) personal contact (PC) – fans, mascots, employees and promo employees, and (4) giveaways (GW) – items handed to fans or picked up from display tables, including merchandise and concessions. As seen in table 2, the most frequently recalled five sponsors were Dishman Dodge (24.3%), George Gee Kia (10.7%), Century Link (8.3%), Tailgator (4.1%), and Rockwood (4.1%).

PROJECT

As mainstream as sport sponsorship has become, it may be unreasonably optimistic to expect that simply placing product logos, banners, and signs at a sporting facility will automatically attract the sport spectator’s attention (Choi, Stotlar, & Park, 2005; Park & Choi, 2011). A number of factors beyond simple logo exposure may determine the likelihood of a stimulus being attended to and remembered. For any given sign or logo, a number of factors work simultaneously to encourage and discourage the spectators’ attention and memory. In order to meet the sponsorship marketing goals and objectives, sponsors are required to develop well-designed and appropriate on-site activation plans depending on the nature of the sporting events and venue types and locations.
Much has been made of sponsorship activation in the trade literature and in practice, yet to date no empirical efforts has been made to determine the importance of sponsorship practices and on-site promotional activities that are used to place the brand in the consumer's active mental processing at the event.

Few researchers have tried to measure the effectiveness of on-site promotions in a qualitative way even though several limitations associated with the quantitative approach have been reported in previous literature (Choi, Stotlar, & Park, 2005; Park & Choi, 2011). Thus, the main purpose of this study is to identify whether the sponsored promotional activities at a sporting venue, such as logo placement, product demonstrations, hospitality centers, etc., actually attract the eye and attention of fans.

MEANS

A total of 27 graduate and undergraduate students (18 years or above) who were enrolled in a sport management program at a college in the Northwestern United States were asked to participate in this study. The participants attended the Spokane Shock games on March 12th, March 30th, and April 14th of 2012. The participants were educated about the purpose of this study, ethnographical view, and the photo-journaling technique prior to attending the scheduled Spokane Shock's games. Research participants were asked to bring individual digital cameras (or camera phones) to perform their assigned tasks in the research. The participants were asked to take pictures throughout a three-hour duration with the digital cameras (or camera phones) and the pictures were to represent the subject or scenes that catch the participant's attention. The participants were asked to walk around the venue during games to better see the signs and logos from the diverse locations by interacting with sponsors, fans, and media, etc., except club seats and luxury suites, to which they had no access. Since the focus of this study was on evaluating visual effectiveness of sponsors' promotional activities, the participants were provided a short-essay assignment to review and explain their reasoning for their photo choices. The completion of the structured assignment was an essential component of data collection in this study, because the participants were given an opportunity to review and explain the reason for taking the photo they had taken.

In the process of analyzing the photos and data, an in-depth understanding method rather than mere description, an analytical technique recommended by LeCompte & Preissle (1993), was used in order to fully benefit from a qualitative methodology by increasing the validity of this current study. Data were organized around certain topics, key themes, or central questions for
interpretations (Cassell & Symon, 2004). As Neuendorf (2002) suggested, inter-rater reliability was established since the researchers participated as human coders in content analysis. The coders corresponded their judgments to those from the typical person and calculated and reported percent of agreement for inter-rater reliability. Photos were placed into the best category based on view of picture taken. For example, in the event a picture could both be classified within the “personal contact” category and the “giveaway” category, the picture was categorized based on the focus of the picture.

OUTCOME AND REFLECTION

A total number of 13 people (138 photos) successfully provided the photos and short essays in a timely manner. Photos (see Figure 1) were analyzed and separated into four categories (see Table 1): (1) visual signage (VS) – standard non-digital signage including field signage, (2) PA announcement (PA) – digital signage and products brought onto field as announced by public address announce, (3) personal contact (PC) – fans, mascots, employees and promo employees, and (4) giveaways (GW) – items handed to fans or picked up from display tables, including merchandise and concessions. A total of 148 fans out of 191 who participated in the survey successfully recalled Spokane Shock’s sponsors. As seen in the Table 2, the most frequently recalled five sponsors were Dishman Dodge (24.3%), George Gee Kia (10.7%), Century Link (8.3%), Tailgator (4.1%), and Rockwood (4.1%).
Figure 1. Photo examples of unit codes.
Table 1. Units and Numbers of Corresponding Photos

<table>
<thead>
<tr>
<th>Condensed Analysis Unit</th>
<th>Unit Code</th>
<th># of Photos n=138</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Signage on or related to field of play</td>
<td>VS 1</td>
<td>13</td>
</tr>
<tr>
<td>2. Temporary signage in arena concourse</td>
<td>VS 2</td>
<td>29</td>
</tr>
<tr>
<td>3. Permanent signage found around arena</td>
<td>VS 3</td>
<td>21</td>
</tr>
<tr>
<td>4. Electronic ribbon board advertising</td>
<td>PA 1</td>
<td>4</td>
</tr>
<tr>
<td>5. Sponsorship item brought onto field</td>
<td>PA 2</td>
<td>5</td>
</tr>
<tr>
<td>6. Arena scoreboard advertising</td>
<td>PA 3</td>
<td>6</td>
</tr>
<tr>
<td>7. Use of mascot to attract attention</td>
<td>PC 1</td>
<td>7</td>
</tr>
<tr>
<td>8. Fans wearing tea merchandise</td>
<td>PC 2</td>
<td>3</td>
</tr>
<tr>
<td>9. Employees wearing sponsor related clothing</td>
<td>PC 3</td>
<td>12</td>
</tr>
<tr>
<td>10. Sponsor tabling in arena concourse</td>
<td>GW 1</td>
<td>16</td>
</tr>
<tr>
<td>11. Team merchandise for sale to fans</td>
<td>GW 2</td>
<td>1</td>
</tr>
<tr>
<td>12. Promotional items handed out to fans</td>
<td>GW 3</td>
<td>21</td>
</tr>
</tbody>
</table>

Table 2. Frequency of Unaided Recall Sponsorships

<table>
<thead>
<tr>
<th>Sponsorships</th>
<th>Responses N</th>
<th>%</th>
<th>Cases N</th>
<th>%</th>
<th>Sponsorships</th>
<th>Responses N</th>
<th>%</th>
<th>Cases N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosauer</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
<td>Harbo Freight</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Swinging Doors</td>
<td>5</td>
<td>3.0</td>
<td>3.4</td>
<td></td>
<td>Sterling Savings</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Dishman Dodge</td>
<td>41</td>
<td>24.3</td>
<td>27.7</td>
<td></td>
<td>Century Link</td>
<td>14</td>
<td>8.3</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>George Gee Kia</td>
<td>19</td>
<td>19.7</td>
<td>12.2</td>
<td></td>
<td>Spalding</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Northwest Fence</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
<td>49 North</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Tailgater</td>
<td>7</td>
<td>4.1</td>
<td>4.7</td>
<td></td>
<td>Group Health</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Dick's Hamburger</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>Deaconess</td>
<td>5</td>
<td>3.0</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>ESPN</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
<td>Moxie</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Dave Smith</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>Zips</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Zip Trip</td>
<td>5</td>
<td>3.0</td>
<td>3.4</td>
<td></td>
<td>Reck Star</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Toyota</td>
<td>5</td>
<td>3.0</td>
<td>3.4</td>
<td></td>
<td>Noodle Express</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Rockwood</td>
<td>7</td>
<td>4.1</td>
<td>4.7</td>
<td></td>
<td>Northern Guest</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Outback Steakhouse</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>KHO</td>
<td>3</td>
<td>1.8</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Dutch Bros</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>Net 10</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Hampton Inn</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>39</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Great Clips</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>40</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Barton Boys</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>41</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>KFC</td>
<td>4</td>
<td>2.4</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bog Trout Lodge</td>
<td>3</td>
<td>1.8</td>
<td>2.0</td>
<td></td>
<td>43</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Red Lion</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
<td>44</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Avista</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
<td>45</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
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<tr>
<td>UPI</td>
<td>6</td>
<td>3.6</td>
<td>4.1</td>
<td></td>
<td>46</td>
<td>1</td>
<td>0.6</td>
<td>0.7</td>
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<tr>
<td>Zateca</td>
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<td>0.6</td>
<td>0.7</td>
<td></td>
<td>47</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>CdA Casion</td>
<td>2</td>
<td>1.2</td>
<td>1.4</td>
<td></td>
<td>Total</td>
<td>169</td>
<td>100</td>
<td>114.2</td>
<td></td>
</tr>
</tbody>
</table>
This study has two limitations. First, convenient sampling was used. Participants might be biased due to the fact that they were educated about and familiar with the rationale of sport sponsorships and onsite activations because of enrollment in a sport marketing class. Second, this study did not control for external factors such as the shape of the banners and signage at the venue, the team’s performance, and time of the game, etc.

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MEASURING THE EFFECTIVENESS OF TWEETED CONTENTS FOR LOCAL PROFESSIONAL SPORTS FRANCHISES

Authors: S. Roger Park, Ph.D., Gonzaga University, Joon-Seo Andrew Choi, Ph.D., Hanyang University, and MyoungJin Kim, Ph.D., Illinois State University

Abstract

Social media has become an effective marketing communication tool in business (Dodds, P. S., Harris, K. D., K. I. M., Bliss, C. A., & Danforth, C. M., 2011). Social media marketing provides information on how to use social media tools and platforms to create and foster communities and relationships. Understanding what tools are available and how to use them effectively is key to success in social media marketing. Businesses also need to understand how they can reach out to their customers and, more importantly, why they need to reach out to their customers. The main purpose of this current study is two-fold: 1) To develop a formula to measure the effectiveness of tweeted contents for local professional sports franchises, and 2) To develop a new instrumental scale to measure the perceived satisfaction of tweeted contents. College students in a sport management class at a college in the Northwestern United States were recruited to participate in this study. During a class session focused on Technology in Sport students were informed about the general purpose of the study and asked to complete the Perceived Satisfaction of Twitter Contents (PSTC) and demographics questionnaires. Analysis of Variance (ANOVA) was utilized to test if PSTC level differed by 3 Spokane-based sports franchises. The results found a significant difference on PSTC level by teams, F(2, 55) = 3.88, p=.027. In order to find out where the difference occurred, a Post-Hoc test (Tukey) was conducted. It found that PSTC level for Spokane Chiefs (M = 17.95, SD = 2.06) was significantly higher than that of Spokane Indians (M = 16.10, SD = 2.20) with p = .02. No other differences were found.

PROJECT

Social media has become an effective marketing communication tool in business (Dodds, P. S., Harris, K. D., K. I. M., Bliss, C. A., & Danforth, C. M., 2011). Social media marketing provides information on how to use social media tools and platforms to create and foster communities and relationships. Understanding what tools are available and how to use them effectively is key to success in social media marketing. Businesses also need to understand how they can reach out to their customers and, more importantly, why they need to reach out to their customers.
Samsung Economic Research Institute (2010, July 22nd) reported that 79% of Fortune 100 enterprises use social media [Twitter (65%), Facebook (54%), YouTube (50%), and Blogs (33%)], 68% upload an average of 10 promotional videos on YouTube, 59% post an average of 3.8 postings per week, and in addition, tweet 25-30 times per week. CNBC (2010, April 12th) announced that the top 10 companies on Twitter marketing were Home Depot, Kodak, Starbucks, Southwest Airlines, New York Times, Comcast, JetBlue, Zappos, Whole Foods Market, and Dell.

A set of clearly defined major functions have been identified, including conversation and dialogue, collaboration and exchange, self-expression and self communication, status updating and checking, information and news sharing, and marketing and advertising (Dijck, 2011). According to Samsung Economic Research Institute (2010, July 22nd), there are differences between mass media (media 1.0) and social media (media 2.0). More specifically, mass media has a couple of characteristics in common such as (1) it has only small number of media producers (i.e., newspapers, broadcasters, and Internet portal service providers), (2) it targets unclear mass markets, and (3) it utilizes one way and indirect delivery mechanisms. On the other hand, social media has quite different characteristics such as (1) it has multi-way media producers (it is fully open to public) which is called “publizen (publicity + citizen)”, (2) its participation, sharing, and openness are based on the concept of Web 2.0, and (3) its relationship is based on two-way communication (pyramid type).

According to Pedersen, Parks, Quartermian, and Thibault (2010), several forms of social media are currently being utilized by sport organizations. The author’s explained that Facebook has been used to provide information, post pictures and videos, and promote upcoming events. YouTube has been used to share videos with fans about the team or organization. Compared to these options, Twitter is a quick source of information that does not require much effort from an individual. Furthermore, Wittenemper, Lim, and Waldburger (2012) described that many business organizations have been adopting Twitter accounts within their marketing strategies. There are 4 conceived values of Twitter (Kwak, H. et al., 2010; Newman, 2003). First of all, it has “speed and durability.” Twitter has a 35% rate of retweeting within 10 munites, 55% rate of retweeting within an hour, and a long lasting exposure effect. The second believed value of Twitter is “majority and diversity.” Twitter is a small-world network. 40,000 people rule in Twitter and it is truly World of Mouth (transformed from Word of Mouth). “Economic efficiency” (cheaper if not free) and “familiarity and reliability” are the third and fourth believed values of Twitter.
While social media has caught significant attention from scholars and practitioners in the realm of sport business (Wertheim, July 4, 2011), Witkemper et al. (2012) stressed that most research has been done on the major professional leagues in the United States (NFL, NBA, WNBA, MLS, MLS, NHL, WPS). More importantly, few studies have been done to discuss how to measure the impact and/or effectiveness of social media marketing. Thus, the main purpose of this study is two fold: 1) To develop a formula to measure the effectiveness of tweeted contents for local professional sports franchises and, 2) To develop a new scale to measure the perceived satisfaction of tweeted contents. This study is unique because it measures the effectiveness of tweeted contents of 3 local sports franchises (Spokane Indians: Class A short season affiliate of Texas Rangers, Spokane Chiefs: Western Hockey League franchise, & Spokane Shock: Arena Football League Franchise).

MEANS

College students in a sport management class at a college in the Northwestern United States were recruited to participate in this study. During a class session focused on Technology in Sport students were informed about the general purpose of the study and asked to complete the Perceived Satisfaction of Twitter Contents (PSTC) and demographics questionnaires. Twenty college students (75% male and 25% female) completed the questionnaires. The participants’ educational levels varied from freshmen (5%), sophomores (35%), juniors (45%), and senior (15%).

Study participants were asked to sign up for twitter accounts unless they already had accounts. Participants were asked to follow the Spokane Chiefs, Spokane Shock, and Spokane Indians and read the created tweets. Then, they were asked to spend at least 20 minutes per each franchise by reading the tweeted contents. After fully exposed to the tweeted contents of these 3 teams, they were asked to fill out the survey questions. A 5-item scale (see Table 1) was developed to measure the PSTC of Spokane Chiefs, Spokane Shock, and Spokane Indians. The 5-item instrument was rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Exploratory Factor Analysis (EFA) with Varimax rotation was run and the items were loaded onto only one dimension of which reliability was .73. A demographic questionnaire was developed for this pilot study to obtain information concerning gender, educational level, and major.
Table 1. The 5-item instrument to measure the Perceived Satisfaction of Tweeted Contents (PSTC)

<table>
<thead>
<tr>
<th>No.</th>
<th>Perceived Satisfaction of Tweeted Contents</th>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It is fun to follow.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>It is informative.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>It provides me with helpful information</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>It provides the feeling of being</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>“connected.”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I think it is worthless to follow.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Secondly, the authors of this study were provided the necessary and internal twitter information that was utilized to develop the formula to measure the effectiveness of tweeted contents. Unfortunately, the internal twitter data for Spokane Indians was not obtained. The following formula has been developed and used for this study:

\[ F(x) = (\# \text{ of indegree influence} - \# \text{ of following influence}) + (\# \text{ of indegree influence}) \times 0.1 + \# \text{ of produced tweets} \times 0.1 + \# \text{ of retweet influence} \times 0.1 + \# \text{ of mention influence} \times 0.2 + (\# \text{ of reply influence}) \times 0.1, \]

*Indegree influence* is defined as, “the number of followers of a user and directly indicates the size of the audience for that user” (Cha, et al., 2010, p. 12), *Retweet influence* measures the number of retweets containing one’s name and indicates the ability of that user to generate content with pass-along value (Cha, et al., 2010, p. 12), *Mention influence*, measures the number of mentions containing one’s name and indicates the ability of that user to engage others in a conversation (Cha, et al., 2010, p. 12), *Following influence* measures the number of followers by user, and *Reply influence*, measures the number of tweets followers respond to.

**REFLECTION**

Analysis of Variance (ANOVA) was utilized to test if PSTC level differed by three Spokane-based sports franchises. The results found that there existed a significant difference on PSTC level by teams, \( F(2, 55) = 3.88 \) with \( p = .027 \). In order to find out where the difference occurred, Post-Hoc test (Tukey) was conducted. It found that PSTC level for Spokane Chiefs (\( M = 17.95, SD = 2.06 \)) was significantly higher than that of Spokane Indians (\( M = 16.10, SD = 2.20 \)) with \( p = .02 \). No other differences were found.
The aforementioned formula was used to answer the first research question. For the Spokane Chiefs, the twitter index was increased from 9.1334 on March 27, 2012 to 18.7334 on April 1, 2012. For Spokane Shock, the twitter index was increased from 95.939 on February 20, 2012 to 116.132 on April 2, 2012. The twitter index was quite steady during the week of March 12, 2012 to March 19, 2012. A possible reason for this is that the Shock lost their season-opening game on March 12 and it might have negatively affected the overall team value and reputation for the first week. Moreover, it was assumed that the team was hesitant to post comments for the first week as they have done otherwise.

**Spokane Chiefs**

\[
F(x) = (3,394-6) + 3,394*0.1 + 8*0.1 + 3*0.1 + 51*0.2 + 1*0.1 = 9.1334 \text{ (March 27, 2012)}
\]

\[
F(x) = (3,394-6) + 3,394*0.1 + 10*0.1 + 4*0.1 + 49*0.2 + 4*0.1 = 9.3334 \text{ (March 28, 2012)}
\]

\[
F(x) = (3,394-6) + 3,394*0.1 + 8*0.1 + 3*0.1 + 98*0.2 + 3*0.1 = 18.7334 \text{ (April 1, 2012)}
\]

**Spokane Shock**

\[
F(x) = (1.639-71) + 1,940*0.1 + 14*0.1 = 95.939 \text{ (2_20_2012)}
\]

\[
F(x) = 98.767 \text{ (2_27_2012)}
\]

\[
F(x) = 104.304 \text{ (3_5)}
\]

\[
F(x) = 107.529 \text{ (3_12)_Opening Loss}
\]

\[
F(x) = 107.965 \text{ (3_19)_March 17 – Win}
\]

\[
F(x) = 112.091 \text{ (3_26)_March 30_Loss}
\]

\[
F(x) = 116.132 \text{ (4_02)_}
\]

**RELEVANCE OF STUDY**

Prior to this study, no survey instrument was available to measure the Perceived Satisfaction of Tweeted Contents (PSTC) for the sports franchises. Therefore, developing a new instrument specialized in sports franchises was meaningful and beneficial to sport practitioners. Secondly, a Twitter Index did not exist in sport business. Even though there is a long way to improve and edit the proposed formula (Twitter Index) based on the different purposes, provision of the preliminary formula for sport practitioners is important for further exploration of this topic.

This study has two limitations. Tabachnick and Fidel (2001) argue that studies need a minimum of 100 participants in each major subgroup and 20 to 50 in each minor subgroup by
team. Because this study did not, generalizability of findings is difficult. Secondly, this study
adopted a convenient sampling method due to the difficulty in the experimental research setting. As
a result, caution should be taken when generalizing the results of this study.

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“LIVIN’ THE GOOD LIFE”: INCORPORATING HEALTH AND WELLNESS INTO OUR BUSY LIVES

Author: Heather Van Mullem, PhD, Lewis-Clark State College

INTRODUCTION

Have you ever uttered the words, “I’m stressed”? If you answered yes, you’re not alone. Results from the American Psychological Association’s 2010 Stress in America Survey documented that “chronic stress ... is becoming a public health crisis” (APA, 2011). Data indicated “most Americans are suffering from moderate to high stress, with 44 percent reporting that their stress levels have increased over the past five years” (APA, 2011). High rates of reported stress could be attributed to our busy lifestyles. We strive to fit as much as we can into our days, trying to combine our personal demands with our professional responsibilities.

Stress often has a negative connotation. However, stress can have both positive and negative effects on our health. Eustress is considered positive stress. “Stress is positive when it forces us to adapt and thus to increase the strength of our adaption mechanisms” (Girdano, Dusek & Everly, Jr., 2009, p. 3). In comparison, distress is considered negative stress, “...when it exceeds our ability to cope, fatigues body systems, and causes behavioral or physical problems” (Girdano, Dusek & Everly, Jr., 2009, p. 3). As Greenberg (2011) illustrates, “Our goal should be to limit the harmful effects of stress while maintaining life’s quality and vitality” (p. 12).

Health and wellness are terms we often use interchangeably but they have different meanings. Health, when defined holistically, is composed of seven dimensions: Physical, social, mental, emotional, occupational, environmental, and spiritual (Greenberg, 2011). “The extent and degree to which you possess these components of health determine how healthy you are” (Greenberg, 2011, p. 15). Wellness, however, “is the degree to which these components of health are in balance” (Greenberg, 2011, p. 15). Interestingly, “only 40% of [the respondents to the APA Stress in America survey] rate[d] their health as very good or excellent” (APA, 2011). Furthermore, their responses also indicated an understanding that personal behaviors contributed to poor perceptions of personal health (APA, 2011).

Knowing our choices, experiences, and perceptions impact our health and wellness (Greenberg, 2011), an important question to explore as we strive to live a well life, is how to live a life in balance. Health and its seven dimensions must all be considered when thinking about how to
live a balanced life. If one dimension is out of balance, it can affect the other dimensions, thus increasing feelings of stress. This paper provides a four-step process to assist you in your efforts to adopt a balanced healthy and well lifestyle.

**Strategies for Success**

One approach to help individuals reflect on the different dimensions of health and associated healthy behaviors involves four steps:

**Step 1:** Brainstorm 2-3 examples of healthy behaviors for each of the seven dimensions of health. *Example:* Responses that illustrate behaviors for the first dimension of health, physical health, might include regular exercise and eating a balanced and nutritious diet.

**Step 2:** Identify which of the dimensions of health you can work on to improve your health and wellness. *Example:* Someone who is feeling stressed by relationships at work might choose to work on dimensions two and five, social and occupational, respectively.

**Step 3:** Identify challenges you might encounter to enact healthy behavior changes. *Example:* If physical health is chosen as an area for improvement and increasing the amount of daily exercise is one way to show positive improvement, common challenges faced may be a perceived lack of time or persistence to continue a program once it has been started.

**Step 4:** Explore options to make constructive behavior changes in the areas of health you have identified for improvement. *Example:* Ideas of possible options could include employing goal setting strategies (i.e. how many minutes of exercise per day with incremental increases over time), the use of a journal to keep track of your behavior change efforts (i.e. diet options and triggers that impact food choices), or attempting to improve time management strategies (i.e. to find ways to organize your day to allow for time spent exercising).

**CONCLUSION**

As we consider ways to decrease stress in our lives and move toward a healthy and well lifestyle, striving to live a balanced life is essential. Through careful reflection and by following the four steps outlined above, you can start on a constructive path to achieving balance.

**REFERENCES**


INSPIRING BLISS: AN INNOVATIVE INSTRUCTIONAL MODEL, ENCOURAGING INCREASED STUDENT PHYSICAL ACTIVITY, BASED ON KINESTHETIC INSTRUCTION, FLOW, AND MASTERY MOTIVATIONAL CLIMATE

Author: Christa Davis, PhD, Lewis-Clark State College

Abstract

In a world where electronic devices threaten to steal the imagination and fitness of our youth, the need for inviting, creative forms of physical activity (PA) is paramount. Children and adolescents in contemporary classrooms spend a great deal of time sitting – on average approximately five hours out of the typical six and a half hour school day (Salmon, Healy, & Hume, 2009). It also appears that material is presented primarily through visual and auditory means (Arrighi, & Young, 1987). Maeda and Murata (2004) established that schools are being held to a higher standard academically, causing teachers to feel increased pressure to improve students’ academic performance. In response, many school districts are dramatically decreasing the time provided for PA. What can be done to counter this alarming trend?

In an effort to address some of the current challenges facing our profession, the author began constructing the “BLISS” instructional model (Believe, Listen, Imagine, Solidify, and Share). The intent of this article is to provide information on the foundational elements of this model and its potential for future use.

THE PROBLEM

Inactivity – Answering the Call

A recent report by the Institute of Medicine (2013) indicates that since the 2001 passage of No Child Left Behind, 44 % of school administrators report drastic cuts in time allotted to physical education, recess and the arts, in an effort to provide more time for math and reading. Though nationally recommended guidelines suggest 60 minutes of moderate to vigorous PA per day (CDC, 2013; NASPE, 2012), levels in physical education (PE) fall considerably short (Burgeson, Wechsler, Brener, Young, & Spain, 2000). The amount of PA potentially gained during PE courses alone is not enough to meet national standards (Bryan, & Solmon, 2007; CDC, 2013; NASPE, 2004). Sadly, children and adolescents often do not choose to participate in after-school PA and have become accustomed to a sedentary lifestyle (Armstrong, Balding, Gentle, & Kirby, 1990).
Three of the five components in the Comprehensive School Health Physical Activity Program, describe the need for additional PA before and after school, during school, and in PE (CDC, 2013). Given the rising rate of obesity in our nation's youth (CDC, 2010), being physically active for a lifetime needs to be foremost in the hearts and minds of educators today. Therefore, equipping teachers with the skills necessary to accomplish this successfully is essential to realistic implementation.

**Solutions: Kinesthetic instruction, Flow, and Mastery Motivational Climate**

Strong evidence suggests that the use of kinesthetic instruction, built into other scholarly subject matter, can significantly improve student learning (Blaydes, 2000; Bruton, & Ong, 2010; NASPE, 2004). By capitalizing on this concept, classroom teachers, and physical educators can assist students in gaining much needed PA while teaching other academic content. Common Core Standards established in January of 2011 may provide the next frontier for integration of kinesthetic instructional methods (Cook, 2013). Research indicates that the active use of movement problems in school settings, can easily translate to a dynamic increase in: problem solving, critical thinking, creative capacity and innovative abilities in students (Bailey, & Pickard, 2010; Connolly, Quin, & Redding, 2011). This may help to satisfy academic priorities, amplify students’ internal motivation, and potentially increase student PA levels.

Enjoying PA tends to encourage continued participation (Hagberg, Lindah, Nyberg, & Hellenius, 2009). Teachers’ attitude and behavior plays a large role in defining our enjoyment (Carlson, 1994). Csikszentmihalyi’s (1990) concept of “Flow” is critical when examining ideal teacher/student enjoyment, their interaction, and reveals how creating an optimal experience contributes to a genuinely satisfying state of being. When someone is in a state of Flow, they usually experience a sense of complete involvement with life, heightened enjoyment, and dynamic creativity (Shernoff, Csikszentmihalyi, Schneider, & Steele Shernoff, 2003). The challenge for teachers is to learn how to control this experience and capitalize on opportunities to encounter enjoyment. Thus, educators can greatly increase the possibility of creating an optimal experience and contribute to an authentically satisfying state of being, positively impacting their lives and the lives of their students.

Evidence suggests that purposely arranging the instructional climate, thus sharpening students’ perceptions of the presence of a “Mastery Motivational Climate” (MMC) can have significant impact on active engagement in PA (Solomon, 2006). The MMC instructional approach, based on Epstein’s original model (1989), contends that people participate in achievement
environments in order to express their abilities or competence (Ames, 1992a). Ames coined the acronym TARGET, describing six tenets: task, authority, recognition, grouping, evaluation, and time. TARGET depicts a classroom that emphasizes personal improvement, student cooperation, “self-referenced comparisons”, and effort. This setting can cultivate students’ perceived competence, intent to be active and enjoyment of PA (Ntoumanis, 2001).

**Practical Tools: “BLISS” is Born**

In response to the need for increased PA, positive correlations with kinesthetic instruction and Flow, driven by the author’s desire to share a love of movement, the “BLISS” (Believe, Listen, Imagine, Solidify, and Share) instructional model was born. Closely aligned with the TARGET framework, BLISS’ areas of emphasis include intrinsic motivation outcomes such as: Flow, relatedness, perceived competence, and autonomy; as well as the promotion of kinesthetic instructional methodology. BLISS parallels the emphasis on personal improvement, student cooperation, “self-referenced comparisons”, and effort (Boyce, 2009; Solomon, 2006). It intends to provide pre-service teachers (PSTs) with specific classroom management techniques, unique to movement settings. Foundationally, BLISS promotes internally initiated movement, connected teacher/student interaction, and authentic academic content integration (see Figure 1). TARGET encourages the adoption of strategies such as: students working hard, a desire for challenging tasks and being persistent (1988). BLISS resembles the TARGET ideal (difficult tasks, working hard, and persistence) but expands beyond this point, challenging PSTs to create a climate where students have the freedom to take risks, and allows them some control in the direction of their learning. The purpose of this instructional model is to educate PSTs on kinesthetic teaching methods, encourage enjoyment, broaden conceptualization of movement/dance, provide a more diverse curriculum and positively impact the PA levels in students.

Aligned with Flow theory (Csikszentmihalyi, 1990), the BLISS model promotes the precept of active engagement, as a means of determining personal teaching success. This is reflected in the charge to PSTs to: use what they know, nurture academic interests, actively pursue enthusiastic teaching, develop instinct to “read” and adjust to students’ needs, and draw attention to the inherent satisfaction of the learning experience, (Csikszentmihalyi, Rathunde, & Whalen, 1993).

In essence, BLISS can act as a roadmap for PSTs – helping them discover tangible ways to get students more active, find enhanced Flow, and discover a richer enjoyment of the classroom experience. The challenge to future teachers is this: “Purposely do what you love – intentionally love what you do!”
On a practical level, the BLISS model provides instruction capitalizing upon muscle memory presently contained within a student’s repertoire. Beginning from a point of confidence and perceived competence, students are able to freely transition into the elements of the movement framework without concern of being as self-conscious as they might be otherwise. Individual interpretation is encouraged within the model design. Core principles are woven into engaging (often familiar) activities, but with a new twist, and academic application is constantly cultivated. BLISS intends to expand the definition of dance into being fun, relatable, exciting and realistic movement with the capacity of becoming a form of creative learning for students of all ages. Internal motivation is intentionally nurtured and creates a cyclical enjoyment relationship between teacher and student, not entirely dependent upon the teachers’ enthusiasm levels.

<table>
<thead>
<tr>
<th>Bliss Model</th>
<th>Traditional Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B—Believe and Be Open!</strong></td>
<td></td>
</tr>
<tr>
<td>2. Individual starting point “use what you know”</td>
<td>2. Same/uniform starting point</td>
</tr>
<tr>
<td><strong>L—Listen, Learn and Live!</strong></td>
<td></td>
</tr>
<tr>
<td>4. Nurture learning process</td>
<td>4. Teach content</td>
</tr>
<tr>
<td>5. Internal Motivation</td>
<td>5. External Motivation</td>
</tr>
<tr>
<td>6. No wrong answers</td>
<td>6. Defined, exact steps mimicked</td>
</tr>
<tr>
<td>7. Uses hook, contemporary application</td>
<td>7. No hook, strict adherence to form</td>
</tr>
<tr>
<td>8. Intended to increase student PA</td>
<td>8. PA dependant on form</td>
</tr>
<tr>
<td><strong>I—Imagine the Implications!</strong></td>
<td></td>
</tr>
<tr>
<td>9. Focus = satisfaction of learning</td>
<td>9. Focus = acquisition of technical skills</td>
</tr>
<tr>
<td>10. Use of Images and Impressions</td>
<td>10. Copy what is seen</td>
</tr>
<tr>
<td>11. Working from the inside out</td>
<td>11. Working from the outside in</td>
</tr>
<tr>
<td>12. Intentional stress release built in</td>
<td>12. Stress release may or may not be possible</td>
</tr>
<tr>
<td><strong>S—Solidify and be Secure!</strong></td>
<td></td>
</tr>
<tr>
<td>13. Instruction shifts to needs of learners</td>
<td>13. Instruction specific to form, feedback corrective</td>
</tr>
<tr>
<td>14. Student mastery = challenge increases</td>
<td>14. Student mastery = continue defined content</td>
</tr>
<tr>
<td>15. Collaboration encouraged a</td>
<td>15. Collaboration marginal</td>
</tr>
<tr>
<td><strong>S—Share with Students!</strong></td>
<td></td>
</tr>
<tr>
<td>17. Individual variation /interpretation</td>
<td>17. Uniform interpretation/specific skills</td>
</tr>
<tr>
<td>18. Uses broad variety of activities</td>
<td>18. Particular activities defined by form</td>
</tr>
<tr>
<td>19. Integration encouraged</td>
<td>19. Integration may rarely occur</td>
</tr>
<tr>
<td>20. Predisposed to lifetime activity promotion</td>
<td>20. Continuation later in narrow population</td>
</tr>
</tbody>
</table>

**Figure 1.** Model characteristics.
The Acronym: Believe, Listen, Imagine, Solidify, and Share

The following is a philosophic construct of BLISS, written in second person so that it has direct useful meaning and acts as a charge to PSTs.

**B – Believe and Be Open!** "You have the power to be open and CHOOSE to believe in the possibilities of new ideas!" Learners (teacher or student) are encouraged to: (a) examine the past (experiences, attitudes, competencies), (b) accept the present (be realistic with current circumstances, be open to change of ability and attitude, acknowledge that other perspectives are valuable), and (c) strive toward the future (actively pursue positive change, be willing and purposeful in acquiring skills, believe that you have the capacity to achieve great things!)

**L – Listen, Learn and Live!** "You have the opportunity to listen and learn – then live your beliefs and make a change!" Learners are encouraged to: Take personal responsibility to make a change and to make a difference in your own life as well as the life of others

**I – Imagine the Implications!** "You have the ability to imagine the implications and apply new ideas to your circumstances, inspiring others!" Learners are encouraged to make the content personal and make connections with abilities you already possess or experiences highly relatable to your individual emotional, physical and cognitive foundation

**S – Solidify and be Secure!** "You have the courage to solidify ideas – sense security in your ability to teach it and enjoy – Smile!" Learners are encouraged to use the material and concepts in personal or individually professional venues and to be willing to take the tools acquired in the classroom introduction of “Bliss” and actively relate the content to all areas of personal teaching and learning.

**S – Share with Students!** "You have the creativity to showcase your new tools and share the excitement with your students!" Learners are encouraged to: (a) maintain the connection of physical skill, knowledge, and character qualities to active tools represented in "BLISS," (b) integrate “BLISS” ideas to diverse life-skills in yourself and others beyond the introductory venue; (c) choose enjoyment in every area of your life and see what happens!; (d) ask yourself – is there a difference in my personal life satisfaction, in my relationship with others, in the ease of progressing through previously difficult situations?

**CONCLUSIONS**

To gain PSTs’ acceptance of kinesthetic instruction methods and ignite a desire to legitimately use it for students’ benefit, could have profound and lasting impact on tomorrow’s
youth. It seems that kinesthetic instruction is on the threshold of becoming an important solution to our challenge of childhood obesity and student apathy (Armstrong, Balding, Gentle, & Kirby, 1990; Salmon, Healy, & Hume, et al., 2009). In a world where electronic devices threaten the imaginative development of our youth, creative PA can strive to revolutionize the classroom environment. Results from forthcoming BLISS research may be capable of encouraging elementary educators to teach using means other than merely auditory or visual. Physical educators might also expand their offerings and allow those who may not be interested in traditional "ball sports" to begin to enjoy moving more. In the light of laudable school goals aimed at academic excellence, kinesthetic instruction has huge potential to transform the classrooms of generations to come.

What Does this Article Add?

The application of BLISS adds to the body of knowledge exploring practical means of increasing physical activity levels in the students. It also provides inspiration for the future training of PSTs in a contemporary area of interest and necessity. Continued development of the BLISS instructional model and expansion into cross disciplinary content could be extremely valuable. As educators, we face increasing challenges to discover means of keeping children active and interested in healthy living for a lifetime. It is also important to continued growth of academic strength in our ever changing world. It appears that a strong emphasis on kinesthetic teaching methods and the provision of practical modeling for PSTs may positively influence the next generation of teachers. In the long run, this can have a lasting positive impact on children, establish healthy habits and change the course of current behavior in school and beyond.

REFERENCES


CREATING SUCCESSFUL ACTIVITY PROGRAMS FOR MIDDLE SCHOOL GIRLS

Authors: LeeAnn Wiggin, Lewis-Clark State College and Grace Goc Karp, University of Idaho

Abstract

Results from the 2003-2004 National Health and Examination Survey (NHANES), found that only 3.4% of girls from ages 12-15 met current guidelines for PA adherence (Troiano, et al., 2008), suggesting that there is a need for specially designed physical activity (PA) programming among middle school girls. Using the information garnered from an extensive review of literature on a variety of PA programs, an after-school PA program was developed and implemented using the motivational factors of activity choice, fun and enjoyment, non-competitive lifetime activities and increased skill competence in a “girls only” setting. Statistical results determined that each of the motivational factors used in the program had a positive impact on the improved PA self-efficacy and PA enjoyment among participants at the conclusion of the program.

INTRODUCTION

Declining physical activity in youth is thought to be one of the many interacting factors contributing to the growing childhood obesity epidemic (Strauss, Roddzilsky, Burack & Colin, 2001; United States Department of Health and Human Services (USDHHS), 2012), an epidemic that encumbers our future generation with an alarming 70% chance of becoming overweight or obese adults (USDHHS, 2007). Despite the increase seen in girls’ sports following the passage of Title IX (National Organization for Women, 2009), the transition from childhood to adolescence is associated with a 34% decline in physical activity in girls (Pate, et al. 2009). Results from the 2003-2004 National Health and Examination Survey (NHANES), the largest representative sample of U.S. youth to be objectively examined for rates of participation in moderate-to-vigorous physical activity (MVPA) also found that only 3.4% of girls from ages 12-15 met current guidelines for PA adherence (Troiano et al., 2008). This theme of declining participation in moderate to vigorous physical activity (MVPA) declines with age, most distinctly from early elementary years through high school is found consistently throughout the literature on this topic (Grunbaum et al., 2002; Sallis, Prochaska & Taylor, 2000).

Research has already shown a strong correlation between perceived self-efficacy and youth participation in PA (Ryan & Dzewaltowski, 2002; Sharma, Hay & Fleming, 2013). In a review of
correlates of PA in 108 studies by Sallis, Prochaska, & Taylor (2000), researchers evaluated 40 variables for children (ages 3-12) and 48 variables for adolescents (ages 13-18), concluding that perceived activity competence in adolescents is consistently associated with PA in adolescents. The amount of research looking at self-efficacy and enhancement of PA is undeniable and programs that increase self-efficacy are increasingly popular with practitioners and educators.

Using all available research an after-school program was developed, promoted and evaluated with a small group of volunteer middle school aged girls. The methods used to develop this program, The GAP (Girls Activity Program,) is discussed below.

METHODS

The purpose of this project was to develop a PA program that could be implemented in a variety of settings, using activity choice, fun and enjoyment, lifetime non-competitive activities and basic skill development in an attempt to enhance PA self-efficacy and PA enjoyment in middle school aged girls.

Volunteer participants were recruited using a variety of marketing tools, including flyers distributed at three local middle schools, an article in the local newspaper, ads in the local newspaper, an announcement in the local newspaper sports bulletin and a brief interview of the researcher by the local television station.

Program content specifics were determined using data gathered through interviews with five local middle school physical education (PE) teachers, two pre-program focus groups and 113 needs assessments distributed randomly to girls at each of the three middle schools in two Northwest states. The needs assessment consisted of a combination of open-ended questions, checklists and requests for comments. Results were used to determine activity choices, length, time, frequency and the type of environment that participants would prefer in a PA program. The focus groups and the interviews were used to further understand the girls’ experiences and attitudes about PA, both positive and negative, the impact of these experiences, as well as clarify questions left unclear or unanswered from the needs assessments. The interviews with the PE teachers were used to gain knowledge of each teacher’s past experiences and perceptions of the variables hypothesized to determine increased PA among middle school girls.

Triangulation (Mathison, 1988), the multi-method approach used to study human behavior was used to analyze the program planning data. All data from the surveys were quantitatively analyzed using different forms of descriptive statistics, including mean and frequency and standard
deviation to describe the spread between the scores. Information obtained from this data was summarized using tabulated description in the form of tables. Inferential statistics, using a paired sample t-test was used to measure the statistical significance of skill competence among participants and Cronbach’s alpha was used as an objective measure of internal consistency (Mohsen & Reg, 2011).

In an attempt to find a theme in the needs assessments, all data was carefully evaluated. Needs assessment data on preferred PA choices was inconclusive and there were not any activities that clearly prevailed as dominant choices among the activities offered, yet there were a few activities that were clearly not preferred choices. Because of the lack of conclusive data on PA choices, the activities that received a combination of the highest ranks among preferred PA choices on the needs assessments, and the PA choices that received the most positive feedback in focus groups were chosen by the researcher to be the eight non-competitive activities offered as part of the GAP. These activities, beginning with the activities that received the highest number of votes to the lowest number of votes were: dance (52), swimming (49), gymnastics (46), yoga/Pilates (41), weight training (32), power walking (20), and fitness balls (10). The activities not on this list but included in the program as a result of focus group results were Wii Just Dance and “open gym” or availability to local health clubs.

Variables such as the preferred times of day, the preferred amount of time spent in a PA program, the preferred time of day and preferred location for a program were also inconclusive and decisions about each of these factors were made after considering location availability, school release times and transportation availability.

Subjects

The program began with 24 participants (n = 24), finished with 17 active participants (n = 17) and 15 participants were able to complete program evaluations (n = 15).

Procedure

Using information from the program planning evaluations an eight-week program was developed and implemented. The program took place after-school, for one hour on two alternating days per week in a “girls only” setting. It is important to note that the activities chosen for each group of girls will be different based on their personal preferences. The activities offered in this program based on the pre-program planning evaluations are discussed above in the Program Planning Results section.
Instruments

To measure the impact of the program on the variable of PA self-efficacy participants were asked to complete *The Adolescent PA Self-Efficacy Scale* (Ward, Saunders, & Pate, 2007). The impact of fun and enjoyment on each participants PA self-efficacy was also measured using the *Enjoyment of Physical Activity Scale* (PACES), an evaluation developed by Motl et al. (2001), and later adapted for adolescents by Ward, Saunders & Pate (2007). Both of these evaluations were given on the first and last day of the program. A pre and post activity skill competence evaluation form developed by the researcher, informal direct observation, a parent evaluation questionnaire and a group interview were also used to measure the program objectives.

RESULTS

At completion of the program participants self reported an increase in both PA self-efficacy and PA enjoyment. Data evaluating the motivational factors used to increase PA self-efficacy and PA enjoyment, activity choice, fun and enjoyment, non-competitive activities and increased skill competence were all found to have a positive impact on these results. Results from the Adolescent PA Self-Efficacy Scale were reported by mean only because instructions for the original measurement tool by Motl et al. (2000) instructs researchers or instructors to compute the score by taking a mean of all items (Barr-Anderson et al. 2008). In the results from the Adolescent PA Self-Efficacy Scale the pre-program (n = 23) mean was 27.9, and the post-program mean was 34.7. When each statement on the scale was examined separately, participants evaluated their PA self-efficacy higher for all 8 statements related to their perceived self-efficacy.

Although the parents of the participants did not partake in any of the activities, they were each given a program evaluation at the conclusion of the program. In reference to the program goal, the parents were asked if they felt that the program had any impact on their daughters PA self-efficacy and 93% (n = 13) of the parents who completed evaluations reported a response of ‘yes’ on this question.

Enjoyment of PA was measured using the *Enjoyment of Physical Activity Scale* (PACES). When combining all responses on the PA enjoyment scale, the analysis of the PA enjoyment data found the pre-program (n = 19) mean to be 11.4 and the post-program (n = 15) mean to be 11, indicating a small increase in PA enjoyment due to lower numbers indicating an increase on this scale. Qualitative responses from both participants and parents were recorded to further validate these results. When asked about the importance of fun and enjoyment on their decision about whether or not to continue to be physically active, examples of responses included, “I enjoyed the
class very much”, “You made the physical activity fun and made me want to come to GAP more”, and “If I’m doing something I want to enjoy it”. No negative comments were given on this particular question by any of the participants.

**DISCUSSION**

Large scale programs attempting to address the trend of low PA participation among girls such as the Trial of Activity for Adolescent Girls (TAAG) (Sallis & Owen, 2002), Lifestyle Education for Activity Program (LEAP) (Dishman et al., 2005), Activity by Choice (ACT) (Wilson et al. 2008) and the Fit For Girls (FFG) (Hepburn, 2011) have all been successful in using a variety of motivational factors similar to the variables used in this program. Although these factors are successfully emerging in large scale interventions, this program was able to use a selection of these factors on a smaller scale to impact PA self-efficacy and PA enjoyment among participants, suggesting that unique and specifically tailored programs also have the ability to influence girls in smaller settings developed for after school settings, community settings or even as part of PE curriculums to a smaller extent.

During the post program group interview, the researcher did recognize two prevalent themes not previously discussed or reported. One of these themes is the importance of friendships and how it relates to joining and participating in physical activities. Only two of the girls that finished the GAP were attending regularly on their own or without a friend. The rest of the girls all joined with one or more other girls, suggesting that the “power of friends” should be recognized and positively used in marketing to this age group of girls.

The second theme identified by the researcher during the group interview was the importance of the instructor. When asked if the girls “would do a program like this again”, a participant answered by saying, “Only if you were instructing it.” Upon further investigation on this topic the girls shared that they liked that the instructor did not “make them do things they did not want to do, like their PE teachers do” and they “got to do what they wanted”. It is recommended that anyone wanting to implement this type of program follow Hellison’s Model (1995) for teaching PA, which is based on respect and relationships in when implementing a program such as the GAP.

Initially developed to be an after school PA program, the motivational factors used in this program could be successfully used to offer similar programs after-school, in community programs, in health clubs and as a unit as part of a PE program. The novelty of the activities, including activity choice, non-competitive activities and the inclusion of music in a fun and enjoyable environment are all components that can all be used by programmers. Most importantly, these variables should
be altered to fit the needs of participants within their own community, program or curriculum to allow for individual growth in a comfortable, non-competitive atmosphere; conceivably motivating currently inactive middle school aged girls to become more physically active.

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