

ABSTRACT

ADAMS, BROOKE NICOLE. The Exploration of Physical Self-Efficacy and a Youth Sport Program for Adolescent Girls. (Under the direction of Dr. Michael Kanters).

Despite the proven psychosocial benefits, sport participation levels of adolescent girls have decreased over the last two decades. Reasons for the decline in participation have been linked to a variety of barriers faced by adolescent girls. In particular, many current youth sport programs do not offer the components to attract and maintain the interest of girls. Physical self-efficacy is an important component for exercise adherence and participation. However, few researchers have examined physical self-efficacy and sport participation of adolescent girls.

Exploring the psychosocial construct of physical self-efficacy is important in relation to girls' participation in physical activity and sport. The purpose of my study was to determine if adolescent girls participating in a youth running program would score higher on physical self efficacy than adolescent girls not participating in the youth running program.

The Physical Self-Efficacy Scale (Ryckman et al., 1982) was used to investigate physical self-efficacy for a sample of 40 adolescent girls, ages 8 to 12 years old from Wake and Durham counties participating in the youth running program compared to a sample of 13 adolescent girls, ages 9 to 11 years old from Wake County, not participating in the program. A t-test for Equality of Means and a non-parametric Mann-Whitney U test were used to test the significance of the relationships between the experimental group and the control group. No statistically significant difference was found in the means or mean ranks of the physical self-efficacy components.

**THE EXPLORATION OF PHYSICAL SELF-EFFICACY AND A YOUTH SPORT
PROGRAM FOR ADOLESCENT GIRLS**

by
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BIOGRAPHY

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Chapter 1

INTRODUCTION

The health and well-being of adolescent girls is an important social issue in the United States. The psychosocial benefits of physical activity and sport have never been more apparent. However, adolescent girls are becoming increasingly less active in physical activity and sport. The barriers to physical activity and sport for adolescent girls must be identified and addressed for girls to maximize their development. Finding ways to reduce the recent trend of inactivity will require intervention from specialists and researchers in the field of youth development.

Throughout this paper physical activity, sport and exercise, will be defined as follows: physical activity, a term used to describe any bodily movement resulting in energy expenditure; exercise, a subset of physical activity that is either planned, structured or repetitive and aimed at improving or maintaining one's health; sport, a physical activity involving structured, competitive situations governed by rules (Biddle, et al., 2000, p. 7).

Participation in physical activity, exercise and sport improves psychosocial health of female youth. Proven benefits from participation are increased self-perceptions such as self-esteem, self-efficacy, physical competence, self-worth and body image (Baum, 1998; Biddle, Fox, & Boutcher, 2000; Brady, 1998; Bunker et al., 1997; Halpern, 1998; Petitpas, Cornelius, Van Raalte, & Jones, 2005; Rasmussen, 2000; Richman & Shaffer, 2000; Sabo, Miller, Melnick & Heywood, 2004; Vilhjalmsson & Kristjansdottir, 2003). However, knowing the psychosocial benefits has not been enough incentive to get girls to participate in physical activity and sport.

Adolescent girls have been faced with a variety of barriers to physical activity and sport. Adolescent girls often find handling the extreme physical, cognitive and emotional changes that occur during adolescence difficult (Bunker et al., 1997). The outcome of these changes can cause avoidance and lack of interest in many activities including sport and physical activity (Sabo et al., 2004). The negative self-perceptions has contributed to avoidance or discontinuation in physical activity and sport (Biddle et al., 2000; Boyd, et al., 1997; Bunker et al., 1997; Lifshay et al., 2003; Vilhjalmsson et al., 2003).

Adolescent girls are twice as likely to abstain from physical activity, exercise and sport as compared to boys (Baum, 1998). Many existing youth sport and physical activity programs do not target and appeal to female youth (Vilhjalmsson et al., 2003). Critical program components such as positive social aspects and an opportunity to gain physical competence and self-efficacy are missing. (Butcher et al., 2002; Ennis, et al., 1999; Fredricks, Alfred-Liro, Hruda, Patrick, & Ryan, 2002; Halpern, 1998; Henderson et al., 1999; Pangrazi, Beighle, Vehige & Vack, 2003; Petitpas et al., 2005; Rhea, 1998). In particular, physical self-efficacy has been shown to predict exercise adherence for females (Malherbe, Steel & Theron 2003). Additionally, physical self-efficacy is higher for individuals that exercise on a regular basis (McAuley & Jacobson, 1991).

Few youth sport programs provide adolescent girls with the psychosocial components to attract and maintain their interest. Researchers have examined the relationship between physical activity, sport and self-efficacy. However, few have documented the relationship between adolescent girls' participation in youth sport and physical activity programs and physical self-efficacy. The purpose of this study was to determine if participants in a

structured youth running program would score higher on physical self-efficacy than non-participants.

Chapter 2

LITERATURE REVIEW

In the United States, girls are considered at risk for inactivity in spite of the psychosocial benefits associated with physical activity and sport. Recognizing the benefits and addressing the barriers to participation in physical activity and sport is critical in developing interventions to increase participation rates among adolescent girls (Garcia, Broda, Frenn, Coviak, Pender, & Ronis, 1995). In this paper, adolescence or youth will refer to girls between ages 8 and 12 years or grades two through six. Adolescence is the transitional stage of development between childhood and full adulthood, representing the period of time during which a person is biologically adult but emotionally not at full maturity.

Increasing participation levels of physical activity and sport may be related to improvement of psychosocial factors such as self-concept. Involvement in physical activity and sport is imperative to the overall health and development of adolescent females. The review of literature will address 1) effects of physical activity, exercise, and sport, 2) encouraging participation in physical activity and sport, 3) barriers girls face to participation in physical activity and sport, 4) program limitations, 5) construct of physical self-efficacy.

Effects of Physical Activity/Exercise/Sport

Benefits of Physical Activity/Exercise/Sport

Research findings over the last two decades reported positive psychosocial benefits and disease risk reduction potential of participation in physical activity, exercise, and sport. The documented psychosocial benefits from involvement in physical activity include improved physical self-esteem and to a lesser extent improved global self-esteem (Sabo et

al., 2004), improved self-image, increased self-confidence and an enhanced sense of competence (Bunker et al., 1997). A study by Baum (1998) revealed physical activity led to positive changes in mood, relief in tension, increased alertness, increased energy, and increased ability to cope. Henderson (1999) stated that physical activity has positive affective components such as enjoyment, pride, wonder, excitement, trust, and challenge. A heightened sense of physical competence and integrity, improved self-regulatory behavior, and reduced anxiety, stress, and depression were also found as benefits from involvement in physical activity (Halpern, 1998). Advantages from a combination of physical activity and exercise can be a sense of achievement, feelings of self-control, provision of a channel for emotional release and feelings of mastery, higher self-efficacy and accomplishment of a task (Bunker et al., 1997).

Exercise has been associated with increased energy and cognitive learning (Bunker et al., 1997; Sabo et al., 2004) and with positively impacting mood, improving self-concept and self-esteem and reducing anxiety and depression (Bunker et al., 1997, Richman et al., 2000; Sabo et al., 2004;). Biddle et al. (2000) revealed exercise as an effective medium for developing positive self-esteem, self-concept and self-efficacy in children especially when encouraging self-mastery and development. Results from this study also indicated higher levels of physical self-perceptions including self-worth and body image and a tendency towards higher self-esteem as compared to peers was achieved through exercise and sport (Biddle et al., 2000). Active involvement in exercise and sport positively effects psychological well-being, self-esteem, sense of control, physical fitness, and has decreased the risk of negative health behaviors including smoking and alcohol use (Vilhjalmsson et al., 2003).

Participation in sport has proven to provide a range of psychosocial benefits. According to Richman and Shaffer (2000), females that participate in sport have improved self-worth especially when fostered by physical competence and a favorable body image. Sport programs allow girls to acquire more control and autonomy over the body and provide an opportunity for mastering new skills, having fun, accepting challenges, and competing, which lead to development of social skills, peer relationships, and help build confidence, self-esteem, and a positive body image (Brady, 1998). Female youth gained a sense of mastery and social confidence from involvement in sport, which was helpful given some of the difficult social and physical changes of adolescence (Baum, 1998). Being in a youth sport program helped children internalize a sense of skill, competence and strength, which gave girls the ability to change the metric they use to evaluate themselves compared to the judgment of boys and other girls, as well as from media images (Halpern, 1998). Sport programs provide a vehicle for enhancing social, educational, emotional, and physical development and teach skills improvement, honesty, self-esteem and respect (Rasmussen, 2000). Being part of a sport program presents the potential for children to be important figures in the social world and allows children to experience success. This success gives children a sense of identity and empowerment needed to explore personal values and interests (Petitpas et al., 2005).

Having an understanding of the complex relationship between adolescent girls' bodies, self-image, and reproductive health is central to the promotion of healthful social conditions and a holistic understanding of health (Brady, 1998). The disease risk reduction potential consistent with physical activity, exercise, and sport includes the protection against the onset of chronic illness such as heart disease, cancer, obesity, substance abuse, diabetes,

osteoporosis/general bone health, mental illness, and premature death (Baum, 1998; Bunker et al., 1997; Halpern, 1998; Lifshay et al., 2003; Sabo et al., 2004; Vilhjalmsson, 2003).

Involvement in sport, physical activity and exercise also reduces the likelihood for anxiety and depression, decreases the risk of sexual activity and teen pregnancy and lessens the probability that girls will drop out of school (Baum, 1998; Bunker et al., 1997; Halpern, 1998; Lifshay et al., 2003; Sabo et al., 2004; Vilhjalmsson, 2003).

Consequences of Inactivity

Despite the proven benefits of sports and physical activity, young people are not taking advantage of sport and physical activity opportunities (Vilhjalmsson et al., 2003). Young girls are twice as likely to abstain from exercise compared to boys (Baum, 1998). According to two studies, if girls do not participate in sports by age 10 years, only a 10% chance exists for these girls participating at age 25 years (Bunker, 1988; Sabo et al., 2004). This statistic is alarming since the physical and mental health benefits gained from physical activity and sport are well documented.

By not participating in regular exercise, girls will not experience the benefits of physical activity and sport. Inactive children tend to weigh more and have higher blood pressure which can lead to an increased risk of premature mortality, an improved chance of developing a chronic disease and a higher tendency to remain inactive as adults (Lifshay et al., 2003).

Encouraging Participation in Physical Activity and Sport

A significant portion of adolescent girls have put their health at risk through unhealthy behaviors such as substance abuse, destructive eating disorders and lack of exercise suggests the nation is missing opportunities to reach out with needed care and

support to improve girls' health and well being (Schoen et al., 1997). Educators, health care providers, and communities should make an effort to decrease these risky behaviors by encouraging girls to participate in sport and physical activity (Schoen et al.)

Using Physical Activity and Sport as an Intervention

The preventive health message and health benefits make it clear that girls need to be involved in sport and physical activity (Sabo et al., 1997). Brady (1998) recognized American sports and physical education programs as a natural means for providing girls with basic information about the body and related health issues. Participation in school and community sports places girls into a healthcare system that requires physical examinations and treatment for injuries or illnesses prior to involvement in sport (Brady, 1998).

Essential to girls' health and well being is finding and maintaining a balance between being involved in sport and physical activity and being engaged in other areas of life such as academics and social development (Sabo et al., 2004). Recognizing girls struggle with psychosocial and physical elements is a key to getting girls to participate in sport and physical activity (Rhea, 1998). Exercise and sport participation can be a therapeutic and preventive intervention to enhance the physical and mental health of adolescent females. Providing access to opportunities is critical for girls (Sabo et al., 2004).

Changes to Meet Girls Needs

The decreased physical activity levels in adolescent girls suggests change is needed in the way organized sport and physical activity programs target and enroll female youth (Vilhjalmsson et al., 2003). School sport programs, churches and recreational or community-based sport programs are ideal venues to facilitate healthy lifestyle choices and encourage regular physical activity (Brady, 1998; Bunker et al., 1997; Sabo et al., 2004). The challenge

for coaches, parents, physical educators, and policy-makers is implementing new or alternative models of sport and physical activity programs that appeal to more adolescent girls and give girls a sense of control and more choices to participate (Brady, 1998; Bunker et al., 1997; Vilhjalmsson et al., 2003).

Girls possess the physical capabilities to perform well in all types of physical movement activities but often lack social support and self-confidence (Bunker, et al., 1997; Corbin, 1984). Getting girls involved in sport and physical activity and keeping them involved is crucial through involvement and achievement in sport and physical activity (Corbin, 1984; Halpern, 1998).

Sport literature has documented the components necessary to incorporate in youth sport programs to entice participation by female adolescents. A youth sport program is a program that promotes psychosocial development using sport as a vehicle to provide experiences for self-discovery and to teach participants life skills in an intentional and systematic manner (Petitpas et al., 2005). These programs have clearly defined goals and strategies meant to enhance the ability for transferring life skills from sport to other aspects of life (Petitpas et al.). Examples of youth sport programs aligned with this definition are The First Tee, Play it Smart, and SUPER (Petitpas et al.).

Youth sport programs focused on positive psychosocial development need to carefully document the efficacy of the intervention (Petitpas et al., 2005) in order to know which program components have a positive effect on development. According to Ennis et al. (1999) and Halpern (1998), the basis of adolescent children's participation in physical activity and sport is to be healthy and feel safe. Additional components found attractive to adolescent girls include, a sense of belonging and affiliation, decreased emphasis on

competition, a sense of identity and self, fun and enjoyment, a sense of empowerment, self-discovery and social aspects (Butcher et al., 2002; Ennis et al., 1999; Fredricks et al., 2002; Halpern, 1998; Henderson et al., 1999; Pangrazi et al., 2003; Petitpas et al., 2005; Rhea, 1998). When a task-oriented and mastery-driven environment is created and encouraged, self-concept including self-confidence, self-esteem, self-efficacy, physical competence and body image are likely to improve (Fredricks et al., 2002; Petitpas et al., 2005).

Barriers to Physical Activity and Sport

Being young and active in 21st century America is not easy, especially for girls. Adolescence is a difficult time for girls because of significant biological, cognitive, and emotional changes and is a far more negative stage of life for girls' health than for boys' (Bunker, et al., 1997; Schoen, et al., 1997). During these formative years girls may experience barriers to participation in physical activity and sport including developmental changes, societal expectations, and program limitations.

Developmental Changes

Adolescent girls often find that accepting changes in their bodies is difficult (Sabo et al., 2004), which cause some girls to form destructive eating patterns (Garcia et al., 1995). Girls' susceptibility to eating disorders is attributed to the self-consciousness toward the physical and emotional changes to the body during adolescence (Baum, 1998). Development of secondary sex characteristics (e.g., breasts and broader hips) typically causes an increase in body fat, which tends to give adolescent females a negative body image especially when the comparison is with the societal ideal of physical beauty including being tall and thin (Dunton, Jamner & Cooper, 2003; Rhea, 1998; Sabo et al., 2004). The distorted body image is emphasized in the "sports world" since some athletes and coaches believe that a reduction

in weight or body fat can enhance athletic performance (Thompson et al., 1999). This belief is especially prevalent in sports such as gymnastics, cheerleading, ballet, bodybuilding and running (Thompson et al., 1999). The stereotypes in society and in sport make identifying girls who are at-risk of eating disorders difficult and these girls develop unrealistic and unhealthy size and shape expectations easily (Thompson, et al., 1999).

Unhealthy eating habits and a sedentary lifestyle are putting millions of girls at risk for obesity and its associated illnesses including diabetes, heart disease, stroke, and liver disease (Lifshay et al., 2003; Sabo et al., 2004). Obese adolescents typically have negative attitudes towards physical activity (Rhea, 1998) and towards body image, which can lead to increased rates of obesity and overweight.

Societal Expectations

Throughout history, many physical activity and sport activities have been perceived as masculine in nature (Corbin, 1984; Koivula, 1999). As a result, boys and girls have been and are still socialized differently into sport (Greendorfer, 1980; Greendorfer, et al., 1996).

Traditionally, young girls and women have not been encouraged to pursue a physically active lifestyle. Stereotypical sex-role attitudes have socialized young girls to excel in academics and social pursuits while young boys have been encouraged to achieve in physical activities (Boyd et al., 1997, p.694).

Within the gendered peer subcultures, boys and girls construct idealized images of masculinity and femininity for behavior modeling. Boys achieve status for a high level of athletic ability, coolness, and toughness while girls gain popularity from parents' socioeconomic status, physical appearance, and academic success (Alder, et al., 1992). The persistence of unequal socialization is enforced by and through the media. Gender-biased

views of sport emphasized in the media include: female athletes' dependence on others; vulnerability towards anxiety, depression and eating disorders; and proneness to having doubts regarding one's sexual orientation (Baum, 1998). Further, parents, teachers, and coaches may unwittingly perpetuate these stereotypes contributing to the level of importance girls place on sport and physical activity (Baum, 1998).

The disparate socialization into sport and physical activity for male and female children affects the motives to participate, the expected outcomes of participation, and the time spent in participation (Koivula, 1999). The consequence of this social process may lead girls to feel marginalized in sports (Halpern, 2003; Sabo et al., 2004), causing girls to place a greater emphasis on academics and social endeavors (Boyd et al., 1997) and lesser emphasis on sport and physical activity. The result can be girls abstaining from physical activity all together.

Evidence suggests that "girls' physical education memories are more often negative (e.g., feeling stupid, or incompetent, being negatively evaluated, not having enough choice, using inadequate facilities), which in turn subverts an interest in sports" (Vilhjalmsson et al., 2003, p. 364). Even as early as the first grade, girls assess the general level of athletic ability more negatively than boys, leading to lower perceived competence in sport and assignment of less importance to sport (Bunker et al., 1997). "Girls engage in much less leisure-time physical activity than boys because girls view athleticism as being unappealing and of little personal salience as an aspect of self" (Garcia et al., 1995, p. 219). Many adolescent girls, between the ages of 8 and 14 years, drop out of sport and physical activity, to avoid comprising not being perceived as feminine (Bunker et al., 1997). Investigations involving male and female athletes of diverse ages taking part in a variety of sports indicated that self-

esteem influenced feelings of physical self-efficacy, self-confidence, anxiety levels, and perceptions of control (Boyd et al., 1997). These self-concepts affected the degree of participation in and attrition of sports activities (Boyd et al., 1997).

Despite the proven health benefits gained from exercise, “too many females lack the confidence and social support to implement a physically active lifestyle” (Sabo et al., 2004, p.8). The decline in young girls’ self-esteem is linked in part to perceived attractiveness and self-worth and is further lowered because of the negative perceptions surrounding weight and body fat (Sabo et. al, 2004) often emphasized during puberty. Body changes, a hyper-sexualized culture, increased hormone production, and peer pressure are putting adolescent girls at risk twice as high as boys to suffer from depression (Bunker et al., 1997; Sabo, et al., 2004). Symptoms of depression include feelings of hopelessness, worthlessness, lack of energy, and loss of interest in activities usually enjoyed including sport and physical activity (Sabo et al., 2004).

The lack of parental encouragement, lack of role models, increased social pressure and decreased sport choices compared to boys also contributes to decreased self-confidence and self-esteem in girls (Bunker et al., 1997; Lifshay et al., 2003; Sabo et al., 2004). Females are more sensitive to social evaluation than males especially when involved in achievement situations (Bunker et al., 1997) thus creating a program conducive to decreasing self-esteem and self-confidence.

Program Limitations

More than two decades after Title IX, girls still do not have enough encouragement or opportunity to participate in sport and fitness activities (Sabo et al., 2004). The 2003 High School Athletics Participation Survey reported “nearly one out of every two high school boys

participated in sports but only one in three high school girls participated (The National Federation of State High School Associations [NFSHSA], 2003). Researchers suggest the decline of girls in physical activity and sport relates to opportunity and access because of fewer sport activity choices, greater safety concerns, lack of space and facilities, lack of role models and parental support, high instance of male-oriented sport programs, and persistent gender inequalities (Baum, 1998; Halpern, 1998; Sabo et al., 2004; Vilhjalmsson et al., 2003). Disappearance of recess and physical education requirements in schools are contributing to inactivity among youth (Halpern, 1998). According to a study by Lowry (2000), in 1997 approximately 52% of youth (across gender, ethnicity and age) were enrolled in a PE class and of those enrolled only 32% attended class on a daily basis. The media's glorification of professional sports is extremely competitive, highly violent, and aggressive and its depiction of women as sexualized objects has tainted girls' view of organized sport as seeming almost unrealistic and unattractive (Halpern, 1998). Thus, adolescent girls are seeking alternative types of enjoyment including T.V. watching, playing video games, surfing the internet, and finding supplementary ways to fill free time such as after-school and weekend jobs, which are void of adequate physical activity (Baum, 1998; Halpern, 1998; Henderson et al., 1999; Prusak & Darst, 2002).

Also affecting girls' desire to participate is the rigid over-organized bureaucratized forms of sport and physical activity (Halpern, 1998; Henderson et al., 1999). The most obvious rigid over-organized form of sport and physical activity is termed sport specialization. Sport specialization refers to a year round training program for a single sport at the exclusion of other sport or non-sport activities (Wiersma, 2000). Several negative health outcomes related to sport and exercise are associated with sport specialization. The

excessive commitment required when specializing often leads to a loss of enjoyment inherent in the activity (Wiersma, 2000). When the sport becomes too much like work (e.g., over-organized and professionalized) the child's opportunity to learn about the joy of play is taken away (Henderson et al., 1999; Rasmussen, 2000). An athlete that specializes in a sport runs the risk of limiting overall motor skill development and of suffering from social isolation, which have implications for involvement in long-term physical activity (Wiersma, 2000).

Burnout and withdrawal along with over-involvement of parents and coaches are major concerns in youth sport programs (Wiersma, 2000). The over-emphasis on performance outcomes and competitiveness has a negative impact on athletes, particular female athletes (Stewart & Taylor, 2000; Wiersma, 2000). The result of "winning at all costs" can lead to high attrition rates of participation in the current sport and a possible long term aversion to sport later in life (Fredricks, et al., 2002; Wiersma, 2000).

Construct of Physical Self-Efficacy

Physical self-efficacy refers to the belief that one is capable of accomplishing a specific task as it relates to physical activity (King, n.d.). Physical self-efficacy is a type of self-efficacy. Self-efficacy is the main construct at the root of Bandura's Social Cognitive Theory. Understanding physical self-efficacy can provide information about a person's involvement and experience in physical activity and sport.

Overview of Bandura's Social Cognitive Theory and of Self-Efficacy

Social Cognitive Theory explains human functioning as the outcome of dynamic interplay between personal, behavioral, and environmental influences (Pajares, 2002). The interaction of the environment, personal factors, and behavior that uniquely determine individual behavior, is triadic, dynamic, and reciprocal. This interaction is reciprocal

determinism (Stone, 1998). Within Social Cognitive Theory, cognition is critical to a person's ability to construct reality, selectively encode information, self-regulate, and perform behavior based on values and expectations (Pajares, 2002; Stone, 1998).

Individuals possess self-beliefs about capabilities to produce designated levels of performance thus enables a sense of control over thoughts, feelings and actions that affect one's life. This performance is perceived self-efficacy (Bandura, 1994; Pajares, 2002). Self-efficacy can positively or negatively affect the way people behave in a situation. A highly self-efficacious person will approach a difficult task as a challenge to be mastered leading to fostered interest, enhanced expectations in such activities, and strengthened commitment toward future tasks (Bandura, 1994; McAuley et al., 1991). A person with low self-efficacy will try to avoid difficult tasks, have low aspirations, and be weakly committed to goals (Bandura, 1994).

According to Bandura (1994), four main sources build a strong sense of self-efficacy. The first and most effective way to improve self-efficacy is through mastery experiences. A person who overcomes obstacles and succeeds in a given situation gains a higher level of self-efficacy. Second, self-efficacy is strengthened through vicarious experiences. Observing another individual succeed at a task who is perceived to be of similar ability improves the self-efficacy of the person watching. Social persuasion or verbally convincing a person they have the means necessary to master a given task is the third technique used to develop self-efficacy. Finally, modifying self-efficacy is achieved by reducing the negative stress reaction and emotional physical states of an individual.

Physical Self-Efficacy in the Field

The following studies show ways physical self-efficacy is enhanced or hindered through exercise and physical activity. McAuley et al. (1991) conducted a study on determining whether different levels of exercise participation and exercise behavior were explained by certain biometric and psychosocial variables, particularly self-efficacy. Results of this study revealed individuals who exercised on a regular basis had higher self-efficacy than those that exercised on a less regular basis. Those more self-efficacious people, were capable of exercising in the face of barriers to participation. More recently, Ryan and Dziewaltowski (2002) did a study that compared the relationships between different types of self-efficacy and youth physical activity. The results indicated preliminary evidence for the importance of measuring self-efficacy for regulatory tasks such as a young person asking others to be active with them (Ryan et al., 2002). Also, environmental changes (i.e. finding places to be active, transportation to activities) and options for physical activity are important for enabling the adoption and maintenance of physical activity in youth (Ryan et al., 2002). A third study by Malherbe et al. (2003) examined the effectiveness of self-efficacy at predicting exercise adherence. Results specified that physical self-efficacy was a significant predictor of exercise adherence for all subjects and separately for females (Malherbe et al.).

Purpose of Study

With the challenges presently affecting adolescent girls' level of physical activity, providing opportunities in physical activity and sport that are more attractive to females and enhance aspects of self-concept such as self-esteem, physical competence and self-efficacy are important. The purpose of this study was to determine if adolescent girls participating in a youth running program would score higher on physical self-efficacy than adolescent girls not participating in the youth running program. Although previous studies have examined

self-efficacy in relation to physical activity and sport in youth, few have looked exclusively at physical self-efficacy and adolescent girls participating in a specific sport or physical activity such as running.

Chapter 3

METHODS

The purpose of this study was to determine if adolescent girls participating in a youth running program would score higher on physical self efficacy than adolescent girls not participating in the youth development running program. A posttest only design with an experimental and a control group was used for this study. Girls participating in a structured youth development running program were selected to take a questionnaire on physical self-efficacy. The Physical Self-Efficacy (PSE) questionnaire was used to measure respondents' opinions about their perceived physical ability, physical self-confidence presentation, and overall physical self-efficacy. The PSE questionnaire was administered at the completion of spring season curriculum. A control group of girls not participating in the structured youth running program also completed the study. Approval to conduct this research was obtained from North Carolina State University's Institutional Review Board (IRB).

Research Design

A quasi-experimental post-test only design was used for this study. Questionnaires were administered to 105 female subjects in grades two through six, ages of 8 and 12, who had participated in the spring season of the youth running program. The female subjects participated in classes throughout Wake and Durham County. The running program organization was a fee-based, not-for-profit that provided scholarships for those that could not afford the cost of the program. The program curriculum was designed to use running as a medium to teach girls about personal values and self-concept through experiential learning activities.

The program took place over a 12-week period that was divided into three, four-week long sections. Each section discussed a specific topic as it related to the curriculum that attempted to encourage positive emotional, social, mental, spiritual, and physical development. The structure of the program was an hour long class that met twice a week. Each class began with a discussion on a chosen topic such as making healthy decisions and making new friends. After the discussion, the girls participated in at least 30 minutes of running activities, followed by a cool-down and stretching. At the end of each class, the day's lesson was reiterated and the girls were given a chance to ask questions or add comments. Once the 12-week spring season was complete each girl had the option to either run or walk in a five kilometer race as a physical measure of progress made during the program. The PSE questionnaire was given to participants approximately three weeks after the race to assess physical self-efficacy.

Thirteen surveys were distributed to female subjects in fourth grade not participating in the youth running program. Subjects in the control group were recruited from two physical education classes at Penny Road Elementary School in Wake County. The control group was selected because of convenience and access to a sample of similar age and same gender as the experimental group. The control group completed the survey during a morning physical education class in May 2005, approximately the same time as the girls participating in the youth running program. The small sample size for the control group can be partly explained because of poor timing.

A convenience sample was used to select both the participants in the youth running program and the non-participants based on whether they were girls between the ages of 8 and 12 years, from Wake or Durham County and involved in the youth running program or not.

Instrumentation

The Physical Self-Efficacy (PSE) Scale was a 22 item survey divided into two subscales, perceived physical ability (PPA) and physical self-presentation confidence (PSPC) (Ryckman, Robbins, Thornton & Cantrell, 1992). The PPA subscale contained ten items and reflected the perceived competence an individual has in performing tasks using physical skills while the PSPC, 12 item subscale referred to the confidence an individual has in displaying those physical skills (Gayton, Griffith, Matthews & Burchstead, 1986; King, n.d.). The higher the scores on the PPA and the PSPC indicated higher perceived physical ability and a greater confidence in the presentation of physical skills, respectively (King, n.d.). The sum of the two subscales yielded an overall score of physical self-efficacy. The higher the total score, the higher a person's physical self-efficacy (King, n.d.). The PSE scale was presented in the form of a six point Likert scale (1=strongly disagree, 6=strongly agree). The instrument has been shown to have good overall reliability ($r = .80$) for the PSE scale and good reliability of both subscales PPA, $r = .85$, PSPC, $r = .69$ (King, n.d.). The scale was shown to have satisfactory convergent and concurrent validity (King, n.d.; Ryckman et al., 1982).

For the purpose of this study, modifications were made to the original instrument. Item nine (I am never intimidated by the thought of a sexual encounter) was removed from the survey because of its inappropriate content for the age group being surveyed at the request of the youth running program board and NC State's IRB. Item 19 (my speed has helped me out of some tight spots) was also removed because of the likelihood of being misunderstood by the age group being surveyed. The remaining 20 items were reworded to simplify language readability to an eight year old level. The meaning of each statement was

not compromised. Additionally, rarely is the PSE scale used in its entirety or in its original form (King, n.d.). The following examples illustrate the modification of statements from the original form to a simplified form: “My physique is rather strong” was changed to “I have a strong body” or “Sometimes I don’t hold up well under stress became “I get nervous during stressful events”.

The modified PSE Scale (Appendix C) was scored on a five point Likert-like scale (5 = strongly agree, 4 = agree, 3 = don’t know, 2 = disagree, 1 = strongly disagree). The adjusted scoring was considered necessary for the sample population. By adding “don’t know”, participants had an answer choice even if the statement was not understood or no opinion was felt towards a statement. The nine item PPA subscale had a possible score range of 9 to 45 points, while the 11 item PSPC subscale had a range of 11 to 55 points. Reverse coding was used in scoring for items 2, 5, 7, 8, 9, 13, 14, 15, and 17. Reliability for the modified PSE scale is discussed in the results section.

Procedures

Experimental Group

A packet of information, including an informed consent form (Appendix A), a child assent form (Appendix B), the modified PSE scale (Appendix C), detailed instructions for completing the survey, and a gel pen as an incentive were mailed to all parents of children involved in the youth development running program from Wake and Durham counties, after the conclusion of the spring season and after participation in the 5K race in May 2005. In the instructions, parents and children were briefed on the reason for the survey and given contact information for the researchers in the event of a question or concern. Each parent was asked

to return the completed survey to the researchers at NC State University using the pre-addressed stamped envelope included in the information packet.

Control Group

For girls not participating in the youth running program, each child's parent received an informed consent form which was signed and returned to school with the child. The child delivered the form to the appropriate teacher at school. A researcher administered the survey to female students, ages 9-10, from two, fourth grade classes at Penny Road Elementary School in Wake County during a morning physical education class. Approximately 30 minutes was allotted for students to complete the personal value survey. Before taking the survey, each student was asked to sign a child assent form. The researcher read the instructions to the students and remained in the classroom until each person completed the questionnaire. At the end of the class period, each girl that had completed a questionnaire was given a pencil in appreciation for their participation.

Analysis

Data from participant surveys was entered into SPSS. To minimize the possibility of a biased data set, the Maximum likelihood estimation method was used to replace missing data values. Missing values were replaced by a value of 99 and no surveys were discarded. Composite scores were computed for the total PSE Scale and for both subscales, PPA and PSPC. An exploratory scale reliability analysis was run on the modified PSE Scale.

Descriptive statistics, including mean, mode, standard deviation and frequencies were computed for each measure. Significance tests, including a t-test and Levene's test assessed the means of the experimental and control groups. A nonparametric test (Mann-Whitney U)

was run on the two groups as a second assessment of the means for the experimental and control groups.

Chapter 4

RESULTS

Out of 105 surveys distributed to the experimental group, forty surveys were completed and included in the final analysis which yielded a response rate of 38.1%. A 100% response rate on the 13 surveys administered to the control group was obtained. Data from a combined experimental and control group total of 53 surveys was entered into SPSS and used to determine the difference in physical self-efficacy between the experimental group, the participants in the program and the control group, the non-participants.

Scale Reliability

Results from an exploratory reliability analysis run on the modified Physical Self-Efficacy scale are displayed in Table 1. A Cronbach's alpha of 0.837 was produced. In general a Cronbach's alpha of 0.7 or higher is considered acceptable (Garson, 2005). The 0.837 is comparable to the composite alpha score of 0.80 as reported by Ryckman et al., 1986 and King, n.d. However, given the small sample size in this study, future reliability studies that have larger sample sizes are warranted.

Table 1

Reliability Statistics for Modified Physical Self-Efficacy Scale and Subscales Perceived Physical Ability and Physical Self-Presentation Confidence (N=3)

N	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
3	.834	.837

Descriptive Results

The descriptive statistics including the mean and standard deviation and the frequency distribution for the demographic variables for sample population (n=53 female, age 8-12, children) are shown in Table 2. Table 3 on page 29 shows the descriptive statistics of each PSE scale variable for the experimental and control groups.

Table 2

Frequency Distributions and Descriptive Statistics of Demographic Variables for Sample Population (N=53)

Variable	Response	<i>F</i>	%	Mean	St Dev
Gender	Female	53	100	2.00	0.00
Grade	2	2	3.8	4.02	1.08
	3	17	32.1		
	4	19	35.8		
	5	8	15.1		
	6	7	13.2		

Significance Tests

Results of the t-tests performed to assess the significance of the relationship between the experimental group, labeled group E and the control group, labeled group C are included in Table 4. The t-test for Equality of Means and Levene's Tests for Equality of Variances neither showed any statistical significant difference ($p < .05$) between groups E and C at the 95% confidence interval on any of the variables, total Physical Self Efficacy Scale (Tpse, $t = .928$, Sig. = .358, $F = .035$, Sig. = .852), total Perceived Physical Ability (Tppa, $t = .322$, Sig. = .749, $F = .334$, Sig. = .566) or total Physical Self-Presentation Confidence (Tpspc, $t = 1.150$, Sig. = .256, $F = .157$, Sig. = .694). Despite no statistically significant findings, the

actual mean scores were higher for group E than group C for PSE scale and each subscale variable, PPA, PSPC (group E, Tppa mean = 37.800, Tpspc mean = 42.575, Tpse mean = 80.375; group C, Tppa mean = 37.231, Tpspc mean = 40.462, Tpse mean = 77.692) as shown in Table 5. Table 3 shows the actual mean scores of each scale variable (see page 29).

Table 4

T-test Results for Tppa, Tpspc and Tpse for Experimental (E) and Control (C) Groups

Variable	t	Df	Sig (2-tailed)	F	Sig
Tppa	.322	51	.749	.334	.566
Tpspc	1.150	51	.256	.157	.694
Tpse	.948	51	.358	.035	.852

Table 5

T-test Descriptive Statistics for Experimental (E) and Control (C) Groups

Variable	Group	N	Mean	St Dev
Tppa	E	40	37.80	5.29
	C	13	37.23	6.27
Tpspc	E	40	42.57	5.66
	C	13	40.46	6.08
Tpse	E	40	80.38	9.12
	C	13	77.69	8.84

A non-parametric test, Mann-Whitney U, was also used to test the significance between the experimental and control groups. The Mann-Whitney U test was used because of the concern about whether the t-test could detect significant differences due to the small sample size, and so not assume identical population sample distributions for the experimental group (N = 40) and the control group (N = 13) (Agresti et al., 1997; Wikipedia, 2005). The

results for this test revealed no statically significant difference ($p < .05$) in the mean ranks scores for group E and group C (Tppa, $U = 258.00$ Sig. = .967; Tpspc, $U = 193.50$, Sig = .168; Tpse, $U = 207.00$, Sig. = .272) as included in Table 6.

Table 6

Nonparametric Tests (Mann-Whitney U Test) for Differences between Experimental (E) and Control (C) Groups

Variable	Group	N	Mean Rank	Sum of Ranks	Mann Whitney U	Sig.
Tppa	E	40	26.95	1078.00	258.00	0.967
	C	13	27.15	353.00		
Tpspc	E	40	28.66	1146.50	193.50	0.168
	C	13	21.88	284.50		
Tpse	E	40	28.33	1133.00	207.00	0.272
	C	13	22.92	298.00		

The difference in mean scores and mean rank scores is due to chance. However, the lack of significance is probably due to the small sample size and several other confounding factors as explained in the discussion section.

Table 3

Descriptive Statistics of Each Scale Variable of Experimental (E) and Control (C) Groups

Variable	N of Group E	Mean Group E	Std Dev Group E	N of Group C	Mean Group C	Std Dev Group C
ppa1	40	4.175	0.712	13	3.846	0.801
ppa2	40	4.525	0.599	13	4.385	0.767
ppa4	40	4.650	0.533	13	4.308	0.630
ppa6	40	4.325	0.797	13	4.154	0.899
ppa8	40	3.800	1.043	13	4.000	1.414
ppa11	40	4.325	0.829	13	4.000	0.707
ppa12	40	4.200	0.791	13	4.385	0.768
ppa19	39	4.179	0.969	13	4.308	0.751
ppa20	40	3.750	1.141	13	3.846	1.143
pspc3	38	3.895	1.410	13	4.538	0.660
pspc5	40	2.700	1.114	13	2.308	1.316
pspc7	40	3.975	1.187	12	3.583	1.311
pspc9	40	4.575	0.747	13	4.154	0.987
pspc10	40	3.725	1.339	13	3.615	1.557
pspc13	40	4.125	0.966	13	3.231	0.832
pspc14	40	3.975	1.097	13	3.692	1.548
pspc15	40	4.100	1.057	12	4.083	0.996
pspc16	40	3.875	1.159	13	4.000	1.225
pspc17	40	4.100	1.057	13	4.308	0.947
pspc18	40	3.800	1.137	13	3.538	1.330
Tppa	40	37.800	5.292	13	37.231	6.274
Tpspc	40	42.575	5.656	13	40.461	6.077
Tpse	40	80.375	9.122	13	77.692	8.845

Chapter 5

DISCUSSION

During the last decade, researchers have focused on girls' involvement in physical activity and sport. Several studies have reported that participation in physical activity and sport positively impacted the psychosocial well being of young girls (Baum, 1998; Bunker et al., 1997; Ennis et al., 1999; Henderson et al., 1999; Sabo et al., 2004; Wiersma, 2000). However, findings suggest that barriers such as developmental changes, societal expectations, and program limitations have contributed to a decrease in the number of adolescent girls' participating in sport and physical activity. Specific barriers found to decrease or subvert participation were gender stereotypes, lack of social support, and negative perceptions of self-confidence, self-concept, self-esteem, and body image (Biddle et al., 2000; Boyd et al., 1997; Bunker et al., 1997; Butcher, et al., 2002; Garcia et al., 1995; Koivula, 1999; Sabo et al., 2004; Vilhjalmsson et al., 2003; Weiss et al., 2003).

Two decades after Title IX, girls still do not have enough encouragement or opportunity to participate in sport and physical activity (Sabo et al., 2004). Youth sport programs can provide the intervention needed to address the barriers to participation. Research has shown youth sport programs allow girls an opportunity for mastering new skills, to have fun, accept challenges, to develop social skills, and to help build confidence, self-esteem, and a positive body image (Brady, 1998).

The purpose of this study was to determine if adolescent girls participating in a youth running program would score higher on physical self-efficacy than girls not participating in the program. Independent sample t-tests and a nonparametric (Mann-Whitney U) test were

used to compare the mean scores and mean rank scores between the two groups and provide insight on the relationship between physical self-efficacy and physical activity and sport.

Interestingly, the actual mean scores indicated that the experimental group may have outperformed the control group on several variables. Higher scores on the PPA and PSPC subscales and the overall PSE survey may have indicated higher levels of physical self-efficacy. The experimental group reported higher scores on all three scales and had a higher mean rank score compared to the control group. However, the difference in mean scores and mean rank scores was not statistically significant and can only be explained as chance. The lack of statically significant difference is probably due in part to the small sample size. Another explanation for lack of statistical significance is the uncontrolled confounding variables in the experimental and control groups such as participates being involved in other sport or extracurricular programs and the mood state of girls on the day the questionnaire was completed.

The current findings differ from a study that found improved physical self-efficacy on a posttest only research design of adolescent girls involved in a strength program (Holloway, Beuter & Duda, 1988). The current findings also differ from findings of a study that indicated higher finishing times in relation to higher total scores on the PSE scale for marathon runners (Gayton et al., 1986).

Limitations

There are several limitations to the current study that should be noted. The sampling method was not a random sampling. Although, convenience sampling was used to gather the subjects for both the experimental and control groups, convenience sampling does not provide a representative sample of youth sport program participants and generalization

should be avoided. The small sample size was also a major limitation in this study. Because of the small sample size, the data may have been skewed since the objective of the study was to determine if adolescent girls participating in a youth development running program experienced enhanced psychosocial health. The data may have been skewed by the middle-class bias since a fee was charged for participation in the program. Only two demographic variables were gathered for subjects, gender and grade to keep the questionnaire as short as possible at the request of the youth running program board. Therefore, the possibility of the experimental group subjects and control group subjects being dissimilar existed due to limited demographic and social information obtained and could have skewed the data.

Another limitation of this study was the use of two separate survey administration methods for the experimental and control groups. The experimental group may have been influenced in their responses by an outside party because the surveys were mailed to participants' homes, whereas the control group had no external influence because the survey was taken during a class at school. In addition, even though the language was simplified for the subjects' level of comprehension, it was likely that certain questions were judged to be more difficult than other questions. "Don't know" was a frequent response among different questions on the survey. It should be noted that the modified PSE survey indicated a high reliability ($r = 0.83$). However, no validity testing was done on this scale. Future researchers should test and retest the reliability and validity of the modified PSE scale. Also, developing a physical self-efficacy scale appropriate for adolescent youth with input from professionals in the chosen field and tested for reliability and validity would be warranted.

Future Research

Many issues should be addressed in future research regarding the psychosocial benefits of physical activity and sport for adolescent girls. The relationship between physical self-efficacy and adolescent girls participating in a youth running program was exploratory in nature and should be replicated and expanded to gather more detailed information about this relationship. For additional insight, conducting an experiment with a pretest as girls enroll into the youth running program and a posttest after the completion of the program may be useful. A longitudinal design to examine the long-term effects of a sport program for adolescent girls may be warranted in future research. Also, a qualitative research design could provide interesting insight about effects the running program has on participants.

In future studies, obtaining additional socio-demographic information from the subjects may provide more insight into different groups of adolescent girls including age, ethnicity, socioeconomic backgrounds, and the amount of physical activity they get.

Past research has shown significant differences in the psychosocial health of girls (Holloway et al., 1988; McAuley & Burman, 1993) and in adolescent children (Ryckman & Hamel, 1993; Thornton & Ryckman, 1991). Research indicated that physical self-efficacy is positively related to physical activity and sport of adolescent girls (Holloway et al., 1988; McAuley et al., 1993). One research study has shown evidence that self-efficacy significantly influenced exercise behavior in young adults (Malherbe et al., 2003). Most past research has looked at multiple constructs of physical activity and of self-perceptions including self-esteem, self-confidence and self-efficacy all together.

More research is needed to determine how physical activity and sport are related to psychosocial health and how physical self-efficacy is related to participation in physical activity and sport. Future research should focus on specific types of physical activity and on

specific sports that look at their relationship with physical self-efficacy. Future research about establishing and maintaining adolescent girls' participation in physical activity and sport is also needed. The Physical Self-Efficacy scale (Ryckman et al., 1982) and the modified PSE scale could be used to further investigate the relationship between physical activity and sport and psychosocial health in adolescent girls.

Implications for Practical Use

The information presented in this study has important implications for youth development professionals working to increase physical activity and sport participation rates of girls. Although no statistical significance was found in the physical self-efficacy scores of participants and non-participants, practitioners can use the information presented in the literature review. Youth developmental practitioners should consider incorporating components of the youth running program such as creating opportunities for social interaction (i.e. making new friends), having discussions about body image and making healthful decisions, and encouraging girls to express their opinions, into other youth sport programs designed for girls. In addition, when designing new programs for adolescent girls, practitioners should address the barriers to participation addressed in the review of the literature.

In summary, the current study attempted to determine if adolescent girls participating in a youth development running program would score higher on physical self-efficacy than adolescent girls not participating in the youth development running program. Even though no statistically significant results were found, the information obtained from this study can be beneficial to practitioners and researchers. The information from this study can be used to enhance existing youth development sport programs and develop new programs that are more

attractive to adolescent girls. Lastly, this study served as a basis for future research and provided the useful information for youth development practitioners. Participation in physical activity and sport is essential to the psychosocial well being of adolescent girls. Continuing research in the area of youth development can lead to identifying strategies to increase participation rates in physical activity and sport, which can improve the overall health and well-being of American girls.

REFERENCES

- Adler, P., Kless, S. & Adler, P. (1992). Socialization to gender roles: Popularity among elementary school boys and girls. *Sociology of Education* 65, 169-187.
- Agresti, A. & Finlay, B. (1997). *Statistical methods for the social sciences*. (3rd ed.) New Jersey: Prentice Hall, Inc.
- Bandura, A. (1994). Self-efficacy. In V.S. Ramanachaudran (Ed.), *Encyclopedia of Human Behavior*, 4, 71-81. New York: Academic Press.
- Baum, A. (1998). Young females in the athletic arena. *Sport Psychiatry*, 7(4), 745-755.
- Baumert, P, Henderson, J., & Thompson, N. (1998). Health risk behaviors of adolescent participants in organized sports. *Journal of Adolescent Health*, 22, 460-465.
- Biddle, J., Fox, K., Boutcher, S. (2000). *Physical Activity and Psychological Well-Being*. London, UK: Routledge.
- Boyd, K. & Hrycaiko, D. (1997). The effect of a physical activity intervention package on the self-esteem of pre-adolescent and adolescent females. *Adolescence*, 32(127), 693-709.
- Brady, M. (1998). Laying the foundation for girls' healthy futures: Can sports play a role? *Studies in Family Planning*, 29(1), 79-82.
- Bunker, L. (1988). Life-long benefits of youth sport participation for girls and women, presented at the Sport Psychology Conference, University of Virginia, Charlottesville, June 22.
- Bunker, L., Margaret, C.D., Freedson, P., Greenberg, D., Oglesby, C., Sabo, D. & Wiese-Bjornstal. President's Council on Physical Fitness and Sport. (1997, May). *Physical activity and sport in the lives of girls: Physical and mental health dimensions form an interdisciplinary approach*. Washington, DC.
- Butcher, J., Linder, K. & Johns, D. (2002). Withdrawal from competitive youth sport: A retrospective ten-year study. *Journal of Sport Behavior*, 25(2), 145-163.
- Corbin, C. (1984). Self-confidence of females in sports and physical activity. *Clinics in Sports Medicine*, 4(3), 895-908.
- Definition of Adolescence. (n.d.) Retrieved August 10, 2005, from <http://encyclopedia.laborlawtalk.com/Adolescence>
- Dunton, G.F., Jamner, M.S. & Cooper, D.M. (2003). Physical self-concept in adolescent

- girls: Behavioral and physiological correlates. *Research Quarterly for Exercise and Sport*, 74 (3), 360-366.
- Ennis, C., Solmon, M. Satina, B., Loftus, S., Mensch, J., & McCauley, M. (1999). Creating a sense of family in urban schools using the "Sport for Peace". *Research Quarterly for Exercise and Sport*, 70(3), 273-291.
- Fredricks, J., Alfeld-Liro, C., Hruda, L., Patrick, H., & Ryan, A. (2002). A qualitative Exploration of adolescents' commitment to athletics and the arts. *Journal of Adolescent Research*, 17, 68-97.
- Garcia, A., Broda, M., Frenn, M., Coviak, C., Pender, N., & Ronis, D. (1995). Gender and developmental differences in exercise beliefs among youth and prediction of their exercise behavior. *Journal of School Health*, 65(6), 213-220.
- Garson, G.D. (n.d.) *PA Stat Notes: An online textbook* Retrieved July 14, 2005 from: <http://www2.chass.ncsu.edu/garson/pa765/statnote.htm>
- Gayton, W., Matthews, G. & Burchstead, G. (1986). An investigation of the validity of the physical self-efficacy scale in predicting marathon performance. *Perceptual and Motor Skills*, 63, 752-754.
- Greendorfer, S. (1980). Gender differences in physical activity. *Motor Skills: Theory in Practice* (4)2, 83-90.
- Greendorfer, S., Lewko, J. & Rosengren, K. (1996). Family and gender-based influences in sport socialization of children and adolescents. In F. Smoll & R. Smith (Ed.), *Children and Youth in Sport: A Biopsychosocial Perspective*, Ch 7 89-111. Boston, MA: The McGraw Hill Companies, Inc.
- Halpern, R. The After School Project. (1998). *Physical (in)activity among low-income children and youth*. New York, NY: The Robert Wood Johnson Foundation.
- Henderson, K., Glancy, M. & Little, S. (1999). Putting the fun into physical activity. *Journal of Physical Education, Recreation and Dance*, 70(8), 43-47.
- Holloway, J., Beuter, A. & Duda, J. (1988). Self-efficacy and training for strength in adolescent girls. *Journal of Applied Social Psychology*, 18, 699-719.
- Horn, T. & Harris, A. (1996). Perceived competence in young athletes: Research findings and recommendations for coaches and parents. In F. Smoll & R. Smith (Ed.), *Children and Youth in Sport: A Biopsychosocial Perspective*, Ch 18, 309-329. Boston, MA: The McGraw Hill Companies, Inc.
- King, C. (n.d.) *SPORTPYSCH Unpublished*. Retrieved January 1, 2005 from Australia Catholic University, School of Exercise Science web site:

<http://www.dlibrary.acu.au.edu/staffhome/stburke/su02p30.htm>

- Koivula, N. (1999). Sport participation: Differences in motivation and actual participation due to gender typing. *Journal of Sport Behavior*, 22(3), 360-380.
- Lifshay, J. & Wolin, J. Team-Up for Youth (2003). Physical Activity: Recommendations for after-school youth sports programs. Retrieved on March 5, 2005 from <http://www.teamupforyouth.org>.
- Lowry, R., Wechsler, H., Kann, L. & Collins, J. (2001). Recent trends in participation in physical education among US high school students. *Journal of School Health*, 71(4) 145-152.
- Malherbe, D., Steel, H. & Theron, W. (2003). The contribution of self-efficacy and outcome expectations in the prediction of exercise adherence. *Journal for Research in Sport, Physical Education and Recreation*, 25(1), 71-82.
- Mann-Whitney U (2005). Retrieved July 30, 2005 from http://en.wikipedia.org/wiki/Mann-Whitney_U.
- McAuley, E. & Jacobson, L. (1991). Self-efficacy and exercise participation in sedentary adult females. *American Journal of Health Promotion*, 5(3), 185-191.
- National Federation of State High School Associations (2003). *The 2003 High School Athletics Participation Survey*. Indianapolis, IN: National Federation of State High School Associations.
- Orlick, T. & Zitzelsberger, L. (1996). Enhancing children's sport experiences. In F. Smoll & R. Smith (Ed.), *Children and Youth in Sport: A Biopsychosocial Perspective*, Ch 19, 330-337. Boston, MA: The McGraw Hill Companies
- Pajaras, F. (2002). Overview of social cognitive theory and of self-efficacy. Retrieved April 17, 2005 from <http://www.emory.edu/EDUCATION/mfp/eff.html>.
- Pangrazi, R., Beighle, A., Vehige, T. & Vack, C. (2003). Impact of promoting lifestyle activity for youth (PLAY) on children's physical activity. *Journal of School Health*, 73(8), 317-322.
- Parr Greenwood, M. & Oslin, J. (1998). Promoting lifelong involvement through physical activity. *The Journal of Physical Education, Recreation & Dance* 69(2), 72-77.
- Petitpas, A., Cornelius, A., Van Raalte, J. & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. To be published

- in *The Sport Psychologist*, Spring 2005, 1-37.
- Prusak, K. & Darst, P. (2002). Effects of types of walking activities on actual choices by adolescent female physical education students. *Journal of Teaching in Physical Education*, 21(3), 230-242.
- Rasmussen, K. (2000). The changing sport scene. *Educational Leadership*, Dec/Jan, 26-29.
- Rhea, D. (1998). Physical activity and body image of female adolescents: moving towards the 21st century. (Promotion of sports for girls and women). *The Journal of Physical Education, Recreation & Dance*, 69(5), 27-33.
- Richman, E. & Shaffer, D. (2000). 'If you let me play sport': How might sport participation influence the self-esteem of adolescent females? *Psychology of Women Quarterly*, 24, 189-199.
- Ryan, G. & Dzewaltowski, D. (2002). Comparing the relationships between different types of self-efficacy and physical activity in youth. *Health & Education Behavior*, 29(4), 491-504.
- Sabo, D., Miller, K.E., Melnick, M.J., & Heywood, L. (2004). *Her life depends on it: Sport, physical activity, and the health and well-being of American girls*. East Meadows, NY: Women's Sports Foundation.
- Schoen, C., Davis, K., Scott Collins, K., Greenberg, L., Des Roches, C. & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls*. Louis Harris and Associates, Inc.
- Stewart, C. & Taylor, J (2000). Why female athletes quit: Implications for coach education. *Physical Educator* 57(4), 170-177.
- Stone, D. (1998). Social Cognitive Theory. Retrieved on June 6, 2005 from http://www.med.usf.edu/~kmbrown/Social_Cognitive_Theory_Overview.htm
- Thompson, R. & Sherman, R. (1999). Athletes, athletic performance, and eating disorders: Healthier alternatives. *Journal of Social Issues*, 55(2), 317-337.
- Vilhjalmsson, R. & Kristjansdottir, G. (2003). Gender differences in physical activity in older children and adolescents: The central role of organized sport. *Social Science & Medicine* 56, 363-374.
- Wiersma, L. (2000). Risks and benefits of youth sport specialization: Perspectives and recommendations. *Pediatric Exercise Science*, 12, 13-22.
- Weiss, W.M. & Weiss, M.R. (2003). Attraction and entrapment based commitment

among competitive female gymnasts. *Journal of Sport and Exercise Psychology*, 25, 229-247.

Wuerth, S., Lee, M. & Alferman, D. (2004). Parental involvement and athletes' career in youth sport. *Psychology of Sport and Exercise* 5, 21-33.

APPENDICES

APPENDIX A

North Carolina State University INFORMED CONSENT FORM for RESEARCH

The importance of girls' participation in sport and physical activity

Brooke Adams and Dr. Michael Kanters, Department of Parks, Recreation and Tourism Management

We are asking you permission for your child to participate in a research study. The purpose of this study is to assess the various factors that influence female children to engage and maintain their participation in sport and physical activity.

INFORMATION

If you agree to allow your child to participate in this study, she will be asked to complete a brief questionnaire concerning her experience and involvement in an organized physical activity program. The questionnaire will take approximately 15 minutes for your daughter to complete. Your child will also be asked to sign their own consent form before completing the questionnaire.

RISKS

There are no risks related with this study.

BENEFITS

There are no immediate benefits from your child's participation in this study. However, it is possible that the information found will help in promoting girls to get and stay involved in sport and physical activity and guide future youth programs in supporting this notion.

CONFIDENTIALITY

The information in the study records will be kept strictly confidential. Data will be stored securely in computers accessed only by principal investigators. No reference will be made in oral or written reports which could link you to the study.

CONTACT

If you have questions at any time about the study or the procedures, you may contact the researchers, Brooke Adams or Dr. Michael Kanters at 515-8792, NCSU Box 8004, Department of Parks, Recreation, and Tourism Management. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Matthew Zingraff, Chair of the NCSU IRB for the Use of Human Subjects in Research Committee, Box 7514, NCSU Campus (919/513-1834) or Mr. Matthew Ronning, Assistant Vice Chancellor, Research Administration, Box 7514, NCSU Campus (919/513-2148)

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be returned to you or destroyed at your request.

CONSENT

"I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may withdraw at any time."

Parent/Guardian's signature _____ **Date** _____

Name of your child/children and their grade level _____

Project Coordinator's signature _____ **Date** _____

APPENDIX B

**North Carolina State University
CHILD ASSENT FORM for RESEARCH**

I, _____, understand that my parents/guardians have said its okay for me to answer the questions in the questionnaire from NC State University.

I am filling out the questionnaire because I want to, and have been told that I can stop at any time I want and will not get into trouble.

Sign your name

APPENDIX C

Personal Value Survey

Please circle the correct answer

1. Are you a boy or a girl? Boy Girl
 2. What grade are you in? 3rd 4th 5th 6th Another grade (please write out) _____

**Place an “X” under the answer that best describes how you feel about each question
 (Remember there are no right or wrong answers)**

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
1. I have excellent reflexes					
2. I do not move quickly and easily and I am not graceful					
3. I do not get embarrassed by the sound of my voice					
4. I have a strong body					
5. I get nervous during stressful events					
6. I can run really fast					
7. I do not like the way parts of my body Look					
8. I feel uncomfortable when I try new sports for the first time					
9. People think bad things about me because of my posture (how I stand)					
10. I do not get shy about disagreeing with people bigger than me					
11. I have good muscle tone (strength)					
12. I am really good in sports					
13. People who play sports get more attention than I do					
14. Sometimes I get jealous of people Better looking than me					
15. Sometimes my laugh embarrasses Me					
16. I do not care what other people think About my body					
17. Sometimes I do not want to shake Hands because my hands are sweaty					
18. I do not get hurt or injured easily					
19. I have a strong grip					
20. Because I can move quickly and easily, I can do things that other people can not do					

Thank you very much!! ☺