THE IMPACT OF HOPSPORTS ON ADEQUACY IN AND PREDILECTION FOR PHYSICAL ACTIVITY IN CHILDREN

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The Impact of HOPSports on Adequacy in and
Predilection for Physical Activity in Children

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ABSTRACT

The purpose of this study was to examine the impact of various forms of physical activity (unstructured recess vs. structured Physical Education vs. HOPSports Curriculum) on a child’s perceptions of adequacy toward physical activity and predilections to participate in physical activity. A total of 36 primary school children (20 boys and 16 girls) aged 9 to 12 years participated in the study. The students in grades 4th – 6th participated in three activity sessions over three consecutive days: a traditional physical education class and a physical education class using the HOPSports system and an unstructured recess session. A standardized questionnaire designed by Hay (1992) was used to gather information on a child’s self-perception towards physical activity: The Children’s Self-Perceptions of Adequacy in and Predilection for Physical Activity (CSAPPA) scale. Repeated measures Analysis of Variance (ANOVA) was used to examine difference scores across the three study conditions: adequacy, predilection and enjoyment of physical activity. The students completed a pretest-posttest of the scale, to determine the impact of the three activity sessions. The results showed no significant difference for the HOPSports and recess condition, however, in terms of adequacy, the traditional physical education session experienced significantly greater gains. Study results and limitations warrant further research in the impact of HOPSports on a child’s self-perception towards physical activity. The study recommended that future research and practice focus on developing strategies for effectively integrating the HOPSports program into more traditional physical education classes. A key element of such integration may ensure teacher feedback during the session in order to increase a child’s self-perception.
# TABLE OF CONTENTS

## CHAPTERS

### I. INTRODUCTION

- Sedentary Lifestyle ................................................................. 6
- Children’s Self-Perception ....................................................... 7
- Perceived Adequacy and Predilection ....................................... 8
- Physical Education ................................................................. 9
- HOPSports ........................................................................... 10
- Summary and Purpose Statement ............................................ 11

### II. LITERATURE REVIEW

- Obesity and Physical Activity .................................................. 13
- Sedentary Lifestyles ............................................................... 14
- Self-perception and Self-Efficacy ............................................. 16
- Adequacy and Predilection ..................................................... 18
- Physical Education ............................................................... 20
- HOPSports ........................................................................... 22
- Conclusion ........................................................................... 24

### III. METHODS

- Population ........................................................................... 26
- Sample ................................................................................ 26
- Instrumentation ................................................................... 29
- Procedures .......................................................................... 30
- Activity Sessions .................................................................. 31
- Data Design and Data Analysis ............................................. 35
- Threats to Internal Validity .................................................... 36
- External Validity .................................................................. 38

### IV. RESULTS

- Descriptive Statistics ............................................................ 39
- Hypothesis Testing ............................................................... 41

### V. DISCUSSION

- Limitations .......................................................................... 44
- Recommendations for Research .......................................... 45
- Recommendations for Practice ........................................... 47
- Conclusion .......................................................................... 48
CHAPTER I

INTRODUCTION

The problem of obesity is a serious and life-threatening epidemic among all ages. Obesity has been a concerning issue for the past 30 years and is drastically escalating in the United States and around the world, especially among the younger generation (West & Shores, 2008). The number of adolescents who are overweight has tripled since 1980 and the prevalence among younger children has more than doubled within the United States (HHS.gov, 2012; Levy & Petty, 2008). Stegelin (2008) stated, “The obesity problem has taken decades to develop and, realistically, it will take many years to understand and control” (p. 8).

According to Stegelin (2008), from 1976 to 1980, approximately 7% of children were obese; from 1988 to 1994, 11% of children were obese, and by 2000 the rate increased to 15.3%. As a few years passed, from 2003 to 2004, the national estimates indicated that 17.1% of children were overweight with an increasing trend over time (Meininger et al., 2010). Research has found since then, that within children, “approximately 16.5% are overweight and 31.5% are considered at risk for overweight” (Nollen et al., 2007, p. 2).

As of 2012, more than 23 million children and adolescents in the United States are either obese or overweight (Green, Riley, & Hargrove, 2012). The degree of activity during childhood has been linked to a number of adult on-set health difficulties (Hay, 1992). As such, factors that impact activity levels among young people warrant consideration.
Sedentary Lifestyle

One major contributor to obesity is the level of physical activity that a child engages in. Several factors have contributed to a general reduction of activity levels among youth and the resulting global rise of childhood obesity (Levy & Petty, 2008). According to Hills, King, and Armstrong (2007), children are at risk of obesity as a result of their exposure to a technologically changing environment. Changes in children’s entertainment choices have contributed to an increase in their sedentary behaviors (Hills, King, & Armstrong, 2007). The amounts of time a child spends watching television, accessing the internet, using their cell phone or playing video games in their leisure time has increased to approximately 5 ½ hours (Green, Riley, & Hargrove, 2012). These activities, which have been linked to obesity, are especially popular with children when other activities are limited (Wright, Galea, & Barr, 2003).

Other activities such as non-existent or decreased recess time and school physical education, scarcity of safe environments for play and/or physical activity, and other factors are also believed to be contributing to this problem (Levy & Petty, 2008). Being overweight during childhood increases the risk of developing diseases such as high cholesterol, hypertension, respiratory ailments, orthopedic problems, depression and type II diabetes (Green, Riley, & Hargrove, 2012).

Experts generally agree upon the idea that physical activity is important for children and that sedentary activities should be limited beginning in the preschool years (Olstad & McCargar, 2009). In theory, by limiting sedentary behavior, physical activity should automatically increase (Hills, King, & Armstrong 2007). So then the question
becomes, how can we encourage physical activity in a society that promotes passive leisure experiences such as television and video games?

**Children’s Self-Perception**

According to Fairclough, Boddy, Ridgers, and Stratton (2012), self-perceptions are important predictors of physical activity. This particular factor can influence activity related behaviors of any individual; however, children who are overweight or obese may be particularly susceptible to such influence. Obesity can impact the physical self-perception of children entering adolescence (Morano, Colella, Robazza, Bortoli, & Capranica, 2011). Physical self-perceptions are recognized as positive correlates of youth physical activity and development (Fairclough et al., 2012). Furthermore, specific components of the physical self are thought to influence motivated behavior (Morano et al., 2011).

Studies have shown significant associations between physical self-perceptions and physical activity in youth, with boys typically reporting stronger self-perceptions than girls (Fairclough et al., 2012). Even with gender differences, physical self-perceptions are key correlates of physical activity in adolescent girls (Niven, Fawkner, Knowles, & Stephenson, 2007). Interventions aiming to enhance physical self-perceptions and physical activity in girls should focus on early adolescent groups because physical self-perceptions become relatively stable in mid to late adolescence (Niven et al., 2007). Consequently, as girls mature, they might perceive themselves to be less competent and have less positive physical self-perceptions and, subsequently, choose to avoid situations that involve physical activity (Niven et al., 2007).
Furthermore, evidence suggests that overweight and obese children may have lower self-perceptions than normal-weight counterparts, which often contributes to their level of physical activity participation and physical appearance (Fairclough et al., 2012). These authors also note that this tendency can make it challenging for children to achieve or to want to be successful at a task that involves being active (Fairclough et al., 2012).

**Perceived Adequacy and Predilection**

Two factors that have been considered within the realm of self-perception are perceived adequacy and predilection for physical activity. According to Hay (1992), “perceived adequacy” is defined as the perception of one’s capability to achieve some acceptable standard of success, by that standard being influenced by several factors: self, parents, peers and teachers. These factors interacting with children’s experience in physical activity will influence their perceptions of adequacy (Hay, 1992). The notion of perceived adequacy has been developed to allow a better understanding of participation in physical activities in general. Hay (1992) stated it is highly unlikely that children who perceive themselves as very inadequate and with no predilection or preference toward physical activity be active. Predilection refers to the “likelihood” that a child will select a physical, as opposed to a sedentary, activity when given the choice (Hay, 1992).

Hay (1992) developed and utilized the Children’s Self-Perceptions of Adequacy in and Predilection for Physical Activity (CSAPPA) scale to predict free activity choices. Results indicated that the predilection factor was the strongest predictor of free choice activities, while the adequacy factor was the strongest predictor of organized activities. Overall, results indicated that children take part in physical activities to the extent that they see themselves capable of enjoying, and those physical activities can manifest
through both unstructured activities or/and through structured curriculum such as a physical education class (Hay, 1992).

**Physical Education**

One factor that is commonly identified as a way to increase exercise related habits is physical education; however, exactly how to do this has not really been explored – particularly from a psychosocial standpoint. The psychosocial perspective involves a shift away from focusing on content (i.e., How do we teach children to exercise information?) and toward a focus on experience (i.e., How do we get children to feel like they can and want to exercise?).

School-based Physical Education (PE) programs are often advertised as an effective means of positively affecting health and physical activity behaviors during childhood and later life (Cairney et al., 2012). School programs reach the vast majority of children and can affect physical activity both directly and indirectly. Physical education classes can provide children with activity that directly fosters motor skill development and fitness and can also stimulate positive self-perceptions of physical activity - thereby influencing motivation to engage in physical activity (Cairney et al., 2012).

According to Cairney et al (2012), one important determinant of physical activity is simply youths’ perceived enjoyment of such activity. Data from several studies show that motivation to participate in physical activity in children is influenced by their self-perceptions of physical activity as fun, interesting, and challenging (Cairney et al., 2012). In response, the use of other educational, novel curriculum to present physical activities
as fun, interesting, and challenging with the use of technology could potentially increase a child’s self-perception to be physical active.

**HOPSports**

One relatively new and novel approach to encouraging physical activity among children is the HOPSports Education Training System. According to their website, HOPSports mission is to help move a healthier generation forward by combining fitness and fun, learning and entertainment through movement (HOPSports, 2012). This particular program involves arousal, modeling, and vicarious experience while fostering successful participation through various levels of activity, but research regarding its impact is very limited.

One recent study used the HOPSports system as a means of comparing program by video and instructor supervised age-appropriate physical activities (Annesi & Vaughn, 2011). Participants were enrolled in 12 weeks of after-school care that administered the Youth Fit For Life intervention program on Mondays, Wednesdays, and Fridays, along with either (i) after-school, instructor supervised physical activity for 45 minutes on the remaining two days per week (Youth Fit For Life plus instructor-supervised physical activity group) or (ii) HOPSports use on the remaining two weekdays (Youth Fit For Life plus HOPSports group).

Within the study, the HOPSports video system consisted of the projection of a moving image on a large screen that directed participants through physical activities derived from a variety of sports and physical activities (Annesi & Vaughn, 2011). Popular sport figures, actors, and cartoon figures served as instructors on the videos. The instructor-supervised physical activity consisted of safe and age-appropriate activities
that promoted a fun and non-threatening environment for all participants with minimally structured (Annesi & Vaughn, 2011). The results stated that the impact of The Youth Fit for Life treatment supplemented with the HOPSports exercise video system were significant and near (but not above) the median (Annesi & Vaughn, 2011). However, there was no significant difference in BMI, walk/run, or push-up scores was found between the Youth Fit for Life plus instructor-supervised physical activity and Youth Fit for Life plus HOPSports groups at baseline. Results did indicate significant improvements in BMI 6-minute walk/run and push-up scores over 12 weeks for all study participants (Annesi & Vaughn, 2011).

As it is stated on the HOPSports webpage, fighting childhood obesity is a national initiative at the same time that health and physical education budgets are severely cut, in some cases to the point of extinction. It does take a village to raise a child, and HOPSports’ steadfast mission is to promote healthy and active communities, one child and family at a time (HOPSports, 2012).

**Summary and Purpose Statement**

Overall, the prevalence of obesity among the younger generation is increasing globally (West & Shores, 2008). If researchers can discover or develop more strategies to increase the level of physical activity that a child engages in, it could help reduce and prevent the obesity epidemic in youth. Exploring the impact of PE instructional methodologies on the self-perception of children may be an important piece in addressing this problem.

The purpose of this study was to examine the impact of various forms of physical activity (unstructured recess vs. structured Physical Education vs. HOPSports
HOPSports and Self-Perception

Curriculum) on a child’s perceptions of adequacy toward physical activity and predilections to participate in physical activity. Based on the presented information, the following research question was addressed:

Q1: To what extent are self-perceptions regarding one’s ability to partake in physical activity impacted by instructional methods?
CHAPTER II
LITERATURE REVIEW

Obesity and Physical Activity

Childhood obesity is a strong predictor of adult obesity and poses a serious threat to the health of our nation (Green, Riley, & Hargrove, 2012). In the United States, the percentage of obese children aged 6 to 11 more than doubled in the past two decades, increasing from 6.5% in 1980 to 17.0% in 2006. The percentage of obese adolescents aged 12 to 19 more than tripled, going from 5% to 17.6% during the same period (Li & Hooker, 2010).

Today, more than 23 million children and adolescents in the United States are either obese or overweight. This general rise in obesity is likely to have long lasting physical and mental health consequences for the population (Goran, Reynolds, & Lindquist, 1999). Being overweight during childhood increases the risk of developing diseases such as: high cholesterol, hypertension, respiratory ailments, orthopedic problems, depression and type II diabetes (Green, Riley, & Hargrove, 2012).

Obesity also is linked to a number of social, emotional, and psychological difficulties. Individuals who are obese are at higher risk for depression, eating disorders, distorted body image, and low self-esteem (Pyle, Sharkey, Yetter, Felix, Furlong, & Poston, 2006). Children ages 9 to 12 years with obesity reported more negative physical perceptions of themselves and lower self-worth than their average weight peers (Pyle et al., 2006). Due to this, only about half of American youth exercise regularly. Physical activity is important during youth, not only because it can prevent and reduce obesity, but
it can improve mental health and muscle, bone, and joint functioning (Pyle et al., 2006; Spruijt-Metz, 2011).

Targeting children’s patterns of physical activity is especially important given the argument that physical activity in childhood serves as the foundation for a lifetime of regular physical activity (Goran, Reynolds, & Lindquist, 1999). According to Goran, Reynolds, and Lindquist (1999), physical activity is “any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above the basal level” (p. 20). For example, in a randomized study, the influence of four months of physical training (5 days per week for 40 min per session) and detraining on body composition and health risk factors for obese children in the absence of any dietary intervention was examined. Results indicate that physical activity led to significant, beneficial changes in body fat percentage (Goran, Reynolds, & Lindquist, 1999).

Participation in physical activity during childhood can improve a child’s attributes such as brain function and high energy concentration, increase self-esteem that leads to better behavior, which may support educational performance (Shirinde, Monyeki, Pienaar, & Toriola, 2012). However, low levels of physical activity are typically associated with habitual sedentary activities. It is generally agreed that television and other related activities may be related to the onset of obesity and reduced physical activity in children (Goran, Reynolds, & Lindquist, 1999).

**Sedentary Lifestyles**

Sedentary lifestyles of American school children have reached an alarming rate (Green, Riley, & Hargrove, 2012). Today’s youth spend, on average, about 5½ hours a day participating in sedentary activities that includes television viewing, video games,
computer use, and the Internet, along with other low intensity/low energy-expenditure activities (Spruijt-Metz, 2011). Although, one approach is to recommend reducing the proportion of sedentary to active behaviors rather than quantifying specific amounts of physical activity. In theory, by limiting sedentary behavior, physical activity should automatically increase (Hills, King, & Armstrong, 2007).

For example, Patnode, Lytle, Erickson, Sirard, Barr-Anderson, and Story (2011) identified homogeneous classes of children and adolescents based on their participation in a variety of physical activity and sedentary behaviors. Physical Activity was measured by the average minutes per day spent in moderate-to-vigorous physical activity on weekdays and weekend days with the use of uniaxial accelerometers. Sedentary behaviors were measured with self-administered surveys asking the participants how many hours they spend (1) watching TV, (2) watching DVDs or videos, (3) reading/homework, (4) Nintendo/Play Station/computer games, (5) internet/computers, and (6) talking on the phone or cell phone/text messaging for both typical weekdays and weekend days. The results showed that boys participated in significantly more moderate-to-vigorous physical activity on both weekdays and weekend days and in traditional sports and reported higher levels of watching TV and playing video games than girls; girls reported participating in more chores and work activities, talking or texting on the phone, and reading/homework than boys (Patnode et al., 2011).

Other studies have also shown significant associations between physical self-perceptions and physical activity in youth, with boys typically reporting stronger self-perceptions and significantly higher moderate-to-vigorous physical activity levels than girls (Fairclough et al., 2012). In addition, physically active children usually report a
greater body satisfaction, self-esteem, and physical self-perceptions than their sedentary peers (Tremblay, Colley, Saunders, Healy, & Owen, 2010). The foundation of self-perception is believed to be an important predictor of physical activity and other behaviors (Fairclough & Ridgers, 2010).

**Self-Perception and Self-Efficacy**

Recent research, among children and adolescents, suggests physical self-perceptions are an important correlate of physical activity (Fairclough & Ridgers, 2010). Indeed, perceptions of the self are considered a core element in explanations of human behavior and are central to social learning and motivational theories of physical activity behavior (Inchley, Kirby, & Currie, 2011).

The data from the study conducted by Inchley et al. (2011) showed important gender differences in physical self-perceptions, with boys consistently reporting more favorable psychological profiles in relation to physical activity than girls. Furthermore, marked decreases in self-efficacy, perceived competence, self-esteem and physical self-worth suggest that girls’ perceptions of the physical self are particularly vulnerable during the adolescent years (Inchley et al., 2011).

Adolescence is a critical period during which physical, social and emotional changes occur and, as such, negative self-perceptions may intensify. In particular, developmental changes associated with puberty may threaten girls’ perceptions of their physical selves (Inchley et al., 2011). The results from this study demonstrate the importance of positive physical self-perceptions in relation to physical activity behavior among adolescent boys and girls. There is strong evidence that girls hold more negative
self-perceptions than boys and these differences are apparent as early as 11 years (Inchley et al., 2011).

Physical activity patterns have been empirically linked to psychological-level characteristics such as attitudes or enjoyment of physical activity, motivation to exercise, perceived barriers (such as time, weather, or access to exercise facilities), perceived benefits of exercise, health beliefs, personal control and, particularly, self-efficacy, or the confidence to engage in a particular behavior (Goran, Reynolds, & Lindquist, 1999).

Self-efficacy is the perception of one’s ability to successfully execute an action (Ray & Henry, 2011). Self-efficacy may be increased through attainment of prior success, imitating others’ performance, verbal and social persuasion, and perceptions that positive psychological states may be achieved (Annesi & Gorjala, 2010). Similarly, physical activity self-efficacy is defined as the belief in one’s ability to perform physical activity. To participate in physical activity, children must perceive that they are capable of doing so or have sufficient self-efficacy to do so (Ray & Henry, 2011).

Ray and Henry (2011) explored the association between self-efficacy and physical activity habits in 10- to 14-year-old children with congenital heart disease (CHD). According to the article, children are naturally inclined to participate in physical activity, but with higher physical self-efficacy beliefs children view themselves as able to participate in those physical activities (Ray & Henry, 2011). Within the study, child physical activity self-efficacy was assessed using the self-efficacy scale (SES), which was designed to measure the level of self-efficacy specific to physical activity as perceived by the child (Ray & Henry, 2011). The results stated, that self-efficacy and self-reported physical activity were positively correlated, indicating that children with
higher self-efficacy had higher levels of physical activity (Ray & Henry, 2011). Despite the self-efficacy scores, children with CHD in this study struggled with many of the same issues related to physical activity as healthy children. In particular, 62% were not meeting the centers of disease control and prevention (CDC) recommendations for physical activity, which specify physical activity for 60 minutes each day including aerobic activity, and muscle and bone strengthening movements (Ray & Henry, 2011).

Overall, self-efficacy and physical activity participation are positively correlated. Children with higher rates of participation in physical activity also have higher self-efficacy scores. In turn, contributes to a child’s perceived adequacy, which can be defined as the perception of one’s capability to achieve some acceptable standard of success, along with the likelihood or predilection that they will select a physical, as opposed to a sedentary, activity when given the choice (Hay, 1992).

**Adequacy and Predilection**

Children may not want to participate in physical activity because they may not perceive themselves to be sufficiently adequate to meet minimum performance expectations (Cairney, Hay, Faught, Wade, Corna, & Flouris, 2005). A predilection for sedentary pursuits and an avoidance of structured physical activity opportunities is likely a coping strategy to deal with the risk of failure and humiliation (Cairney et al., 2005).

Cairney et al (2005) tested a theoretical model linking Developmental Coordination Disorder (DCD) to reduced physical activity through the mediating influence of generalized self-efficacy (i.e., self-perceptions of adequacy in and predilection for physical activity, and enjoyment of physical education). The Children’s Self Perceptions of Adequacy in and Predilection for Physical Activity (CSAPPA) scale
was used in this particular study to measure children’s self-perceptions of their adequacy in performing, and their desire to participate in physical activities. The CSAPPA scale has three imbedded factors: adequacy (confidence in), predilection (preference for), and enjoyment of physical education class (Cairney et al., 2005; Hay, 1992). In this study, each of these three subscales was used to assess different dimensions of generalized self-efficacy toward physical activity (Cairney et al., 2005). Results from the study indicated that children with probable DCD report less participation in both organized and free play activities than children without motoric challenge. Moreover, they also report lower perceived adequacy in, predilection toward and enjoyment of physical education class (Cairney et al., 2005).

Goldfield (2009) designed a study to compare attitudes (liking of physical activity, perceived adequacy, predilection or intention) toward physical activity and TV viewing with base rates of physical activity and TV viewing to determine which provides the greatest prediction of response to an 8-week lifestyle intervention in overweight/obese children (Goldfield, 2009). These self-perceptions were assessed using Children’s Adequacy in and Predilection for Physical Activity in Children. According to the article, the three domains from the CSAPPA scale were discriminated from each other through factor analytic procedures. To reiterate, perceived adequacy for physical activity is defined as the perception of one’s capability to be physically active based on some acceptable standards of success, which is influenced by parents, teachers, or peers. The perceived adequacy scale is conceptually similar to general efficacy (Goldfield, 2009). The Predilection scale was designed to measure the likelihood that a child will select a physical, as opposed to a sedentary, activity when given a chance (Goldfield, 2009). The
results showed that neither attitudes nor liking of physical activity or TV viewing behavior was associated with physical activity. Moreover, perceived adequacy and predilection (intention) were not even associated with baseline measures of physical activity and TV viewing behavior (Goldfield, 2009).

Several social-cognitive theories assume that select attitudes toward a behavior, such as one’s liking of the targeted behavior, perceived adequacy or self-efficacy (confidence in carrying out the behavior) or intention to engage in the behavior (i.e., predilection), will influence the likelihood that the targeted behavior will be conducted (Goldfield, 2009). Thus, if one exhibits a high self-efficacy for, liking of, and intention to engage in a behavior, in this instance physical education class, the greater the likelihood that the targeted behavior will be engineered (Goldfield, 2009).

Physical Education

Physical education has been an institution in American schools since the late 19th century, and today almost all American children are exposed to physical education classes at some level (Pate, O'Neil, & McIver, 2011). In the 1990’s, more than 95% of children aged 5 to 17 years are enrolled in school, making schools an ideal setting to reach children and adolescents with health promotion and disease prevention programs (Goran, Reynolds, & Lindquist, 1999). Furthermore, because children are at school for the majority of their waking hours during the week, comprehensive interventions could be implemented to increase physical activity throughout the day (Pyle et al., 2006).

In 2006, the status of physical education programs across the nation: only 3.8% of elementary schools, 7.9% of middle schools, and 2.1% of high schools provide daily physical education (Green, Riley, & Hargrove, 2012). It was noted that all school aged
children should be required to take part in daily physical education and should receive a minimum of 150 minutes per week in vigorous activities (Green, Riley, & Hargrove, 2012). Regular physical activity can help reduce obesity and related chronic diseases along with other factors. According to a 1996 report from the Surgeon General on Physical Activity and Health, “All people over the age of 2 years should accumulate at least 30 minutes of endurance-type physical activity, of at least moderate intensity, on most preferably all, days of the week” (Goran, Reynolds, & Lindquist, 1999, p. 20).

Bryan and Solmon (2012) investigated student motivation in physical education classes by examining relationships among perceptions of the motivational climate, attitudes, levels of self-determination, and engagement in physical activity. Results indicated that perceptions of the motivational climate, levels of self-determination, and attitudes were generally not related to the measures of physical activity. This study suggests that positive attitudes about engaging in activity in physical education classes are fostered when a task-involved environment is prominent. When opportunities for students to progress at their own rate are provided, student attitudes and motivation toward physical education may improve (Bryan & Solmon, 2012).

From the article, students who feel and/or perceive that they are involved in a task-oriented learning environment, where the needs of all children are addressed are more likely to have more positive attitudes about physical education and physical activity (Bryan & Solmon, 2012). The ways in which physical educators structure their classes and attempt to influence the climate of their class has a tremendous impact on student response, self-perception, adequacy, and levels of participation (Bryan & Solmon, 2012).
Specifically, what kind of activities a physical education teacher should introduce to a class and in what way that will be most beneficial to the students at large.

**HOPSports**

HOPSports redefined student perception and participation of school-based physical education by empowering kids to choose attractive and rewarding forms of physical activity that enable them to live sustainably in healthy lifestyles throughout adulthood (Root, 2010). Currently, in 1,000 schools, after-school programs, recreation and treatment facilities, and US military bases world-wide, HOPSports bridges the gap between the home, school and community to encourage lifelong active, healthy lifestyles (HOPSports, 2012).

HOPSports has established objectives that further explain the importance of this educational training system: 1. introduce essential skills for a broad array of physical activity, encouraging healthy and sustainable lifestyles, 2. to make exercise fun through the use of our unique digital platform that incorporates physical activity, educational information and the positive social messaging of popular sport governing bodies, athletes and celebrities, 3. align with major advocacy groups, corporations, foundations and institutions that share the common goal of improving the health of America’s youth and communities, 4. provide a platform for end users to combine entertainment, education and fitness, achieving "my health, my fitness, on my time" (HOPSports, 2012).

An assessment was conducted in North Carolina as a pilot study to provide information about youth’s enjoyment of the HOPSports system, learning outcomes achieved with the HOPSports system, ease of use of the HOPSports system, and how HOPSports may or may not enhance the quality of students’ physical education (West &
HOPSports and Self-Perception

Shores, 2007). The purpose of the additional physical activity assessment was to be able to compare the physical activity outcomes of students using HOPSports with those who did not use HOPSports (as they participated in a more traditional form of PE) during their physical education classes (West & Shores, 2007). Essentially, this information would indicate whether students were more physically active in PE classes when they were using HOPSports.

On average, students achieved more physical activity when HOPSports was used than during traditional PE sessions (West & Shores, 2007). HOPSports was found in several situations to be more effective at improving the amount of time students in PE classes spent in moderate and vigorous physical activity than traditional PE classes (West & Shores, 2007). However, results of this study do not provide overwhelming evidence that it exceeds the performance of similar activities provided in non-HOPSports PE classes. The most significant value of HOPSports may be in its provision of a variety of relatively easy to facilitate activity lessons and its diverse offerings of programs, some of which PE instructors may not feel comfortable teaching or modeling (West & Shores, 2007).

In particular, previous research suggests that video modeling without personalized feedback is not more effective than personal instruction at teaching gross motor skills (West & Shores, 2007). The opportunity for teachers using HOPSports to provide this type of personalized feedback while other students remain engaged in activity seems to provide particular promise for teaching gross motor skills in a group environment. As it was stated from the article, video modeling without feedback has not been found to be an effective method for improving gross motor skills. A significant advantage of the
HOPSports system may be the ability of the module to engage a classroom of students while the PE instructor moves throughout the room providing individual feedback on participant form (West & Shores, 2007).

**Synthesis of Literature**

Past and recent research has shown the prevalence of childhood obesity is rising. Researchers believe there are several factors that have contributed to the epidemic. Factors such as lack of physical activity, entertainment choices, and decrease recess and physical education time have been some of the known causes. However, researchers also believe there are methods that can help decrease and reduce the likelihood of obesity by means of increasing physical activity. This literature review looked at a number of studies that focused on physical activity through different methods of teaching such as a traditional PE class and the HOPSports curriculum. According to findings from research, both methods have an impact on a child’s self-perception, adequacy and predilection towards physical activity. Physical education classes can provide children with activities that directly promote motor skill development. HOPSports can help children become healthier by combining fitness and fun, learning, and entertainment through movement. By integrating new methods such as HOPSports during physical education class, could increase a child’s perception about the benefits of being physically active.

Based on research, being active can affect students’ leisure choices, in terms of veering away from those sedentary experiences in order to increase physical activity. To examine this issue further, this study tested the following hypotheses:
H1: Observed pre to post session gains in adequacy, predilection, and enjoyment will differ significantly across three study conditions: participation in physical education, participation in HOPSports activity, and participation in a recess session.
CHAPTER III

METHODS

Population

The target population of interest in this study was elementary boys and girls in the 4th and 5th and 6th grade, ages 9 to 12 years old. The accessible portion of this population consisted of students attending a lab school located on a college campus in the Midwest region of the United States. The school had a total population of 113 elementary students, grades preschool - 6th grade. The preschool, pre-kindergarten and kindergarten classes are housed in a center located within the lab school building. The lab school serves as a teaching environment for college students, but also a learning community for children, families, administrators, and faculty members. Around 60% of the lab school students are children of faculty members on the college campus.

Sample

The study utilized a convenience sample made up of students from the 4th grade class and the combined 5th and 6th grade class at the lab school. The 5th and 6th grades are combined at the school due to lower enrollments. This drop in enrollment is created by students transitioning back to public or private school systems as they approach the 7th grade. The 4th grade class consisted of 15 students (11 males, four females), whereas the 5th/6th grade class consisted of 21 students (9 males, 12 females). The 5th grade class had six students with four females and two males, and the 6th grade class had 15 students, with eight females and seven males. All students in both classes agreed to participate in the study resulting in a final sample of 36 students. The average age of participants
across both grades was 10.28 ($SD = .91$). The Sample demographics and characteristics were described using descriptive statistics in Table 1.
Table 1. Sample Characteristics using Descriptive Statistics (n = 36)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>25.0%</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>27.8%</td>
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<tr>
<td>11</td>
<td>15</td>
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</tr>
<tr>
<td>12</td>
<td>2</td>
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</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td>20</td>
<td>55.6%</td>
</tr>
<tr>
<td>4th</td>
<td>11</td>
<td>30.6%</td>
</tr>
<tr>
<td>5th/6th</td>
<td>9</td>
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</tr>
<tr>
<td><strong>Girls</strong></td>
<td>16</td>
<td>44.4%</td>
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<tr>
<td>4th</td>
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<tr>
<td>5th/6th</td>
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<tr>
<td><strong>Grades</strong></td>
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<tr>
<td>4th</td>
<td>15</td>
<td>41.7%</td>
</tr>
<tr>
<td>5th/6th</td>
<td>21</td>
<td>58.3%</td>
</tr>
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</table>
**Instrumentation**

Physical activity was measured in this study with the *Children’s Self-perceptions of Adequacy in and Predilection for Physical Activity (CSAPPA) scale*. This instrument, was created by Dr. John A. Hay, measured two self-perceptions for children ages 8-16 years old: adequacy and predilection (Hay, 1992). According to Hay (1992), adequacy is defined as the perception of one’s capability to achieve some acceptable standard of success, by that standard being influenced by self, parents, peers, and teachers.

Predilection refers to the likelihood that a child will select a physical, as opposed to a sedentary, activity when given the choice (Hay, 1992). Though, the scale does offer a variety of sedentary activities as an option for the participant to select from. Theoretically, an individual will have no predilection for an activity if they feel inadequate about their ability to perform the activity (Hay, 1992). As such, it is unlikely that a child who perceives themselves as very inadequate and with no predilection toward physical activity would be active (Hay, 1992).

The CSAPPA scale consists of 20 items. Each item will require the child to decide which of the two statements describes him or her, and then the child will select one of the sentences’ that is most like them. For example: "Some kids like to play active games outside on weekends" or "Some kids like to relax and watch TV on weekends." Once a choice is made the child then indicates if the selected statement is “sort of true for me” or “really true for me.” The scale has 20-items: 10 items begin with active statements and 10 begin with inactive statements – 8 of those items address adequacy and the remainder address predilection (9 items) and enjoyment of the activity (3 items).
Predilection items outnumber adequacy items in order to allow a full range of active and inactive choices (Hay, 1992).

According Hay (1992), the CSAPPA scale shows an excellent reliability and strong factorial, construct, and predictive validity. The factor structure from the study done by Hay (1992) remained consistent in both test and retest and was not influenced by the variables within the study: school, grade, gender, or residence (Hay, 1992).

**Procedures**

As this study involved a lab school, parents had previously consented to their child’s involvement in curriculum related research. None of the parents from the 4th or 5th/6th grade classes had opted out of the consent process; therefore, all students in both classes were asked to participate. None of the students opted out of the research at any time. The study took place over a three-day period, with the students partaking in three different activity sessions over the course the academic week. The first session took place during a regularly scheduled physical education period (total of 30 minutes) that involved the educational training system HOPSports. The second session took place during a prearranged recess period (total of 30 minutes) that involved unstructured, free play. The third session took place during a regularly scheduled physical education period (total of 30 minutes) that involved a traditional PE activity.

An assent statement was read aloud to the students prior to all three sessions, giving them the option to decline survey completion. Each of the three activity sessions involved a pre and post administration of the CSAPPA. The first and last 5 minutes of the each session was designated for administering the CSAPPA scale, which the researcher verbally read to the students. The instrument was read aloud to the students,
who then marked their responses as they followed on a hard copy of the instrument. The students took part in the designated activity for the remaining 20 minutes of each session.

**Activity Sessions**

The three regularly scheduled and predetermined sessions were studied over three consecutive days. The sessions consisted of elementary students partaking in two-30 minute structured Physical Education (PE) sessions that offered an activity through video projection (HOPSports) and a regular PE activity chosen by the physical education teacher, and a 30 minute unstructured recess session (control group), which was determined by the classroom teacher’s tentative schedule.

The unstructured recess session (control group) took place outside located on the lab school’s playground, and was supervised by the researcher. The researcher informed the children that they could participate in whatever activities they chose at a reasonably safe level, utilizing provided space and equipment. The playground consists of two jungle gyms that provided the students with various opportunities to move and climb: monkey bars, slides, ladders, and poles. The additional equipment provided consisted of typical playground balls, Frisbees, jump ropes, and hula-hoops.

This session was held during a prearranged, scheduled recess period on a Tuesday during the academic week for both 4th and 5th/6th grade classrooms. The 5th/6th grade classroom was scheduled to have recess from 9:40am to 10:00am. The 4th grade classroom was scheduled to have recess at 10:10am to 10:30am. Prior to going outside, the researcher administered the CSAPPA scale (pretest). Once the survey was completed, the researcher led the group of students to the playground. After the 20 minutes, the students were led back inside to complete the scale again (posttest).
The structured PE class session took place in the school’s gymnasium but involved a structured lesson plan focusing on a variety of jump roping skills and techniques. This activity was part of a pre-planned curriculum and was chosen as the element of the curriculum that most closely resembled the HOPSports session. The session took place in the school, consisting of a full sized basketball court. The only equipment that was used during this session was a variety of different-sized jump ropes. The session was held during a regular scheduled PE period. For the 4th grade students, their regular PE session (for this study) was scheduled for Wednesday at 11:00am to 11:30am. For the 5th/6th grade students, their regular PE session (for this study) was also scheduled on a Wednesday, but at 11:30am to 12:00pm. Each session for both classrooms was 30 minutes. The first and last 5 minutes of the session were allotted to administer the CSAPPA scale.

As the students entered the gym, the PE teacher instructed the students to find a spot on the floor, two by two. The researcher read the verbal consent to the students and then administered the scale. After the researcher collected the scale, the PE teacher proceeded on with the activity.

For the 4th grade class, the PE teacher split the class into two groups. Group 1 participated in double-dutch, while group 2 took part in a foot work activity called “Tinikling,” which is traditionally a Philippine dance, but in this case the children used aerobic bands instead of bamboo poles. For double-dutch, the PE teacher and a teaching assistant held the two jump ropes. Each child, from both groups, was allowed several tries. Once each child from group 1 went though, the groups switched. For the Tinikling activity, instead of bamboo poles, the aerobic bands were strapped to one end of a small
wooden ladder and then other strapped to a child’s ankle. The child with bands on was the controller. Each child took turns as being the controller.

The controller would move their feet according to the child that would be in between the bands (jumper). Example: the jumper would jump twice in the middle with feet together and then jump their feet apart on either side of the bands – “jump in jump in, jump out.” The controller would move their feet opposite of the jumper. Once both groups did both stations, before completing the survey again, the students got in two rows, 2 by 2 at one end of the gym. The first row of kids jump roped down and back and then second row performed the task. Once back in their spot, the kids learned two jump rope tricks such as crisscross applesauce and a 360 degree turn (jump forward, turn, and jump backward turn). The last five minutes of the class, the students completed the survey.

For the 5th/6th grade class, the students were split up into 3 groups. Group 1 participated in double-dutch, group 2 took part in Tinikling and group 3 partook in another foot work activity called “Helicopter.” The helicopter activity allows one student at a time to control how slow or how fast the helicopter will go. The helicopter is a jump rope with a soft weight on the end. The student turning the rope calls out students by gender or age to jump over the rope. Once all three groups rotated through all three stations, before completing the survey again, the students got in two rows, 2 by 2 at one end of the gym. The first row of kids jump roped down and back and then second row. Once back in their spot, the kids learned a two jump rope tricks such as crisscross applesauce and a 360 degree turn (jump forward, turn, and jump backward turn). The last five minutes of the class the students completed the survey.
The third session involved the implementation of a HOPSports activity. The purpose of HOPSports is to promote active, healthy, sustainable lifestyles and behaviors in the home, school and workplace (HOPSports, 2012). HOPSports’ steadfast challenge is to promote healthy and active communities, one child and family at a time; as well as to help move a healthier generation forward by combining fitness and fun, learning and entertainment.

This session was again led by the regular PE teacher. All of the students in both classrooms had participated in HOPSports during previous PE classes or in other settings, but none had participated in a HOPSports session during the past two weeks. Due to their past experience, minimal instruction was necessary. The equipment necessary for the HOPSports activity was set up prior to the class by the PE teacher. The students were instructed, once they entered the gym, to find a place on the gym floor. The researcher read the verbal consent to the students and then administered the scale. After the researcher collected the scale, the PE teacher proceeded on with the activity.

For both 4th and 5th/6th grade classes, the students were split up into three groups. Group 1 participated in basic jump rope techniques, such as: forward, backward, crisscross, or 360 degree turn; group 2 partook in a ball exercise, which the students used a yoga ball to strengthen their biceps and triceps. Example: the students moved the ball left to right and then over the rainbow (over their head), and group 3 took part in a HOPSports activity. The HOPSports module the kids participated in was a ladder circuit drill. The ladders were flat, padded, agility 3D boxes that interlock to form a ladder pattern. There were six ladders on the floor for two students to use at a time. Each of the six drills was shown on the video at once, allowing the students to see how each skill was
done before performing the action. In other words, role modeling was being used during this particular session. The students could do any of the drills first but needed to try to perform each drill at least once before trying another drill. While the students were taking part in the different skills at each station, the teacher and researcher provided encouragement and monitored each student’s affect and behaviors during the activity.

Once all three groups moved through the three stations, before completing the survey, the students divided up into two groups to participate in two more activities: double-dutch and hot peppers. The hot peppers activity involves the use of one jump rope. During this particular group, a teaching assistant held one end of the rope and the other end was tied to the wall. The point of this activity was to see how fast each student could jump rope. During the last five minutes of the class, the students completed the survey.

**Data Design and Data Analysis**

This study examined the impact of various forms of physical activity (unstructured recess vs. structured Physical Education vs. HOPSports Curriculum) on a child’s perceptions of adequacy toward physical activity and predilections to participate in physical activity. A repeated measures research design was used in this study, allowing all participants to take part in all three study conditions. The independent variable for this study was a structured physical education class (traditional PE activity and HOPSports curriculum vs. control – unstructured recess), and the dependent variable was self-perception, as measured by Children’s Self-perceptions of Adequacy in and Predilection for Physical Activity (CSAPPA) scale. Sub-scales of this instrument were adequacy, predilection, and enjoyment of physical activity. Once collected, data was
entered into a Microsoft Excel database. After checking for accuracy and removing absent participates, data was transferred to a SPSS spreadsheet for analysis. Data was found to be complete. Therefore, all subjects were included in the analysis \( n = 36 \).

Repeated measures analysis of variance (ANOVA) was used to examine the proposed research hypothesis.

**Threats to Internal Validity**

Internal validity refers to the extent to which any changes in the dependent variable can be attributed to the independent variable(s) in a study. The following sections summarize the extent to which common threats to internal validity were controlled for in this study.

**Subject Characteristics:** Potentially, when comparing groups, the characteristics of subjects in a study may account for observed differences, thereby producing a threat to internal validity. However, in this study, the subject characteristics were not a concern because a repeated measures design was used, equalizing all groups on such factors.

**Location:** The possibility that results are due to characteristics of the location in which a study is conducted thereby producing a threat to internal validity. To control for location threats, the pre-test and post-test for both the structured physical education and HOPSports curriculum were given in the same location (gymnasium) and under the same environmental conditions. However, the unstructured recess was located outside for both classes.

**Mortality:** The possibility that results are due to the fact that subjects who are, for whatever reason, “lost” to a study may differ from those who remain so that their absence has an important effect on the results of the study. Mortality was a contributing
threat to internal validity in this study. Due to illness or health related concerns, six students were absent at least one day of the study. As a result, they were excluded from the data.

**Participant Attitudes:** The possibility that the results are due to changes that occur in a participant’s attitude that may affect their performance thereby producing a threat to internal validity. In this case, new students who have not participated in a HOPSports module could become overwhelmed with the activity causing their change in attitude of the class.

**Testing:** Instrument effects are a threat to internal validity and refer to improved scores on a posttest that are the result of subjects having taken a pretest. Instrument effects were controlled by, testing the subjects six times before and after the activities, within three consecutive days.

**Instrumentation:** Instrumentation would be controlled by standardizing the way the instrument is delivered across all three study groups – same implementer, same procedure. One threat to instrumentation is that the researcher delivered the instrument, which could potentially introduce a bias.

**Implementation:** The possibility that results are due to variations in the implementation of the treatment in an intervention study thereby affecting the internal validity. The intervention was implemented by the same physical education teacher for the structured physical education class and HOPSports module. However, the unstructured recess was supervised by researcher.
External Validity

There were certain limitations in generalizing from the sample back to the population. The study was not random selection; actually, it was convenient to the researcher in order to complete the study in a timely manner. The sample was located in laboratory school on a college campus. As such, findings should be applied to other populations with caution.
CHAPTER IV

RESULTS

Descriptive Statistics

Comparing descriptive statistics across the three study conditions sheds light on initial trends in the data and is useful in interpreting the meaning of hypothesis tests. In this study, mean differences were compared across study conditions on the three dependent variables: adequacy, predilection, and enjoyment. Tables 2, 3, and 4 present pretest and posttest means and standard deviation ($SD$) for these three variables for each study condition, and well as mean differences (pretest to posttest differences for each condition). In regard to adequacy, the traditional, structured PE group had a notable mean difference score of 6.03 ($SD = 2.81$). The mean difference score for predilection, in terms of the PE group was -.83 ($SD = 3.50$), and a mean difference for enjoyment of physical activity was .03 ($SD = 1.27$).

Mean differences resulting from the HOPSports group were less extreme with an adequacy mean difference of .45 ($SD = 2.42$), a predilection mean difference of .03 ($SD = 1.54$), and for enjoyment of the physical activity a mean difference of -.25 ($SD = 1.87$). Similarly, the recess group mean differences were consistently minimal, with an adequacy mean difference of -.03, ($SD = 2.43$), a predilection mean difference of -.72 ($SD = 2.41$), and for enjoyment of the physical activity a mean difference of .11 ($SD = 1.12$).
Table 2.
Pretest and Posttest Means and Standard Deviation for Adequacy

<table>
<thead>
<tr>
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<th>Pretest</th>
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<th>Posttest</th>
<th></th>
<th>Differences</th>
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</thead>
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<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Physical Education</td>
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<td>-.278</td>
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Table 3.
Pretest and Posttest Means and Standard Deviation for Predilection

<table>
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<tr>
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<th></th>
<th>Differences</th>
</tr>
</thead>
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<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Physical Education</td>
<td>30.28</td>
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<td>29.44</td>
<td>6.29</td>
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<td>HOPSports</td>
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<td>6.46</td>
<td>30.28</td>
<td>6.70</td>
<td>.028</td>
</tr>
<tr>
<td>Recess</td>
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<td>5.74</td>
<td>29.86</td>
<td>6.35</td>
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Table 4.
Pretest and Posttest Means and Standard Deviation for Enjoyment of Physical Activity

<table>
<thead>
<tr>
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<th>Posttest</th>
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<th>Differences</th>
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<td>Physical Education</td>
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<td>2.23</td>
<td>9.94</td>
<td>2.16</td>
<td>.028</td>
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<tr>
<td>HOPSports</td>
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<td>2.86</td>
<td>-.250</td>
</tr>
<tr>
<td>Recess</td>
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<td>2.68</td>
<td>9.69</td>
<td>2.63</td>
<td>.111</td>
</tr>
</tbody>
</table>
Hypothesis Testing

A repeated measures Analysis of Variance (ANOVA) was used to examine difference scores (pretest to posttest change) for adequacy, predilection, and enjoyment across study conditions. Results indicated a significant difference across study conditions for adequacy, $F(2, 70) = 63.27, p < .001$. Non-significant results occurred for both predilection, $F(2, 70) = 1.194, p = .31$ and enjoyment, $F(2, 70) = .711, p = .495$.

To determine the nature of the significant different change in adequacy from pretest to posttest, post hoc analyses were warranted. Bonferonni’s post hoc analysis revealed that the physical education group experienced significantly greater gains than both the recess group ($p < .001$) and the HOPSports group ($p < .001$).
CHAPTER V
DISCUSSION

It was hypothesized in this study that the structured physical education class (HOPSports and PE condition) would produce greater gains in adequacy, predilection, and enjoyment than an unstructured recess condition. Results partly supported the hypothesis regarding adequacy, but did not support the hypotheses regarding predilection and enjoyment. In regard to adequacy, the PE condition created a significantly greater increase compared to the HOPSports and recess condition. Furthermore, adequacy was relatively stable from pretest to posttest from the HOPSports and recess conditions, but showed a marked change for the PE condition. All comparisons regarding predilection and enjoyment were non-significant. Generally speaking, none of the three groups led to pre to post change on predilection or enjoyment.

Hay (1992) developed and utilized the Children’s Self-Perceptions of Adequacy in and Predilection for Physical Activity (CSAPPA) scale to predict free activity choices. According to his findings, predilection factor was the strongest predictor of free choice activities (unstructured recess), while the adequacy factor was the strongest predictor of organized activities (structured physical education classes). The current findings appear to be at least partly consistent with this assertion, as adequacy was impacted by one of the two structured sessions.

In regard to the nature of the observed difference in this study, results appear to conflict with past literature suggesting that HOPSports may enhance physical education. For instance, West and Shores (2007) found that students achieved more physical activity when HOPSports was used than during traditional PE sessions (West & Shores, 2007).
However, results of this study do not provide overwhelming evidence that it exceeds the performance of similar activities provided in non-HOPSports PE classes. In fact, they suggest that direct teacher facilitation may be superior under certain circumstances. Based on these findings, relying solely on HOPSports during a class session appears to be ill-advised. At the same time, some have asserted that the most significant value of HOPSports may be in its provision of a variety of relatively easy to facilitate activity lessons and its diverse offerings of programs, some of which PE instructors may not feel comfortable teaching or modeling (West & Shores, 2007). In the current study, the PE teacher leading the sessions was an experienced educator who also trained student teachers through her work as a university faculty member.

Considering the human element, it appears that the potential benefits of teachers using HOPSports to facilitate and engage the overall class while the teacher simultaneously provides personalized educational strategies that should be further explored. As noted by West and Shores (2007) video modeling without feedback has not been found to be an effective method, which is certainly consistent with the current findings. To elaborate on this point, children may not want to participate in physical activity because they may not perceive themselves to be sufficiently adequate to meet minimum performance expectations (i.e., they feel inadequate), which in turn leads them to avoid participation, and in some cases that is where those sedentary activities come into play (Cairney et al., 2005). HOPSports did not lead to a change in adequacy in the current study; however, one significant advantage of the HOPSports system may be the ability to engage a classroom of students while the PE instructor moves throughout the
room providing individual feedback that will address perceived and real inadequacies (West & Shores, 2007).

**Limitations**

Even though the results for this study did not indicate significant differences, there was some indication that the structured physical education class may have had some positive effects. As mentioned earlier, in regard to adequacy, the PE condition made more of a significant impact compared to the HOPSports and recess condition, which resulted in no meaningful change. None of the three conditions impacted predilection and enjoyment of the physical activity. This finding, combined with the limitations of the study, suggests that future study is warranted.

The first limitation to this study was the number of days the study was conducted. The researcher collected data for 3 consecutive days in terms of administering a pretest and posttest for each day. For Monday (day 1) a traditional PE class with the use of a jump rope lesson was scheduled; for Tuesday (day 2) an unstructured recess session was scheduled according to the two classroom teacher’s tentative schedule, and for Wednesday (Day 3) another structured physical education class with the use of HOPSports and other jump rope stations was scheduled. The study was short due to limited time the researcher had to collect and complete before certain deadlines. This particular study was also short also due to the physical education teacher’s tentative schedule. The PE teacher was generous enough to tie in a HOPSports module to her already planned jump rope lesson.

Another limitation was the inability to influence the curriculum beyond what was already generally planned. Meaning, the researcher only looked at a snapshot of an
activity from the overall HOPSports program. The program consists of several modules, which could potentially increase the likelihood (predilection) that a child would choose some form of physical activity in an interactive way (HOPSports) instead of a sedentary activity, such as a video game. Also, the researcher worked with the physical education teacher with the generally planned curriculum, which made it difficult to have the students participate in other HOPSports modules besides the single activity.

Additional limitation was the setting of where the study was conducted. This particular lab school is located on a college campus. College students have the privilege to come and observe students on various occasions, unless a child’s parent does not grant that permission. This lab school is highly structured, which provides an environment for the children to stay constantly learning throughout the day. With that said, as structured as a lab school is when the children participated in the HOPSports session, the activity was quite unstructured, which could have caused levels enjoyment and the likelihood to choose an activity such as this again to slightly decrease. The physical education teacher mentioned to the each class before the activity that they were capable of performing all these skills with minimal instruction. Therefore, again, could have decreased their level of perception of being capable to complete a physical activity without some sort of feedback. While it is possible that a real life teacher is critical, the three activities differed on so many levels that it is hard to say that all of the differences were due to the physical education teacher’s actions.

**Recommendations for Research**

It is recommended that for future research to conduct a similar study with larger class sizes. The class size is generally small at the lab school. So, considering larger
class sizes and other age groups, students may respond differently to the HOPSports program. Meaning, combining more classes would increase the age barrier from four age groups, as in this particular study (9, 10, 11 and 12) to several age groups. A child’s self-perception at age 11 is probably different to a child who is only three years old. With that said, combining various age groups could potentially have a more positive affect on the HOPSports program than just two classes (4th and 5th/6th).

Another recommendation for future research is to provide different modules under the HOPSports program as this study only considered one type of module. The HOPSports program consists of several modules. Under the category of Arts, the modules available are: dance, music, performing arts and visual arts; under the category of Fitness Skills, the modules available are: circuit training, cheerleading, core strength, cool downs, flexibility, functional training, martial arts, meditation, yoga and warm ups; under the category of Sport Skills, the modules available are: baseball, basketball, football, golf, rowing, soccer, swimming and volleyball; under the category of Educational, the modules available are: advocacy, anti-obesity, anti-smoking, careers, character development, environmental, health, nutrition and volunteerism, and under the category of Entertainment, the modules available are: cartoons, music and sports highlights. With so many types of activities to present to students of different ages, these could increase and help promote the HOPSports program.

It is recommended for future research to see if there is a consistent effect on a child’s self-perception (adequacy, predilection, and enjoyment of physical activity) despite the variation in the activity being used. This would allow future researchers to
find if children respond positively to a different activity from the HOPSports program as compared to the one completed for this particular study (circuit training).

Another recommendation for future research is to conduct the study over a longer period of time. This would also allow for the impact of the HOPSports program to target different aspect of a child’s development along with what best fits the interests of that particular group. It would also allow the physical education teacher to present a variety of categories over several weeks.

With that being said, the most important recommendation for future research is to implement the HOPSports program into a more traditional physical education class to allow PE teachers the use of the system. The HOPSports program is a useful resource to use during a lesson with other additional equipment to enhance the lesson, but teachers should not solely rely on HOPSports for an activity session. HOPSports could be beneficial for a teacher with a lack of resources, but could actually take away from what a good PE teacher can offer and provide to their students. Teacher experience and talent goes a long way during a lesson, and especially how the PE teacher provides feedback to the group.

**Recommendations for Practice**

It is recommended that those who know how to lead a HOPSports activity work with several other schools to conduct a similar study, in order to gain ways of guiding a useful lesson for certain age groups. If multiple schools could come together, this would help generate a larger database. In turn, this would allow for a larger sample enabling the use of statistical techniques and ultimately making these types of programs more accessible for further research.
It is recommended those who provide HOPSports activities to students become aware of the product and the videos contained within. As it was mentioned earlier, there are several video categories for physical education teachers to use, but understanding the contents could help know what video to use for certain situations. Not only developing knowledge of the information improves the level of practice in a profession, but it also ensures that those in a profession provide service of equal practice. This is important for the programs reliability and validity, especially if programs/schools come together.

Overall, the research supports the use of the HOPSports program. It is recommended that program like this to be implemented into more traditional physical education classes with teacher feedback during the session in order to increase a child’s self-perception (adequacy, predilection, and enjoyment). As it was mentioned above, solely relying on HOPSports, for this particular study, is not such a good idea. As it is critical that the human element is maximized, meaning teacher feedback. While the current study did not demonstrate a similar finding, substantial evidence exists that would justify the continued use of the program.

**Conclusion**

The research available on the HOPSports curriculum and its impact a child’s self-perception is lacking. In effort to add to this body of research to the current study sought to answer the following questions: how does a structured physical education class and HOPSports curriculum impact a child’s self-perception in means of adequacy, predilection, and enjoyment of the activity, and how does an unstructured recess impact a child’s self-perception in means of adequacy, predilection, and enjoyment of the activity?
It was proposed that a structured physical education class would increase a child’s self-perception more so than an unstructured recess.

This hypothesis was tested using a repeated measures pretest-posttest design with sample representing 4th and 5th/6th grade students in a lab school who participated in three consecutive days of physical activity. No statistically significant findings were found for HOPSports and the recess condition, however, in terms of adequacy, the traditional PE class had a significant effect.

There were considerable limitations, especially the sample size, which could have waived the findings. Considering the presented findings and the limitations, further research in the realm of HOPSports based PE curriculum and self-perception is warranted, especially in how the activity is projected to the students. Meaning, a shift away from focusing on content (i.e., How do we teach children about exercise information?) and toward a focus on experience (i.e., How do we get children to feel like they can and want to be physically active?).
APPENDIX A

CSAPPA Scale


What’s Most Like Me

Initials (first and last): _________________________   Age: _________ years

Grade: ______________________________________   Gender:   Boy  /  Girl
   (circle one)

Instructions:
PLEASE RESPECT YOUR FELLOW STUDENTS AND KEEP YOUR EYES ON YOUR OWN PAPER, PLEASE!

In this survey you have to read a pair of sentences and then circle (O) the sentence that you think is the most like you.

Try the following example:

SAMPLE QUESTION:

Some kids have one nose on their face. but Other kids have three noses on their face!

That shouldn’t be too hard for you to decide! Once you have circled the sentence that is most like you, then you have to decide if it is SORT OF TRUE for you or REALLY TRUE for you.

Here is another example for you to try. Remember, first circle (O) the sentence that is most like you and then put checkmark (✓) in the correct box if it is REALLY TRUE or only SORT OF TRUE for you.

THERE ARE NO CORRECT OR INCORRECT ANSWERS, JUST WHAT’S MOST LIKE YOU!

SAMPLE QUESTION:

<table>
<thead>
<tr>
<th>REALLY TRUE for me</th>
<th>SORT OF TRUE for me</th>
<th>SORT OF TRUE for me</th>
<th>REALLY TRUE for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some kids like to play with computers. BUT Other kids don’t like playing with computers.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Now you are ready to start filling in this form. Take your time and do the whole form carefully. If you have any questions just ask! If you think you are ready you can start now. BE SURE TO FILL IN EACH PAGE!

<table>
<thead>
<tr>
<th>REALLY TRUE for me</th>
<th>SORT OF TRUE for me</th>
<th>SORT OF TRUE for me</th>
<th>REALLY TRUE for me</th>
</tr>
</thead>
<tbody>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids can’t wait to play active games after school.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids really enjoy physical education class.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids don’t like playing active games.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids don’t have much fun playing sports.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids think physical education is the best class.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids are good at active games.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids don’t like playing sports.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids always hurt themselves when they play sports.</td>
<td>BUT</td>
</tr>
<tr>
<td>ᵃ</td>
<td>ᵇ</td>
<td>Some kids like to play active games outside.</td>
<td>BUT</td>
</tr>
<tr>
<td>REALLY TRUE for me</td>
<td>SORT OF TRUE for me</td>
<td>BUT</td>
<td>SORT OF TRUE for me</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------</td>
<td>-----</td>
<td>---------------------</td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids do well in most sports.</td>
<td>Other kids feel they aren’t good at sports.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids learn to play active games easily.</td>
<td>Other kids find it hard learning to play active games.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids think they are the best at sports.</td>
<td>Other kids think they aren’t good at sports.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids find games in physical education hard to play.</td>
<td>Other kids are good at games in physical education.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids like to watch games being played outside.</td>
<td>Other kids would rather play active games.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids are among the last to be chosen for active games.</td>
<td>Other kids are usually picked to play first.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids like to take it easy during recess.</td>
<td>Others kids would rather play active games.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids have fun in physical education class.</td>
<td>Other kids would rather miss physical education class.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids aren’t good enough for sports teams</td>
<td>Other kids do well on sports teams.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids like to read or play quiet games.</td>
<td>Other kids like to play active games.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>□</td>
<td>BUT</td>
<td>□</td>
</tr>
<tr>
<td>Some kids like to play active games outside on weekends.</td>
<td>Other kids like to relax and watch TV on weekends.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

THANK YOU VERY MUCH FOR COMPLETING THE CSAPPA SCALE!
REFERENCES


Root, T. (2010). The correlation between the use of sensory distraction to enable sports and fitness skills repetition and accelerating learning and fighting the childhood obesity epidemic. British Journal of Sports Medicine, 44, 73.


