KENTUCKIAN MIDDLE SCHOOL STUDENTS' SELF-EFFICACY AND THEIR PARTICIPATION IN PHYSICAL SPORTS: A CORRELATION STUDY

by

Alissa Jo Richards

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

Self-efficacy is well known as one of the most effective methods to raise student academic achievement (Hattie, 2007). Known as the "I think I can" phenomenon, extensive research is presented concerning the impact of self-efficacy as the predictor to achievement. Likewise, participation in physical sports is known for its impact on academic achievement, as well as social and emotional health. The purpose of this correlational study was to determine the presence of a statistically significant relationship between the level of participation in physical sports activities and the middle school students' self-efficacy. A convenience sample of 69 seventh and eighth grade students from three middle schools in Kentucky participated in the study through an email survey containing both survey instruments. The four null hypotheses were tested through Pearson correlations to describe the direction and strength of the relationship between the self-reported participation in sports using the Physical Activity Questionnaire for Children, and self-reported levels of self-efficacy, as measured with Self-Efficacy Questionnaire for Children. The research supported the importance of students being given a variety of opportunities to participate in physical sports activities as a method to build academic, social, and emotional efficacy. Additional research would be useful exploring how the predictive value of participation in physical sports is affected by ethnicity and socio-economic status.

Keywords: Self-efficacy, academic efficacy, emotional efficacy, social efficacy, physical sports participation

DEDICATION

This dissertation is dedicated to my family, and their support does not go unnoticed.

To my parents, I am forever in debt for their continuous cheerleading that I could do anything I set my mind to. Even from a distance, they encouraged and listened when I became frustrated and wanted to stop.

To Sally and Albert, my in-laws, I am indebted for the countless hours of helping with kids and life, so I could go away and write. Without the time and ability to escape to Starbucks for time to work, I never would have finished. They also prayed for me and supported on tough days when I didn't think I could keep going.

For my daughters, Ashley and Amanda, whose constant love was critical to me. For my sons, David (19), Quinn (13), Coby (9), Tyler (5), and Derek (3), I thank them for understanding all the times I missed games, snuggles, and movie nights. I appreciate that they teased me about procrastinating and told me to go get back to work. I appreciate Coby who actually read through my research and was impressed I could still do math (at my age). To all my children, I dedicate the relentlessness of completing this dissertation. Be relentless in life and don't give up, even when the odds seem too high; if your mom can accomplish this, then you can accomplish anything.

Finally, and most importantly, to my husband, I dedicate this success of my dissertation. He is my gift from God. He is my biggest fan and supporter, never letting me quit. He took on our crazy, loud, chaotic family for afternoons to let me sneak away and work. He always kept pushing me to finish strong and is still my biggest support. Thank you, and I thank God for him.

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CHAPTER ONE: INTRODUCTION

Background

In 1947 Henry Ford stated, “Whether you think you can or you think you can’t, you’re right” (Ford, 1947, p. 64). Ford said this over 2000 years after the great poet and philosopher, Virgil, penned the phrase, “For they can conquer who they believe they can” (Virgil, 20 B.C.). The feeling of self-confidence was shared by both men separated by over two millennia of history and philosophy. Yet both men, in their own scholarly manner, illustrated the belief that success is simply a matter of mindfulness and self determination to persevere.

Self-efficacy, according to Bandura (1997), is best understood as the belief a person has in his own ability to accomplish any task and to deal with any challenges in life. This concept of an “I can do all things” attitude, also known as the theory of self-efficacy, was first captured in research initially started to help research participants to overcome phobias. Bandura’s research found that through developing self-efficacy, the participant would eventually successfully overcome the phobia. In the process of building the self-efficacy, the theory of social efficacy was discovered, and Bandura began a lifelong journey as the leader of the social learning theory.

As the leader of the social learning theory, Bandura (1997) spent his life advancing the research surrounding self-efficacy including the development of multiple surveys to gauge self-efficacy. His research, in great depth, has proven the importance of self-efficacy as a clear and distinctive path to academic achievement (Bong, 2001; Booth & Gerard, 2014; Usher & Parajes, 2006). Bandura studied not only the sources of self-efficacy but also the various results of higher self-efficacy in academics.

Hattie (2009), a well-known educational researcher, chose to pull a massive amount of research surrounding self-efficacy together into a meta-analysis. He found self-efficacy had the

strongest relationship with academic achievement of all self-measures. His work combined with Bandura's (1997) explained a common foundation for more research as educators and researchers seek the strongest and most evidence-based strategy to build students' self-efficacy. The premise behind the social cognitive theory research, or the self-efficacy theory, is that if a student, regardless of grade, can increase self-efficacy, the rate of higher academic success can be increased.

In addition to academic achievement, self-efficacy is shown to increase positive educational skills. Carmichael et al. (2010) observed a distinctive drop in absenteeism in a high school while Israel (2013) witnessed this with elementary students. Hepler (2016) found that high school students with a higher sense of self-efficacy and confidence also had a greater likelihood of graduating from high school and choosing higher education. Though it may have been shown that self-efficacy increases positive educational skills, participation in physical sports may also contribute to an individual's self-efficacy (Reivich, 2010).

Within the educational research world, the effect of exercise and physical sport activities on social emotional health climbed, including small suggestions on elements indicative of self-efficacy (Mahoney, 2000; Valois et al., 2008). The presence of physical sports activities within the school system continues to grow, especially at the high school (Physical Activity Report, 2016). At the middle school level, these programs are often not highly prioritized and tend to be eliminated from schools as budget cuts loom. However, the number of children ages 11-14 years old having ever been involved in sports was 7.65 million, compared to 5.91 million high school students ages 15-17 years old having been involved. In urban communities, only 22% of students will have the opportunity to play sports if they are not offered within the school setting (Kelly & Carachia, 2013).

Participation in physical sport activities also shows a direct correlation to academic achievement, as well as levels of self-efficacy. Cathey (2008), Cole (2014), and McCoach (2016) all found positive results surrounding the place of physical sport activities in schools as ways to increase academic achievement. McCoach (2016) and Cathey (2008) both researched middle school students and found similar results, although McCoach also included extracurricular activities as well. Research soon began to explore the positive effects of physical sports participation in the schools. Soon after, the many positive effects of physical sports became apparent as relationships within the team and school increased; data illustrated lower absenteeism, better school engagement, and stronger relationships with peers as a few of the variables in relation to sports and activities (Brennan, 2015).

A clear need exists for students to experience academic achievement as well as be emotionally and socially successful. Self-efficacy is just one path to raising academic achievement that would benefit all students and schools, regardless of setting, as it directly impacts students' success with the cognitive demands of education (Brennan, 2015; Driscoll, 2005). Marzano (2009) and Hattie (2009) list self-efficacy as one of the top eight most impactful strategies teachers can use in increasing academic achievement. Additionally, the incorporation of physical sport activities, which can also lead to academic achievement and strong educational skills, can be a strength in not only the schools but also to the community as students are more prepared for the future (Hoigard, 2014; Reivich, 2010). Students graduating can be focused on attending higher education such as college and career or tech school, illustrating they are college and career ready. As schools strive to prioritize budget expenditures, the need for social, emotional, and academic success weighs heavily. Through understanding the importance of

physical sports participation as it relates to self-efficacy, schools can make research-based decisions when evaluating their physical sports options.

Problem Statement

Cole (2014), Bower and Carroll (2015), and Downs and Strachan (2016) noted the important role of physical activity through sports on student success at the high school level. Cole (2014) concluded high school students participating in athletics were stronger in academic achievement as well as those with higher levels of physical activity participation. Additional research is needed to establish the relationship between the physical activity of sports and increase of self-efficacy at not only the high school level but also with middle school students (Downs & Strachan, 2016).

Downs and Strachan (2016) in their research of high school boys in Canada, stated that participation in high school athletics and in intense physical activity, as measured by the Physical Activity Questionnaire, showed a positive relationship to the measure of self-efficacy, as measured on the Self-Efficacy for Physical Activity Questionnaire. Their study indicated further research was warranted to test the effectiveness of physical sports activities on the measure of self-efficacy under different settings to see if the same conclusions could be drawn. Further research recommendations by Downs and Strachan (2016) encouraged including data for differing ages of students as well as looking at ethnicity as a factor. The problem is that to date, no formal research exists that analyzes the relationship between participation in physical sports activities in middle school and students' self-efficacy.

Purpose Statement

The purpose of this correlation study is to determine the relationship of the predictor variable, *the level of participation in physical sport activities* (self-reported by middle school

students using the Physical Activity Questionnaire for Children), and the criterion variable, *the level of overall* self-efficacy (using the Self-Efficacy Questionnaire with subgroups of *academic, social,* and *emotional* efficacy). The population was selected through the convenience sample from three diverse, urban middle schools in Kentucky. The research design will be a multiple regression correlation to identify the relationship of participation in physical sports activities and levels of self-efficacy.

Significance of the Study

The presence of high school athletics has been longstanding in the education field, and over 7.8 million students participated in high school sports in 2014-2015 school year (NFHS, 2015). Students compete to earn places on the team while completing the academic requirements to graduate. Extensive research supporting the positive effects of physical sports activities in high school provide the rationale for the fiscal investment in keeping athletics in schools despite deep state and local budget cuts. Students involved in physical sports are better connected and have higher achievement (Bandura et al., 2001; Fedewa & Ahn, 2010; Israel, 2013; Sebald, 2010). The involvement in physical sports also supports better social skills and self-regulation of emotions, while lowering absenteeism (Bandura et al., 2001; Cole, 2014; Israel, 2013).

In the classroom, the awareness of the power of self-efficacy is well known by many educators as it is considered a strong tool for not only academic achievement, but also emotional and social health (Arslan, 2013; Hattie, 2009). Self-efficacy is shown to have a clear impact on peer relations, decision making, and perceptions of connectedness (Booth & Gerard, 2012; Gano-Overway, 2009).

The importance of the research is to examine the relationship between physical sports activities and self-efficacy with middle school students. Previous studies have shown a direct correlation between self-efficacy and academic achievement with middle school students (Carmichael, 2010; McCoach, 2016). Participation in physical sports activities has also been shown to have a positive correlation to academic achievement with middle school students (Caskey, 2008; Chomitzhomitz et al., 2009; Tomporanski, Davis, & Miller, 2008).

Currently, there is not a clear body of evidence proving the correlation of physical sports activity to self-efficacy for middle school students in the seventh and eighth grade. This study provided research to clarify the impact of sports on self-efficacy. As school districts and state agencies face budgetary decisions and must fiscally prioritize expenses, the results of this study can guide verdicts surrounding the addition or removal of physical sports activities opportunities for middle school students.

Research Questions

RQ1: Can seventh and eighth grade students' levels of participation in sports predict their self-efficacy?

Null Hypotheses

H_o1: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *overall* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o2: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity

Questionnaire for Children and their *academic* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o3: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *emotional* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o4: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *social* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

Definitions

1. *Self-Efficacy*: The belief a person has in his own ability to accomplish any task and to deal with any challenges in life (Bandura, 1997).
2. *Emotional Self-Efficacy:* The belief individuals hold about their capacity to exert control over the events that affect their lives (Caprara et al., 2008).
3. *Social Self-Efficacy:* An individual's degree of confidence involving social behavior (Smith & Betz, 2000).
4. *Academic Self-Efficacy:* An individual's conviction that they can successfully achieve at a designated level on an academic task (Bandura, 1997).

CHAPTER TWO: LITERATURE REVIEW

Introduction

This chapter will analyze the literature relating to the effects of participation in physical sports activities on academic achievement and the theoretical background and importance of self-efficacy. Several positive effects may occur when individuals participate in sports activities, including an increase in academic achievement and an increase in school engagement and connectivity. Related research supports the effect of sports activity participation on academic success as well as the relationship between self-efficacy on academic success. Chapter Two is organized as follows: (a) importance of self-efficacy on academic success, (b) importance of self-efficacy on social/emotional outcomes, (c) sports and academics, (d) sports and school skills, (e) sports and social/emotional connections, and (f) sports and self-efficacy.

Theoretical Framework

Self-Efficacy

Self-efficacy is rooted in Bandura's (1997) social cognitive theory. Originally, self-efficacy research and learning was grounded in the social learning theory and was centered on the principles of learning through imitation, delayed processing, and observations (Pajares, 2002). One belief is that learning was simply conditional and operant (cause and effect) (McLeod, 2015). However, Bandura (1997) believed the major component missing from the social learning theory was observational learning in which individuals observe multiple models and give ample opportunities for learning and imitation. For a student, this includes his family, teachers, coaches, friends, pastor, and many others that he may observe to "encode" his behavior and connect to for a sense of belonging (McLeod, 2015). The various individuals in a student's life provide examples of behavior to observe and imitate including gender roles, status, and learning styles. At one time, it was believed that an individual's learning could be enhanced with

controlling for positive imitation opportunities, delayed processing, and repetition as well as observing others learning the materials. Bandura (1997) continued these beliefs, researching and developing them into the powerful role of imitation and modeling, as well as the psychological interplay of relationships and surrounding areas.

The bridge between the cognitive learning theory and the traditional learning theory was also well-researched from Bandura in his work with social cognitive theory. He felt, unlike traditional learning theory, that people can reflect and meditate on the relationship between their behavior and the resulting consequences. This highly sophisticated reflection process allows for mental factors to intervene to achieve the desired state of learning (McLeod, 2015).

Bandura (1997) was fascinated with the thoughts, self-reflection, and self-belief system of people. Bandura believed that self-belief was a critical component of learning. He changed the focus of his theory from learning to cognition, and he continued his research into the world of social cognition. Within this realm, he delved into the roles of self-esteem, confidence, and eventually the work of self-efficacy (Parajes, 2002). Bandura's (1997) research studied how modeling, positive affirmations, vicarious learning, and the surrounding environment could affect people overcoming challenges in their learning. He also became especially intrigued with those facing intense fears and the necessary steps to overcome them.

As Bandura (1997) developed his research, he focused on the evolution of self-confidence and self-esteem, as well as the presence of the concept of self-efficacy. Bandura (1997) believed self-efficacy, in the form of a person's belief system, was missing from the current social learning theory, and he sought to expand the sources and impact of an individual's belief system. Much of Bandura's (1997) self-efficacy research entailed how this belief system could affect a person's academic achievement, emotional health, and social health.

Bandura (1997) based his work on the premise that humans are given certain capabilities that allow them to symbolize, plan alternative strategies, learn from others, self-regulate, and self-reflect, which can result in layers of confidence for an individual (Parajes, 2002). As these layers of confidence increase, the individual's achievement of a task increases as well. Likewise, as the layers decrease, the ability for an individual to overcome challenges diminishes. In this socio-cognitive view, individuals are thought of as "proactive and self-regulating rather than as reactive and controlled by biological or environmental forces" (Parajes & Schunk, 2001, p. 2). If an individual's confidence layers can be controlled or manipulated, their chance of success can be altered (Bandura, 1997).

Confidence.

Confidence in one's actions can be broadened into three categories of belief including: (a) self-esteem, (b) self-belief, and (c) perceived competence. Self-esteem or the belief of self-worth, makes up part of an individual's overall personality. People with a high score of self-esteem may feel "I have a positive view of myself" and report being happy and productive. The presence of higher levels of self-esteem then leads to an individual expectation for success and perseverance over difficult situations. On the contrary, people with lower self-esteem experience higher anxiety, weaker mental health, and negative social attitudes which often gives the impression the individual is not as successful or capable (Hattie & Yates, 2014). When research emerged citing the power of a positive self-esteem, schools and educators strived to support and improve the students' self-esteem as one strategy to enhance achievement (Pajares & Schunk, 2001).

After schools began to identify methods and strategically tried to maximize the power of self-esteem, educators then realized there were other components to a child's belief system that

would support achievement. Research and schools recognized the power of self-belief and viewed the child's self-esteem as a critical component of self-belief and the single most important ingredient to academic achievement (Pajares & Schunk, 2001). Teacher strategies and academic skills were aimed at fostering students' self- belief as well as self-esteem and hoping for high success. A great deal of teacher preparation, both in secondary and elementary levels, was, and still is, directed at strategies to raise self-esteem of students in order to increase achievement. Teachers have been given the message that if a student feels better about their self-esteem, the student will have more success and perseverance at difficult tasks resulting in higher achievement (Pajares & Schunk, 2001).

Another category of self-confidence is perceived competency. Perceived competency is the feelings of aptitude an individual has concerning how good or competent one feels about the skill in various areas. It also encompasses the feeling or belief about how "good" the individual is at a certain skill. Reflection becomes apparent as an individual mentally categorizes the abilities based on previous experiences and beliefs. However, regarding achievement, simply because a belief exists that an individual is good at a skill does not mean one is. The misalignment of perceived competence and actual skill level is common, especially in various transition times through a person's life (Hattie & Yates, 2014).

A connection exists between self-esteem and perceived competency. For example, a student is born into a high achieving mathematical family and yet struggles with math. The familial expectation is that the student will succeed, but the resulting self-esteem may be low which then creates negative beliefs and lowered perceived competence. This connection, also known as self-concept, can become a negative cycle in the belief system. However, a positive cycle does exist within perceived competence. The cycle of believing in oneself as a learner or

high achiever with positive beliefs about the task or challenge, which in turn will generally affect overall achievement can be an example of a positive cycle within perceived competence (Hattie, 2009; Hattie & Yates, 2014).

Efficacy is an old English word that means to achieve or accomplish and was reintroduced through Bandura's research in the 1970s. Self-efficacy is indicated by one's confidence level in the upcoming challenge with reflection on the success of the previous accomplishment. It is not something that is a constant value, such as self-esteem or perceived competency, but rather an instantaneous belief or judgement about the tasks ahead (Hattie & Yates, 2014).

As an individual approaches a situation, the hope is that one will analyze the situation carefully and realistically to determine if it is possible to accomplish a task or challenge. However, the actual result of ability and self-efficacy beliefs can be far from aligned (Hattie, 2009; Hattie & Yates, 2014). Being capable to accurately gauge the success, if the task is attempted, relies on a correct analysis of skills needed and self-efficacy. There is a kind of "Goldilocks Effect" of finding the right amount of challenge to the task and the correct amount of self-efficacy to produce the achievement the individual is seeking (Hattie & Yates, 2014).

These capabilities allow humans to be influential in determining their own destiny. People can plan a course of action and identify appropriate goals and steps, as well as anticipate challenges that may arise. Strategies for "increasing well-being can be aimed at improving emotional, cognitive, or motivational factors" (Parejes, 2002, p. 1). An individual with better self-efficacy will have more regulated emotional health, as well as higher motivation intrinsically to attempt the next task for the challenge. Additionally, individuals who are sure of their efficacy beliefs anticipate successful outcomes, whereas lower self-efficacy can lead to

anticipation of struggling and challenges. Efficacy beliefs also help to determine the level of effort an individual puts forth towards mastery of a task, the level of perseverance, and the resilience in the face of adverse situations (Parejes & Schunk, 2001).

Through a great understanding of important or challenging events in a human's life, the essential meaning and purpose of the life can be revealed. With on-going reflection and self-regulation, a human can begin to identify the factors that supported his life's progression with accomplishments and struggles (Parajes, 2002). The belief system that is then created on these self-reflections and understandings becomes the foundation to his self-efficacy and the belief or self-confidence of what the individual can or cannot accomplish (Parejes, 2002).

In a school setting, these various scenarios can be complex as the theory is made visible. Teachers work to improve the emotional state of the students as well as correct faulty self-beliefs and improve self-regulation skills (Parajes, 2002). A student can plan a course of action, such as taking a difficult class and articulate the goal of earning an A for the course. Then the student can identify various challenges to succeeding in the class including the lack of time for studying, a classroom with a higher level of distractions, or a lack of engagement from the teacher. From there, the student is faced with two options: (a) visualizing ways to overcome these obstacles and clearly identify the path to success or (b) being unable to navigate the challenges (Parejes, 2002).

If the student can overcome the obstacles and succeed, this becomes a positive voice or higher sense of self-affirmation indicating a higher presence of self-efficacy. Conversely, if the student is unable to meet the challenges, the resulting voice is full of negativity and lack of confidence (Parejes, 2002). The resulting low self-efficacy can lead to insufficient effort, which will then lead to poor performance and less mastery learning, and for the student this reinforces his original perception (Hattie & Yates, 2014). From both positive and negative situations comes

a very distinctive "voice" from the lived experiences or deep reflections that continues to be an internal guide for a student in future challenges. Without deep introspection, it is difficult to explain or understand the complexities of the human functioning or capacity (Parejes, 2002).

According to the original theory of self-efficacy, people "make sense of their experiences, explore their own learning and beliefs, engage in self-evaluation and alter their behaviors and beliefs accordingly" (Parejes, 2002, p. 3). Self-efficacy is the very foundation of human motivation, well-being, and personal accomplishment. It can be on a high and positive level full of confidence and esteem or alternately, negative and a belief that overcoming a challenge is not possible (Bandura, 1974). Being able to perceive the links between successful actions from the past and where the path of choices is leading now helps one maintain confidence-based motivation and impact self-efficacy (Hattie & Yates, 2014).

Sources of Self-Efficacy

Self-efficacy is generally thought to come from four distinct sources: (a) mastery, (b) vicarious experiences, (c) psychological status, and (d) social persuasion (Bandura, 1974). Each of the four sources can work together or in unison to help support or hinder an individual's self-efficacy. Additionally, Bandura believed that increasing or improving any of the four sources of self-efficacy could in turn improve an individual's self-efficacy.

Mastery

The first source of self-efficacy is mastery, which is found by a person accomplishing a set task or challenge. At the completion and mastery of the task, the individual feels a sense of self-confidence and has a higher feeling that he can succeed at similar tasks, even if they are more difficult (Bandura, 1997). Once a student completes a task, he determines and evaluates his own personal competence per the success or failure of the outcome. This success affects the self-

efficacy or belief that he can succeed next time. The most powerful mastery situations are those in which the individual believes he was in control of the success and has an internal voice echoing the competence needed to achieve (Bandura, 1974).

The internal voice can be a catalyst for a student to succeed on a task or fail. For a student who is taking a difficult exam and feeling he has a sense of control on the situation, the internal voice may sound like "I got an A on that test. I studied hard; therefore, I must be smart, and I will do well next time as well." However, if he does not feel in control of the situation or events, the mastery conclusion will not occur, and the voice may sound like "I got an A-. I was lucky!" Considering this type of outcome, when the student feels he has no control over the situation, there is little to no effect on the student's self-efficacy, self-confidence, or self-esteem (Bandura, 1997).

Overall, if a student is successful, he gains confidence. If he fails, his confidence to succeed is diminished. In a perfect setting, the complexity of the task will continue to become more rigorous and less simplistic, providing deeper challenge sand more task-mastery options for the person. The adult facilitating the learning will be articulating to the student that they oversaw the success due to the concentrated efforts of the student. In the classroom, this may equate to how typical academic challenges continue to increase in rigor during the year. At the beginning of the year, the task is generally more simplistic. As the year progresses and more content and skills are taught, the complexity rises. For the student, the early successes can be critical to establish a positive and controlled internal voice in each new learning situation (Usher & Parejes, 2006).

Vicarious Experiences

The next source of self-efficacy is vicarious experiences. This source is the individual observing and "living through" another individual completing a task, giving the person the sense that if this other person can accomplish this task, then so can they. Usher and Parejes (2006) state that students are "most likely to alter their beliefs following a model's success or failure to the degree that they feel like the model in the area in question" (p. 7). This is extremely powerful when the other individual has similar characteristics as the observer such as race, gender, or social status. The more similar the student feels to the other person, the more he can transfer his own abilities to the situation (Reivich, 2010).

In a school setting, this vicarious experience can be encouraged as students seek peers with similar goals and aspirations. A student aspiring to be an athlete may seek out other students who are athletes and be inclined to participate with them. Then, during an athletic challenge, the student will see the similar peers succeed at the tough shot or difficult pass and begin to self-actualize that he too can accomplish this goal. Similarly, a student enrolled in the same course can begin to associate with the successes of other peers as he collectively begins to see himself as capable of the rigor and challenges associated with the course (Reivich, 2010).

Instructionally, teachers can use peers to model learning as to impact self-efficacy. For example, when a peer models an error or mistake and uses reflective processing and coping behaviors in front of others with verbalized emotional statements, the students can identify with the model and therefore gain self-efficacy (Parejes & Yates, 2001). Theorists encourage educators to maximize the effects of modeling mistakes, thinking, and analyzing challenges with included errors to better connect with low-achieving students.

Physiological Status

Physiological status is also very important in creating a sense of self-efficacy. The source includes the emotional and somatic status of a person such as his overall mood, anxiety, strong emotional reaction to school or climate as well as fatigue level concerning the energy and/or mindset needed to take on a challenging task (Parejes, 2002). The emotional status of a student can help or hinder his positive internal voice. The student may be tired from a dysfunctional home, stressful events, or too many demands on the student's time. With a lack of emotional resources, it can create a negative emotional status affecting his ability to keep the positive internal voice engaged (Reivich, 2010).

The overall emotional reaction a student has toward school, teachers, and other students can prevent a student from being able to process through situations and identify the needed strategies to overcome a challenge. A student with a strong negative emotional reaction to school will be less likely to increase his self-efficacy as he will be overcoming the physiological challenges of the setting. When faced with a teacher whom the student dislikes, the student will be less engaged, tired, or not connecting to the instruction. These occurrences can prevent the building of self-efficacy (Reivich, 2010).

When in a classroom or on a team where the student feels a high sense of support, positive relationships and a sense of safety, his self-efficacy can increase. Positive emotions and mood build the feeling of self-efficacy, and individuals who possess positive emotions are more able to cope with adversity and see more solutions (Reivich, 2010). The more positive emotions experienced by an individual, the more the person can see positive solutions to a task, which then strengthens his self-efficacy and creates a positive mood. This cycle is considered an "upward spiral" to self-efficacy (Reivich, 2010, p. 16).

For a student athlete, the disposition could be identified as the first one to practice and the last to leave. The additional time practicing and focusing increases his skill set as well as creates a positive relationship with the coach, who appreciates the work ethic. The athlete then performs better at the challenge, which re-emphasizes the positive relationship with the coach and team and provides a stronger and more emotionally attached relationship. Feeling engaged and cared for, the athlete continues to aspire to be the best and puts in the extra effort. The result is a student whose efficacy continues to increase as the emotional and social supports continue to improve (Reivich, 2010).

Social Persuasion

Social persuasion is the final source of the self-efficacy theory and includes the voices, opinions, and "cheerleading" from the sidelines that individuals may encounter (Bandura, 1974). For students, this includes people in their lives such as parents, peers, coaches, pastors, and teachers who are giving messages concerning whether the student can or cannot overcome a given task. Students, especially at a young age, depend on the others to make evaluative or judgmental opinions of them to help create an identity. The more supportive the voice, the more the person will be able to bolster the sense of self-confidence and therefore have a greater sense of self-efficacy. The student who is told "Yes, you can come up with a solution. You are creative!" internalizes this positive message and bolsters the powerful internal voice of "I can do this! I am smart," which then leads to greater effort and persistence and "so increases the probability of a positive outcome" (Reivich, 2010, p. 16).

On the flip side, the less supportive the external voice, the more the student will internalize the negative message, and this may lessen the engagement of the student, as well as his overall self-esteem and self- confidence (Reivich, 2010). It is critical that students are

surrounded with adults who can verbalize positive messages, encouragement, and support for the student. The social persuasion "voice" will continue to resound within the person as a clear source of self-efficacy, which implies that an individual should form positive relationships with peers and trusted adult role models as a crucial element for raising self-efficacy (Reivich, 2010).

Types of Self-Efficacy

Three types of self-efficacy can be measured: (a) social self-efficacy, (b) academic self-efficacy, and (c) emotional self-efficacy. Each of the types of self-efficacy address an individual, but unique perspective of a person's self-efficacy. It is important to understand the types of self-efficacy to determine the level of belief an individual has regarding his/her own personal power to change situations and face challenges (Bandura, 1997). Additionally, self-efficacy can be looked at holistically as an overall self-efficacy.

Social Self-Efficacy

Social self-efficacy can best be described as the ability to engage in the social interactions necessary to initiate and maintain personal relationships. Students with a high level of social self-efficacy have a clear confidence in knowing what to do in social situations, as well adding to the social setting within conversations and peer interactions. The internal voice that may arise from someone with high social self-efficacy is the confidence of "Those people look cool… I will go hang with them" whereas a low self-efficacy may be "Those people are too popular for me. They wouldn't talk to me." This internal voice can determine the critical peer group the student associates with, creating a positive or negative support system that is vital in school. Smith and Betz (2000) suggest that social self-efficacy is correlated with anxiety and being shy. As individuals consider this internal voice and determine the group they fit in with, the anxiety

of making the correct choice can be detrimental to forming supportive and emotionally stable relationships.

Within social self-efficacy, six areas are considered in determining the level of confidence. They include: (a) friendships, (b) romantic relationships, (c) social assertiveness, (d) public performance, and (e) giving or (f) receiving help. Exuding confidence in actions and decision making in these six areas can display a higher social self-efficacy. For students, where creating a positive and supportive peer group is vital for the vicarious experiences or the source of internal voice, the bonding encouraged through a high social self-efficacy can be an important step toward success (Smith & Betz, 2000).

Academic Self-Efficacy

Academic self-efficacy refers to an individual's belief that success can be achieved at a designated level on an academic task or attain a specific academic goal (McGrew, 2012). For students, this entails identifying challenging academic tasks and being able to believe they have the skills and ability to attain the goals set before them. The academic task may be a challenging assignment in math, or a test in science. The beliefs can be evident as the rigor of the curriculum increases, along with the successes of the student due to the *academic* self-efficacy (McGrew, 2012).

For the student, the *academic* efficacy outcome is equally important to the internal voice used when an individual is tackling a task. In a student with a high sense of *academic* self-efficacy, the language could sound like "I know I can study hard enough to do well!" (McGrew, 2012). The self-efficacy outcome expectations also refer to how much effort an individual will put forth and the length of time he will persist before accepting an outcome. The student recognizes a certain amount of control in the situation due to his actions. For instance, the

student that studies extremely hard will be able to rationalize the higher scores and attest the effort to his own sense of *academic* self-efficacy. However, if the student simply "wings" the activity, the academic voice will be less successful, as the student was not in control of any of the variables (Griffith, 2015).

Students with high *academic* self-efficacy can illustrate calm and serene nerve levels; whereas those with lower self-efficacy have increased anxiety and a narrower viewpoint on problem solving (Griffith, 2015). This sense of control and positive somatic state can be attributed somewhat to the source of self-efficacy and concerns the physiological status of the student. A high level of *academic* self-efficacy is also supporting the belief that an individual will be able to meet the requirements to pursue major life goals such as college degrees and careers (Smith & Betz, 2000).

Emotional Self-Efficacy

The ability to manage emotions internally, rather than to externally display or inhibit impulsive reactions to powerful and intense emotions is typically how emotional self-efficacy is best observed. A healthy or high level of emotional self-efficacy indicates the individual can identify, comprehend, and express the ideas and thoughts not only verbally but also in written form. An individual with this emotional regulation can rationalize internally about the direction of a situation and take ownership for the status of emotions without being consumed by the emotions or acting out on destructive impulses. From the lens of a student, this could appear as someone who is highly upset over a conflict with a peer and can rationalize that there is a need for "cool off time" before attending to a challenging academic task. By self-regulation, the student can maximize the physiological state (Oswalt, 2010).

The importance of emotional self-efficacy is for the individual to be able to process through emotions, as well as acknowledge the effect of the emotions not only on the student but also on the surroundings. Without positive emotional self-efficacy, students may face difficulty forming positive relationships or be unable to achieve important goals or milestones like gaining employment or graduating from school. The student may also face challenges being able to demonstrate emotion that is appropriate socially and culturally (Oswalt, 2010).

Related Literature

Importance of Self-Efficacy

Top researchers Hattie (2009) and Marzano (2007), both believe self-efficacy to be one of the most effective strategies to increasing academic achievement. Hattie, known for his meta-analysis of educational strategies, found self-efficacy and achievement to be the strongest of the self-measures researched. Hattie believed that self-efficacy had a higher success rate than increasing self-concept or self-esteem as it directly related to the internal voice and motivation of an individual. As students begin to see themselves as academically successful, they gain confidence as "learners" and utilize best practice strategies (Hattie, 2009).

Marzano (2007) believed students' self-efficacy can be built through praise and expressing the belief that they can do well; however, the praise must be authentic. A student who genuinely succeeds at a task can and will benefit from positive praise that is focused and reflective to the accomplishment. On the contrary, praise that is superficial or not connecting to effort or success will do nothing to the self-efficacy. Through careful reflection and goal setting, students can focus on the knowledge gained and provide a legitimate way to recognize and celebrate the success. The commonalities of Marzano and Hattie were embedded in the theory of self-efficacy and how far the effects of self-efficacy can reach.

Academic Success

A great deal of literature exists supporting academic gains through the effects of raising self-efficacy. Various sources indicate students with high level of self-efficacy have the skill set and knowledge base to succeed academically (Brenan, 2015; Gaylon et al., 2012; Hoigaard, 2014). The skill set of perseverance in addition to positive social and emotional health aid the

academic achievement both in classrooms and on larger-scale academic assessments (Brenan, 2015).

In Norway, Hoigaard (2014) found students with high levels of self-efficacy are more likely to succeed and are better prepared for future education. The Norwegian middle school students' achievement scores were analyzed in comparison to their levels of self-reported self-efficacy. It was found that the higher the level of perceived self-efficacy the higher the level of success on the students' achievement test scores. Additionally, the relationship between school-goal orientation and self-efficacy accounted for 46 percent of the variance in academic achievement. With consideration of the intense demands of middle school, this research study supports the importance of establishing an understanding of self-efficacy and academic achievement at this stage of development.

In research from Brennan (2015), self-efficacy leads to a "greater willingness to spend more time and energy on completing a task, and hence more engagement" (p. 8). Research indicated the effect of engagement and competency beliefs in middle school students on the students' learning or academic achievement. Brennan (2015) discovered the engagement did not have an impact on the academic achievement but instead the prior achievement success directly correlated to the current level of success. Prior experiences, both positive and negative, can affect current task completion. Previous achievement aiding future successes illustrates the power of mastery, one of the four sources of self-efficacy. The strongest relationship was between self-efficacy and behavioral engagement that was connected to the willingness to put forth the effort for task and assignment completion. Interestingly, those students with higher levels of self-efficacy showed the least amount of correlation to the effectiveness of external rewards for engagement.

High levels of self-efficacy lead to greater effort and persistence, which leads to better performance and even greater self-efficacy (Hagiwara, Maulucci, & Ramos, 2011, p. 1002). Self-efficacy is central "in coordinating cognition, motivation, and behavior because self-efficacy plays a key role in the individuals' choice in the amount of energy and persistence to use to invest in a pursuit (Reivich, 2010, p. 16). The higher the level of self-efficacy, the more skillful the student will prove to be, as well as more competent at handling interpersonal relationships and possessing a higher life satisfaction (Reivich, 2010).

Two sources of self-efficacy illustrated a connection to academic achievement with high risk students in Australia. The study, which included students in grades seven to ten, examined the motivational factor of mastery and sense of competence in predicting self-efficacy and academic achievement (Yeung, Craven, & Kaur, 2014). Students were asked to self-reflect on four factors including mastery, competence, status, and self-efficacy while the researcher collected the achievement data. Interestingly the results indicated the least connection between mastery indicators and achievement, while the highest correlation was between competence and achievement. The positive correlation is similar to other research indicating students who can accomplish a task successfully feel a higher sense of self-efficacy and confidence to persist at the next challenge.

Middle school students in Nicaragua and in the United States, proved a relationship existed between self-efficacy and academic achievement (Jurecska, Change, & Petterson, 2012). When analyzing the students' IQ scores, self-reported perceptions of self-efficacy and academic achievement in correlation to the socio-economic status (SES) of the family, self-efficacy was the biggest predictor of academic achievement. The results were far more indicative of the students' academic success than the power of the IQ or the SES of the family supporting

Bandura's (1974) original belief that the power of academic achievement is far beyond the means of the student or their initial academic intelligence.

A connection also existed when predicting mathematical success based on the self-efficacy scores of fifth grade students in United Arab Emirates with a focus on gender and socio-economic status (SES) (Sarawi, et al., 2012). The self-efficacy was measured with two scales including a measurement of four types of motivations. The results predicted a high percentage (32%) of the variance for mathematic achievement. The results indicated the boys illustrated a higher impact of external and intrinsic regulation in relation to their measure of self-efficacy where the level of self-efficacy through the four types of motivation were not statistically significant between various levels of SES in the students.

Social and Emotional Outcomes

High levels of self-efficacy are linked to positive outcomes including psychological adjustments, resiliency, physical health, academic achievement, and emotional regulation. Individuals with higher levels of self-efficacy report to have higher levels of coping skills and perseverance in the face of challenges. This leads to stronger abilities to adjust to challenging situations (Reivich, 2010).

Booth and Gerard (2012) studied the relationship of secondary school students' feelings of self-efficacy and the sense of engagement or belonging. The study included 894 middle and high school students from the Midwest. The results indicated a significant level of seventh grade students felt a distinctive connection and engagement to the school; however, the results of the self-efficacy increase did not appear until tenth grade. Interestingly, the tenth grade girls reported the highest levels of self-efficacy of all the students researched, whereas the eighth-grade boys held the lowest levels measured. The quantitative study illustrated the importance of

helping students feel a connection to the school and feel like they "fit in" in order to maximize self-efficacy and eventually achievement.

Jurecska, Chang, and Petterson (2012) deduced the connection between IQ, socioeconomic status, and self-efficacy. In a study of secondary students from Central America and the United States, the researchers indicated that the students with the highest socio-economic status (SES) tended to have the lowest ranks of self-efficacy; whereas, students from low SES had lower IQ but higher self-efficacy. The authors generalized that students with lower SES faced more challenges and struggles, which is why it is important to build more opportunities for students to overcome obstacles and build self-confidence. The authors also generalized students with higher levels of SES may have fewer barriers and challenges in their learning, preventing them from utilizing any of the four sources of self-efficacy.

The psychological advantages of self-efficacy can be seen in the research of measuring mindfulness, anxiety, and confidence in correlation to self-efficacy with high school rowing teams (Pineau, Glass, Kaufman, & Bernal, 2014). Their research measured the individuals' self-efficacy as well as their self-reported mindfulness, anxiety, and confidence. Mindfulness is the non-judgmental, non-reactive awareness of one's present moment in any given situation. The presence of strong mindfulness allowed for better concentration and connection to the task. The results showed a direct and positive relationship to a higher level of self-efficacy and to a higher level of mindfulness and confidence as well as lower levels of anxiety.

The benefits of self-efficacy can be seen in college aged students as well. Gaylon et al. (2012) examined the relationship of self-efficacy to classroom discussion and participation in an undergraduate college course. The students were asked to fill in a self-efficacy survey as well as any voluntary comments in relation to their willingness to participate in the discussions in class.

The results also analyzed against the GPA of the students, and they supported that the higher level of self-efficacy indicated a higher willingness to participate in the course, showing a higher level of engagement. Interestingly, when measuring GPA alone in relation with self-efficacy, the average levels of self-efficacy were the same regardless of the grade span researched.

Importance of Physical Sports Activities

Just as self-efficacy holds a high and important role in education, participation in sports and physical activity is also increasingly crucial. Sports have become iconic to American culture, both in entertainment and schools (Smoll & Smith, 2002). Started as an afterschool activity as a part of overall educational experience, sports became competitive and now are a major component of school, especially high school (Physical Activity Report, 2016). A wide variety of team and individual sports has developed, each offering its own strengths to the athlete participating. The concept of sports has included well-known selections such as football, volleyball, basketball, and soccer, as well as lesser popular selections such as rugby, track and field, and lacrosse.

Today, the level of activity within sports continues to rise. According to the Physical Activity Council's research study of close to 33,000 interviews of individuals of varying levels of activity, the level of inactivity has decreased from 28% to 27% with a rise in participation in team and winter sports (Physical Activity Report, 2016). The report considered participants who responded, "no physical activity" to be rated as "inactive" with the total number of Americans reporting as inactive to be over 81 million.

The current generation of children, often referred to as Generation Z and including ages six-sixteen, is more active than all other age groups, as 80% are involved in physical sports activities, especially in team sports (Physical Activity Report, 2016). These team sports

generally include basketball, volleyball, football, and soccer. Generation Z participants preferred team sports (58.8%) whereas Baby Boomers, those born in 1945-1964, only supported team sports 6.4% of the time (Physical Activity Report, 2016, p. 9). The Baby Boomers seemed to prefer more individual sports such as tennis, running, and golf more than team-based sports.

Notably, there are many differences in demographics of students currently participating in sports. Boys are only slightly leading girls in participation in varsity sports in high school (Carchia & Kelley, 2013). Participation was also lower among Black and Hispanic students as they correlated negatively with White participation. The consistent difference in participation in ethnic sub-groups can also connect to other areas of gaps in participation or achievement. As many subgroups traditionally underperform academically and participate less in sports, increasing the sports participation within these subgroups may help close the achievement gap (Cole, 2016).

Focusing and understanding the statistics, specifically on the participation of just middle school sports, is much more difficult. While traditionally, students play only sports sponsored specifically in the high school and are monitored by the High School Athletic Association, middle school sports programs are often formed in communities as a reaction to the increasing decline of school-sponsored sports (Carchia & Kelley, 2013). Within the middle schools, sports are often provided in an "intramural" context where everyone can learn the foundations to prepare for high school athletics but are limited in opportunities and funding. A variety of community organizations have stepped in to encourage higher involvement in middle school athletics. Teams for middle school students may be formed through a local YMCA and other organizations. The resulting overlap of students in athletics makes it difficult to identify or keep

a current tally or census on middle school students participating in sports within a formal school setting.

In a national survey, the Sports and Fitness Industry Association estimates there were roughly 21.5 million students between 6 and 17 participating in sports with 6.43 million being middle school aged students, although it was unclear if the participation was through the school or through a community organization (Carchia & Kelley, 2013). The most common sports were football, volleyball, soccer, and basketball with a small population of swimming, track and field, and golf. In the same report, it was estimated 78% of urban students were involved at one point in sports during middle school, while 69% or rural students were involved.

In analyzing when students initially became involved in sports, the primary determining factor was the parents' socioeconomic status (Carchia & Kelley, 2013). Typically, the child's first experience to sports was six years old for average family whose income was over 100K whereas, it was eight years old with the income less than 35K (Carchia & Kelley, 2013). Researchers rationalized that families with higher incomes found it economically easier to pay the sometimes-high fees to participate in the various club sports as well as taking the time off to transport students to the various activities resulting in a "pay to play" involvement limiting some athletes' abilities to play competitively. The rate of direct sports participation within community organizations is a direct correlation to the parents' income. Families with higher incomes have higher participation in activities than families from lower socioeconomic means (Holland, 2014).

The "pay to play" paradigm is costing families thousands of dollars in coaching fees, trainers, materials, and travel expenses. Many families simply cannot make the commitment, either in time or in money, to help their child play, resulting in inactivity and lack of interest.

Many students, having not been given an opportunity at a younger age to learn the fundamentals, find high school sports very overwhelming and "too late" to learn how to play (Holland, 2014).

The shift of sports becoming less school-driven and more community-driven is a response to the budget issues faced by many districts (Chen, 2016; Holland, 2014). As education budgets are tightened at the state level, many districts are forced to analyze their cash flow, contemplating eliminating or significantly restricting athletic programs to save money. Some districts, such as in Pennsylvania, are grappling with how to react to a state cut of one billion dollars. The athletic departments are being restricted on post season tournaments, as well as closing the distance the kids can travel to compete (Chen, 2016). Schools faced with challenging budget cuts simply must find places to cut funding to meet instructional demands. Sports as well as other extracurricular activities, are often first on the chopping block of such budget challenges.

Academics and Physical Sports Activity Participation

The academic achievement associated with participation in athletics has been proven through research across many grades and settings. Cole (2014) analyzed 111 high school students in Arizona and found a strong link between participation in athletics and higher GPA through the variable of self-efficacy. Researchers found athletes also have higher self-efficacy than non-athletes, although the source or reason was not clear. The athletic participation studied involved only school-sponsored sports supported by a trained coach through the school. It was also clear there was no relationship between the athletic self-efficacy and *academic* self-efficacy. The involvement with a trained and certified coach could be a factor, as they are prepared to work with youth and promote self-confidence and increase competence through mastery and

perseverance. The presence of a positive external source of encouragement could be a reason for the increase in self-efficacy.

Bass, Brown, and Coleman (2013) studied the level of muscle reflex and aerobic fitness regarding academic achievement. Those students with greater level of fitness in middle school scored two-to-four times higher on growth on the state standardized assessments than those with lower levels of fitness. Thus, the research supported that participation in sports positively affects academic achievement. Aerobic fitness showed a stronger relationship to academic achievement than muscle strength fitness routines regardless of controlling for various levels of socioeconomic status. A regression testing revealed that for every fitness test passed "the odds of passing the English assessment increased by 24%" (Bass, Brown, & Coleman, 2013, p. 835). Physical activity measured also showed a positive correlation to mood regulation and memory learning cognition. Enhancement of mood regulation is important to factor in since it is one of the four sources of self-efficacy. Researchers conveyed that through a positive physiological state, such as one found in exercising, athletes have a high potential to experience higher academic achievement.

For a group of middle school students in urban New Jersey, McCoach (2016) analyzed academic achievement in relation to the participation in sports through the variable of socioeconomic status. Overall, the students showed a higher score on the Partnership for Assessment of Readiness for College and Careers (PAARC) assessment, both in math and in literacy mean scores, with the eighth graders who participated in sports showing a higher mean score than those not participating. The sports were school sponsored with a school-selected coach where participation was not financially determined. Regarding the socioeconomic status (SES) of the students, those students with a low SES who participated in athletics scored much

higher than non-participating students of the same low SES. However, those students of a higher SES did not show a significant difference in assessments scores indicating the importance of athletics for students from lower SES.

The level of research surrounding high school is extensive; however, it is limited for the younger ages. Israel (2013) analyzed data ex post facto from a metropolitan elementary school to determine the significance, if any, of participation in sports in relationship to academic achievement, attendance, and discipline referrals. The findings showed statistical significance of participation in sports and extracurricular activities to the overall academic achievement based on standardized assessment data, but no difference or effect on attendance or discipline referrals.

Mura, et al. (2015) discovered the concept of providing physical interventions in the framework of physical sports participation. Students from ages four to fourteen demonstrated a relationship between exercise performed at school and their cognitive abilities. The quasi-experiment, which was looking at the lack of research existing for the connection between participation and cognitive ability, sought to fill a gap in the research with the findings of 28 schools and 31 physical interventions completed by staff. The findings supported the effectiveness of physical activity and the relationship to academic-cognitive abilities. A higher level of physical activity led to an increase in academic and cognitive abilities, including an increase in academic success on assessments as well as higher classroom grades.

Bradley and Conway (2016) questioned the relationship of academics and participation in sports as they sought to determine which came first: the "mental muscle" needed for academics, or the attitude and behaviors needed for participation in sports. They analyzed multiple resources illustrating the correlation between higher academic GPA scores and participation in sports before analyzing the source of the "mental muscle" needed for success. They considered

the relationship between the "mental muscle" and the dispositions for academics to be described as a "far transfer" or a "close transfer" (Bradley & Conway, 2016, p. 721). A "far transfer" indicated the mental muscle including thinking strategies and problem solving were not closely related to the natural dispositions an individual. In a "near transfer," the authors indicated the disposition to learning and problem solving were closely related. Thus, the researchers tried to identify how the presence of a disposition to learning could affect the overall academic success.

Further research with high school students indicated the attitudes, behaviors, and strategies utilized by highly successful academic students are also the same indicators found in athletes (Bradley & Conway, 2016). The conclusion reached indicated competitive participation in athletics might enhance the development of non-cognitive skills. Skills such as motivation, confidence and self-esteem then increase academic achievement and support a dual step from participation to academic success. The athletes gain not only the competitive skills to go farther in their sport program but also the attitudes and positive behaviors to persevere.

Boekel, et al. (2016) explored the effects of participation in school sports on academic and social functioning through the variable of perception of adult support. Over 12,000 high school seniors were surveyed to identify the positive youth development factors, or the tools that "support youth's capacity to thrive" (p. 32). Participation in school sports was positively related to GPA and perceptions of adult support within the school. The positive and statistically significant results imply that students that participate in sports tend to be more academically successful and feel more connected to the adults in their community.

It is critical to recognize the additional variants in measuring academic success through GPA. The metric of a GPA is difficult to identify due to the lack of consistency of grading policies and expectations that may vary across teachers, grades, buildings, and districts. In

addition, the power of eligibility requirements of sports could limit some research findings. As athletes are required to maintain high grades to participate on the team, this could skew whether the high academic success found from participation is truly a factor of the involvement in sports or whether it is in adherence to the eligibility requirements of many schools (Carchia & Kelley, 2013).

It is also important to consider that at the elementary level, the requirements to play sports are not as rigorous as in high school. At the higher grade levels, strong attendance and positive behavior, as measured by a lack of referrals, are not often requirements for elementary students to play or participate in sports. This would be especially true if the sports were club or community based rather than school based. With the lack of criteria to play, the community sport offers a more diverse and varied demographic census of participants that may have not normally been allowed at a higher grade (Carchia & Kelley, 2013).

School Skills and Physical Sports Activity Participation

Participation in sports and physical activities has shown an increase in typical school skills such as engagement, increased attendance, and decreased negative behaviors in addition to increased academic achievement (Griffiths, 2015). Through participation in sports, students have been able to build confidence and create a successful student identity whose source was the team and athletic participation. Students who identified that sports are a big part of who they are had 10-20 percent higher self-confidence and self-concept scores in middle school than high school, showing a change in the athletic self-concept between the ages (Carchia & Kelley, 2013). Self-confidence was also indicated as a positive benefit to sports. Students could fall back onto something they could do well, such as a move on the field or court; whereas, they may be

struggling significantly in the classroom (DeMeulenaere, 2010). The experience in sports provided one of the sources of self-efficacy of previous accomplishments.

Involvement in physical interventions was also shown to increase engagement and improvements in self-efficacy (Cataldo, Chandran, & Shroyer, 2013). Researchers analyzed the self-efficacy measurements of elementary school students who participated either in specific physical interventions through their Physical Education class or in an afterschool setting. The afterschool setting, like an intramural athletic program, had a clear adult coaching figure. No improvement was shown to the students' self-efficacy when analyzing the interventions scheduled during the school day; however, activities with a clear adult "coaching figure" afterschool did result in changes on self-efficacy indicators. The question of the power of the coaching figure found in many athletic sports is raised for further research.

From an alternative point, a higher level of self-efficacy indicated a higher attendance rate for participation in exercise. The researcher gathered a group of adults who were seldom engaged in any level of physical activity. Those with the highest level of self-efficacy reported a much higher rate of attending the group workout sessions; whereas, those with lower sets of self-efficacies showed a decline in attendance. This could indicate the level of self-efficacy through the voice of self-affirmation and confidence helped to provide the motivation needed to participate in exercise repeatedly (McAuley, 2011). Griffith (2015) supported this research, following up with additional findings indicating not only do they attend more, but "the self-efficacy predicted effort, persistence and performance" in exercise (p. 14). The power of the self-efficacy as a drive and as a motivator was supporting athletes to make health-based decisions.

Hughes, Cao, and Kwok (2016) found eighth grade students who participate in extracurricular activities, including sports, exhibit higher levels of academic motivation and achievement. However, they wanted to identify significant factors linking participation to levels of achievement. In a longitudinal study over the course of four years, the researchers analyzed the effect of prosocial norms of the children's friend groups as a mediating factor. The research was overwhelmingly significant that the participation in sports led to increased levels of prosocial norms of friends. In reflecting on Bandura's (1974) belief of the power of a peer's voice, the research supports the learning theory as it indicated that the higher level of prosocial norms, the higher the level of the youth's academic competency beliefs and engagement.

Social and Emotional Connections to Physical Sports Activities

Another benefit of participation in sports is the additional opportunity for students to form social and emotional connectedness with their school. As students feel connected to the school community, the feelings of engagement increase within the school. The raised engagement and connection to a peer group could provide for positive peer influences which then serve as one of the four sources of self-efficacy.

Bower and Carroll (2015) examined the social connectedness of youth participating in high school extracurricular activities, including both sports and clubs. Participation in these activities, as well as the variable of participation in leadership roles within the high school, showed significant differences in the levels of self-awareness and social responsibility. The researchers found a significant difference in connectedness from the students to the school, engagement, and awareness of self than their counter-partners who were not involved in these activities. The research supported the importance of the students becoming involved as they self-scored themselves higher and indicated a better ability to recognize their own strengths and

building self-awareness. In considering the power of positive emotional attachment to the school as a source of self-efficacy, Bower and Carroll's (2015) research supported the need for students to participate in either extracurricular activities or sports.

The participation in sports creates many physical and social benefits for youth far beyond being on the team or the varsity line-up. Cole (2014) stated that participation in sports increased the capacity for motivation and initiative. When students have the chance to participate, it can also raise the engagement of the student within school, raising the level of initiative for the athlete, not only at school, but also on the court. Time spent playing sports with other teammates also increases the opportunity for developing positive peer relations, which is one source of self-efficacy. The bonds formed within the team can provide a positive bond with other likeminded individuals, increasing the vicarious experiences for the athlete.

Additionally, extracurricular activities, especially sports, predict a clear effect on the students' levels of empowerment and engagement on high school students. These strong feelings were not only with their school, but also with their own personal academic success. The students involved in the activities and sports had greater connection to leadership, stronger relationship building skills, and increased collaboration skills with others. The students showed an increased behavioral engagement including homework completion, attendance, grades, and on-task behaviors (Bayat, 2015).

Muir and Lodewyk (2017) explored how levels of state emotions, including anxiety, social physique anxiety, causal attributes, and enjoyment as well as self-efficacy differed between participation in competitive soccer or fitness testing units. The students, all ninth-grade girls, were surveyed during a competitive soccer unit as well as the fitness testing unit. The researchers discovered that both positive and negative emotions existed for both units at similar

levels, except for social physique anxiety. The girls responded with a higher anxiety level during fitness testing and felt "apprehensive about their physical appearances" (p. 288). The state emotions, especially self-efficacy, consistently predicted performance ratings. Students reported higher enjoyment in participation when there was active socialization with friends in the activity. The presence of state emotions, either positive or negative, is synonymous with one of the sources of self-efficacy, physiological status, and plays an incredibly important role in self-efficacy. Additionally, the increased response of higher socialization can also be indicative of social persuasion, another source of self-efficacy. This research indicates the power of sports on the emotional state of the various students.

Physical Sports Activity and Self- Efficacy

In a Canadian study of high school males, Downs and Strachan (2016) found a positive correlation to participation in physical sports and the levels of self-efficacy. The study also analyzed the self-efficacy levels between those who participated in after school activities versus the levels of students participating in physical sports. They found the levels of self-efficacy to be slightly higher in those with physical activity. The results supported the thinking that a small increase in physical sports activity may influence not only the physical health of the student but also the psychological health for students.

Manley et al. (2014) found mixed connections between the level of physical activity and self-efficacy. The study, involving rural eleven- to thirteen-year-old students, looked at the relationship with the level of physical activity, self-efficacy, aerobic fitness, and overall health as measured by the relative body mass index (RBMI). The students' health was also studied with an intervention of a pedometer to determine if the intervention group had greater improvements in self-efficacy. Weak but positive correlations between self-efficacy, physical activity, aerobic

fitness, and correlated inverse relationships between self-efficacy, physical activity, aerobic fitness, and RBMI were found. This suggests that students with optimal RBMI levels had higher self-efficacy, physical activity, and aerobic fitness levels. The additional intervention of the pedometer on an intervention group showed no statistically significant findings.

In a systematic review of the outcome of physical interventions on self-efficacy, it is evident that self-efficacy is related to the level of physical interactions students were having through various types of interventions (Cataldo & Chandaran, 2013). Over 100 studies were reviewed with a diverse set of ten studies being analyzed as part of the systematic review. Of those ten, six of the studies indicated a clear improvement in posttests within the studies of the students' self-efficacy while four of the ten studies showed no effect after the students participated in the physical interventions. The various six studies indicated a correlation, or causal effect to participation in physical interventions within the school setting, such as in PE or as an afterschool club, and an increase in self-efficacy. Studies such as this one continue to support the importance of physical sports activity on self-efficacy.

Another study from Gu, Solmon, and Zhang (2014) analyzed the relationship between middle school students' physical activity and their quality of life. The participants, collected from multiple surrounding middle schools self-evaluated their motivation, physical activity, and quality of life as measured by an expectancy-value survey concerning major public health issues. The level of physical activity was positively associated with the physical, emotional, and social functioning skills as described in the quality of life indicators.

Morris (2016) explored the interrelationships of nine educational, social, and developmental mechanisms that may illustrate why participation in physical activity leads to academic success. The researcher, reaffirming the notion of higher academic success among

high school students who participated in sports, sought to understand why the success was present and whether any of the nine mechanisms played a part. The overwhelming body of evidence indicated that participation is important. However, Morris (2016) sought to explain why. According to longitudinal data, the strongest relationship to the connection of participation in sports and academic success was the factors of educational expectations, self-concept, and accumulation of social capital. From Morris's (2016) research, the importance of non-cognitive skills such as educational expectations and self-concept continue to show a valid connection to participation in sports.

Shelangoski (2013) noted the relationship between participation in intercollegiate athletic programs and self-efficacy. The study indicated student-athletes had higher levels of self-efficacy, with males possessing higher levels than female college athletes. Additionally, he found that the years of experience did not affect or predict the level of self-efficacy, indicating it was the current athletic experience that has a relationship with self-efficacy rather than a residual effect.

Adolescent boys from disadvantaged schools illustrate the importance of participating in sports on their psychological well-being in research conducted by Belton et al (2016). The at-risk youth, aged 12 to 15, were surveyed four times through the year to establish and maintain levels of psychosocial variables including self-worth, perceived competence, and peer relationships. These results were compared to the level of activity as measured on a FitBit ®, a personal fitness device, as well as independent tracking of participation in sports. There were significant correlations observed with the level of activeness in sports to the psychological well-being factors. The various factors all illustrated a similar level of relationship to the participation

in physical activity. In further analyzation, perceived competence was the only factor of psychological well-being identified as an individual factor associated with participation.

Summary

Altogether, the above studies illustrate the importance of self-efficacy and academic achievement, engagement, and increased connectedness in school. Self-efficacy is one of the most effective strategies to increase achievement academically, socially, and emotionally. Students with higher levels of self-efficacy experience higher academic achievement and engagement, proving the academic importance of understanding self-efficacy.

The evidence also demonstrated the importance of participation in sports on academic achievement, emotional wellbeing, and engagement both within the school and also with peers. Limited, but positive evidence exists that participation in sports correlates to positive self-efficacy in older students (McCoach, 2016). Additionally, research was conducted illustrating participating in sports in eighth grade could be related to motivation. However, the important element of self-efficacy was missing (Hughes, Cao, & Kwok, 2016). This research, in conjunction with research suggesting participation in sports is correlated to positive self-efficacy in older students, is the basis for the present study on the relationship of participation in physical sports activities.

The next chapter will illustrate the design, methods, and procedures of the proposed research study to determine whether there is a correlation between the participation in middle school sports on various types of self-efficacy.

CHAPTER THREE: METHODS

Introduction

Chapter Three illustrates the design, methods, and procedures of the research study. Participation in sports has been found to positively affect students' self-efficacy, which is one of the most effective methods of raising students' achievement in the elementary grades and high school. A gap in the research exists concerning the effects of sports participation on students' self-efficacy within middle school. The purpose of this correlational study was to explore the degree of the relationship between middle school students who were involved in physical sports activities and their measures of perceived *overall*, *academic*, *emotional*, and *social* efficacy.

Design

The correlation study was a valid method to explore the relationship of variables or where changes in one variable can be reflected in the changes of the other (Gall, Gall, & Borg, 2007). Participation in sports activities was the predictor variable. The level of self-efficacy, with three subgroups of *academic*, *social*, and *emotional* self-efficacy were the criterion variables. The students self-reported participation in sports as measured by the Physical Activity Questionnaire for Children (PAQ-C) (see Appendix A). The levels of self-efficacy were self-reported by the Self-Efficacy Questionnaire for Children (SEQ-C) (see Appendix B). Self-efficacy was defined as the belief a person has in his or her own ability to accomplish any task and to deal with any challenges in life (Bandura, 1997).

Research Question(s)

RQ1: Can seventh and eighth grade students' levels of participation in sports predict their self-efficacy?

Null Hypotheses

H_o1: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *overall* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o2: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *academic* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o3: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *emotional* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o4: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *social* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

Participants and Setting

The participants for the study were drawn from a convenience sample of seventh and eighth grade students in a school district in Kentucky during the spring semester of the 2017-2018 school year. The district had 12,854 students; pre- kindergarten through twelfth grades served in eleven elementary schools, four middle schools, and three high schools. Three of the four middle schools were used to recruit participants. School A had 13% low socio-economic

status (SES) students with 90.9% white students, 3.7% Hispanic students with 657 total enrolled students. School B had 6.5% low SES with 87.8% white students, and 4.4% Hispanic students with 795 total enrolled students. School C had 22.4% low SES, with 84.5% White, 4.2% Hispanic students and 770 total enrolled students.

All middle school seventh and eighth grade students were invited to participate in the study through an informational permission email sent home to families (see Appendix C). If the parent agreed to allow the student to participate, the parent provided a student email for the researcher to use as an access email. The researcher emailed the research survey to the student email. The total number of permission slips emailed home with seventh and eighth grade students was 111 throughout the three schools. The total number of permission emails returned was 69, which exceeded the 66 recommended participants to achieve the correct effect size of .7 (Gall, Gall & Borg, 2007, p. 145).

The total sample consisted of 69 students of which 34 were males and 39 were females. Students who identify as African American counted for 1% of the students, while 88% identified themselves as White and 9% identified as Hispanic. Of the total population surveyed, 49% of the students identified themselves as seventh graders, while 51% students identified as eighth graders.

Instrumentation

The predictor variable of *participation in physical sports activity* was measured by the Physical Activity Questionnaire for Children (PAQ-C). The criterion variable of *overall* self-efficacy was measured by the students' responses on the Self-Efficacy Questionnaire for Children (SEQ-C), which included three subscales of *academic*, *emotional*, and *social* self-efficacy (Sabitelli et al., 2005). One survey was given to the students that combined the

questionnaires as well as demographic information including gender, grade level, and ethnicity to analyze the data.

Self-Efficacy Questionnaire for Children (SEQ-C)

The SEQ-C survey took a student approximately 15 minutes to complete. The instrument was appropriate for use with middle school and high school students up to 18 years of age and measured their *overall* perceived self-efficacy, as well as their *academic*, *social*, and *emotional* efficacy. Permission for use of survey was provided within the survey tool as referenced in the manual (see Appendix B) (Sabitelli et al., 2005).

The scales of the SEQ-C were based on a Likert scale of 1 (not at all) to 5 (very well). There were 24 questions with an overall reliability of $\alpha = .89$ (Sabitelli et al., 2005). Of the 24 total questions, eight provided a score for the subscale on *academic* self-efficacy such as "How well do you succeed in passing a test?", and the reliability of the academic subscale is $\alpha = .85$. *Academic* efficacy has been defined as an individual's conviction that they can successfully achieve at a designated level on an academic task (Bandura, 1997). The subscale of *social* efficacy was measured with a different subset of eight questions such as "How well do you succeed in preventing quarrels with other children?" and the reliability of the social subscale is $\alpha = .73$. *Social* efficacy was defined as the individual's degree of confidence involving social behavior (Smith & Betz, 2000). Finally, the subscale of *emotional* self-efficacy was measured with another eight questions such as, "How well do you succeed in not worrying about things that might happen?" and the reliability of the emotional subscale is $\alpha = .78$. *Emotional* self-efficacy was defined as the belief individuals hold about their capacity to exert control over the events that affect their lives (Caprara, et al., 2008).

The survey scored using the scoring instructions within the tool as indicated in the manual (Sabitelli et al., 2005). No rater training was needed. The administration of the survey permitted through a digital link through Google Forms. The SEQ-C was taken independently by the student. Open permission to use the tool was given by the author and was provided in the manual. The highest possible score was 120 points; whereas, the lowest score possible was 24.

The SEC-Q survey was created to determine the strength of *social*, *emotional*, and *academic* efficacy beliefs of children and adolescents. The survey has been used in other studies such as in the study between self-efficacy and the symptoms of anxiety disorders (Muris, 2001) and another study identifying the personality styles and individual differences of efficacy (Muris, 2002). Bandura, et al. (2001) used the survey to study the relationship of self-efficacy to childhood depression. In 2007, Cornell University analyzed the instrument and indicated the high validity as well as the potential for use as a vulnerability factor for depression in adolescents.

The Physical Activity Questionnaire for Children (PAQ-C)

The Physical Activity Questionnaire for Children (PAQ-C) had nine questions and was based on a Likert scale of 1 (no time on an activity) to 5 (seven or more times in the previous week). The high score for very active in sports/physical activity was 45 points, while nine points indicated no participation. The questions were centered on the selection of over 15 sports participated in the past week as well as narrowing down times of the day that active physical sports participation takes place. The survey asked students to indicate whether they were active at lunch, before or after school, and how often, all using the Likert scale. The survey took approximately 15 minutes to complete and is appropriate for seven to fourteen-year-old students to take with no additional supports. Open permission was provided for the survey in the manual

and no rater training is needed (Kowalski, 1997). The students independently took the digital survey using Google Forms during a study hall type course during the school day through a link in their school email or could complete on their own time. Students were given the link only once to prevent repetitive completion by the same student. The survey was scored using the scoring instructions found in the instrument's manual.

The PAQ-C survey was created by Kowalski in 1997 for quantitatively measuring physical activity and participation in sports in Older Children (PAQ-A) and then later adapted for younger children through rewording of some of the questions (PAQ-C). The survey was considered a strong tool for assessing physical sports activity in research projects including longitudinal studies (Kowalski, Donen, & Crocker, 2004). Welk and Eklund (2005) used the survey to measure physical activity participation and the relationship to peer interactions in high school (2005). Physical activity has been shown to have a positive relationship to academic achievement using the PAQ-C (Ahemed et al., 2007). In 2016, the tool was used to measure physical activity in sports with high school boys in Canada in relationship to self-efficacy (Downs & Strachan, 2007). Richardson, et al. (2011) used the survey to indicate the effectiveness of physical sports activity as a weight loss intervention. The tool underwent extensive validity and reliability testing, determining the alpha to be .81 (Kowalski et al., 2004). The PAQ-C was determined to be valid and reliable measure of physical activity during the school year (Crocker, et al., 1997).

Procedures

The first step of this process was securing permission from the Superintendent of the school district to solicit middle school students for participation (see Appendix D). The Superintendent granted permission for the project to be conducted at three of the four middle

schools with the solicitation of seventh and eighth grade students. Administrators at each of the three campuses were contacted through email once IRB approval was given (see Appendix E). The researcher emailed each of the principals at the three campuses and explained the nature of the research project (see Appendix F). The email included a request for the principal to email the parents of the seventh and eighth grade students from the district communication portal, Infinite Campus. The researcher provided the script of the email to the parents with a link that the parent would select, allowing permission for their child to participate in the research project. Once the link was opened, the parents read about the research and indicated "yes, my child can participate" or "no, they may not participate". Additionally, the parent listed their child's name, parent name, data, and child's email for the researcher to use once permission was granted (see Appendix G).

Once parents opted in/opted out of the research project, the researcher gathered the student emails that the parents provided and prepared them into a distribution list to be emailed as a "BCC" or a blind copy. The researcher set up the survey through Google Forms (see Appendix H). The survey was 37 questions long, written verbatim from the SEQ-C and the PAQ-C, and was given between the dates of February 27 and March 2, 2018. Additional demographic questions were included in at the beginning of the survey as well as child's assent information. No distinguishable information was asked, which ensured confidentiality was maintained. The survey did not require any sign-in or collection of personal information.

A week prior to the research survey form being sent out to students, the researcher delivered the teacher instructions and rolls of tickets to the individual campuses in a brown envelope with the understanding and expectation that they were to be handed out to the various teachers that were supporting the research project (see Appendix I). Also, a week prior to the

research survey form being sent out to the students, the researcher shared the directions to the principal and teachers through an email (see Appendix J). The email explained that the students would be receiving an email with a link to a survey to take. The teachers, during a study hall or other "non-content" time of the day, were asked to help the students log in to their email and access the student email explaining the research study and included the survey form link (see Appendix K). The students selected the link and answered the various questions. The teachers were asked to grant time during the study hall time at the end of the day for students participating in the project on one of many technological devices available such as chrome books, iPads, laptops, or smart phones. This study did not affect core instruction time.

The survey was launched by sending the link out in an email to all the students who had permission granted. Once the student received the email, the student opened the email with directions for completing the survey and clicked on the link to begin. The survey opened into a new window. The student proceeded to answer the first three questions indicating ethnicity, gender, and grade. The twenty-four self-efficacy questions and nine physical activity/sports questions followed the demographic questions. The survey was on one sheet that the student was able to progress through, answering the questions. At the end of the survey, the student clicked the finish button, submitting the answers into the data base. The total time for the survey process was approximately 35 minutes. The survey opened in the middle of the week from Tuesday the 27th of February to Thursday the 2nd of March. The link was open for 3 days, and the survey could only be taken one time. No username or email were required to take the survey. No information was gathered at login, and the nature of the Google survey kept the responses completely anonymous.

When the student was complete, the student showed the screen to the teacher who gave them a ticket. As the student received the ticket, they wrote their name onto it and delivered it back to the teacher. The teacher collected all tickets with student names on them and took them to the main secretary in the office as the teacher instruction sheet explained. The teachers all returned the tickets to the main office where the building secretary collected the tickets.

Two days prior to the survey link being sent, the researcher met with building secretaries and discussed the research project. The need for confidentiality and the process of collecting the tickets was explained. One brown envelope was marked with "Tickets" and given to the secretary of each building. It was explained that any signed tickets were to be placed into the envelope and picked up on Friday, the 3rd of March. When the teacher brought any signed tickets to the office, the secretary collected the tickets and placed them into the ticket envelope. A random drawing for one ticket per building was held when the research project concluded. The winner at each building was given a $25.00 gift card.

The data spreadsheet that the survey deposited the information automatically into was kept confidential by a unique login and password, known only to the researcher. The "permission slip" response document was kept in an offsite location and maintained for three years in case any parent questioned the participation of their student. The tickets were destroyed immediately after conclusion of survey window. The information was entered the analysis program, SPSS for analysis. Data analyzed with SPSS was anonymous and pulled from the survey-created data base.

Data Analysis

Pearson correlations were utilized to explore the strength and predictive relationship of the following variables: level of participation in physical sports in relation to the (a) *overall*

levels of self-efficacy, (b) levels of *academic* self-efficacy, (c) levels of *emotional* self-efficacy, and (d) levels of *social* self-efficacy. The four null hypotheses were tested using multivariate regression to best describe the strength and predictive relationship of the variables. Missing data was checked through conducting a data screening. Violations of the assumptions of normality, linearity and bivariate normal distribution were checked through running preliminary analyses of the data. The researcher used the Kolmogorov-Smirnov test to check for normality at the .05 alpha level along with histograms for each data set due to a large sample size, *N= 67*. Data was examined by using data screening methods as described in Warner (2010). Initial analyses were conducted to look for violations of the assumptions of normality, linearity, and the bivariate normal distribution. The bivariate normal distribution, linearity, and assumptions of multivariate outliers was tested using scatter plots and box plots. Considering the need for a Bonferroni correction due to the testing of four null hypotheses, the researcher used an alpha level of .013 (Warner, 2010). The predictive relationships were present in the various studies, supporting the importance of participation in physical sports activities.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this study was to understand the relationship between participation in physical sports activities and Bandura's (1977) self-efficacy, including exploring the three sub-types of self-efficacy in middle school students. Data was collected from seventh and eighth grade students from three middle schools in Kentucky. Four types of self-efficacy were examined: *academic*, *emotional*, *social*, and *overall* self-efficacy. Multiple analyses were completed to investigate the research question.

Research Question

RQ1: Can seventh and eighth grade students' levels of participation in sports predict their self-efficacy?

Null Hypotheses

H_o1: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *overall* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o2: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *academic* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o3: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity

Questionnaire for Children and their *emotional* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

H_o4: There is no significant predictive relationship between seventh and eighth grade students' level of participation in physical sports as shown on the Physical Activity Questionnaire for Children and their *social* self-efficacy as shown on the Self-Efficacy Questionnaire for Children.

Descriptive Statistics

The mean and standard deviation for the predictor variable (level of physical activity participation) can be found in Table 1. The descriptive data obtained for the criterion variables (*academic, emotional, social,* and *overall* self-efficacy) can be found in Table 2.

Table 1- Descriptive statistics of physical activity participation levels

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
PAQ Score	69	1.434	4.429	3.26010	.623067	.388
Valid N (listwise)	69					

Table 2- Descriptive statistics of Self-Efficacy levels

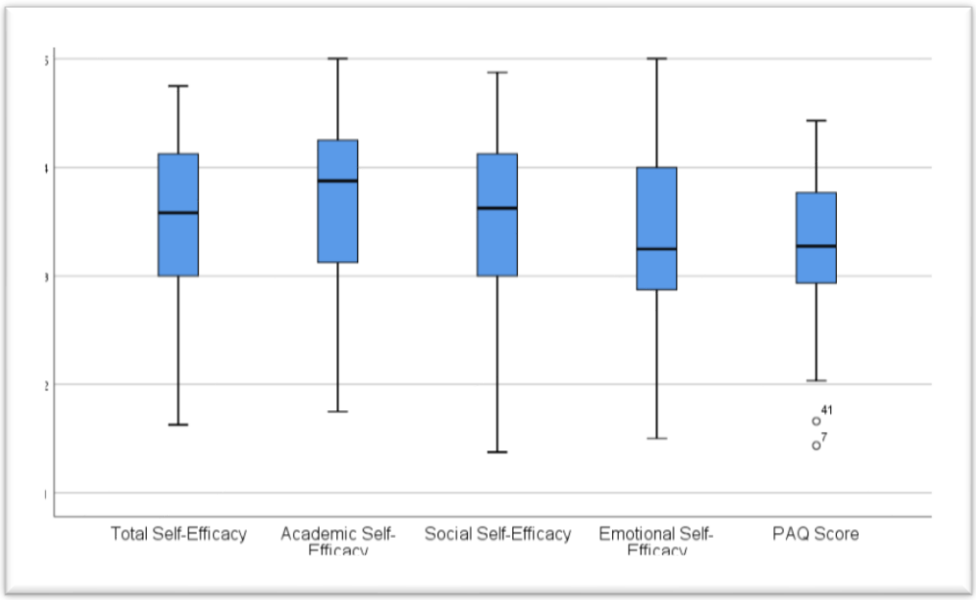
Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Total Self-Efficacy	69	1.625	4.750	3.51991	.715398	.512
Academic Self-Efficacy	69	1.750	5.000	3.66667	.804304	.647
Social Self-Efficacy	69	1.375	4.875	3.53986	.746158	.557
Emotional Self-Efficacy	69	1.500	5.000	3.35326	.813194	.661
Valid N (listwise)	69					

Results

Data Screening

Screening checked for outliers, missing data, and inconsistencies among the variables. Additionally, response concerns were addressed. One hundred-eleven parents gave permission for their child to participate with 69 students choosing to complete the survey, which resulted in a 62 percent response rate. Of the student responses, all items were completed, and no items were left blank. The zero item non-response issue could be credited to the ease of the survey or the support given to fill out the survey. Of the student responses, 49% of the students were seventh graders and 51% of the responses were female students. Eleven percent of the respondents were not white. To detect outliers for variables, box plots were used. Two students' responses were removed from the data set because of the outliers. The normality test was conducted for each variable using the Kolmogorov-Smirnov's normality test (Warner, 2013). The assumption for normality was not found tenable at the .05 alpha level for three of the four criterion variables: *overall* self-efficacy factor of competence (p = .200), *social* self-efficacy factor of competence (p =.200), and *emotional* self-efficacy factor of competence (p = .200). The criterion variable of *academic* self-efficacy with a factor of competence (p = .002) was found tenable at the .05 alpha level. The researcher also ran a series of histograms and determined to continue with the data analysis using the Pearson r. The skewness and kurtosis for all four variables were between two and negative two, indicating the normality of the data.

Figure 1. Box Plots:



Assumption Tests

The four null hypotheses were tested using the Pearson's *r*, in which the required five assumptions were met: independence, bivariate normal distribution, bivariate outliers, normality, and linearity (Warner, 2013). The assumptions of normality were answered in the above section. The assumption of linearity was studied through analyzing the relationship between the predictor variable and each of the criterion variables. This examination was done using scatter plots, and no curvilinear plots were found, establishing the assumption of linearity adequate. Finally, the assumptions of bivariate normal distribution and bivariate outliers were found tenable after thorough inspection.

Statistical Analysis

The four null hypotheses were tested using Pearson correlations at the .05 alpha level. To guard against Type I errors across the four correlations, the Bonferroni correction was applied, and the alpha level was adjusted to .013 (Warner, 2013).

Null Hypothesis One

For null hypothesis one, the researcher analyzed if there was a relationship between participation in physical sports activity and *overall* self-efficacy in middle school students. The statistical test indicated a significant relationship between *overall* self-efficacy and the level of participation in physical activity. Therefore, the researcher rejected the null hypothesis $r(67) = .61$, $p = .000$. The effect size was medium based on Cohen's effect size index (Warner, 2013). Figure 2 illustrates the scatter plot for *overall* self-efficacy and *participation in physical sports activity.*

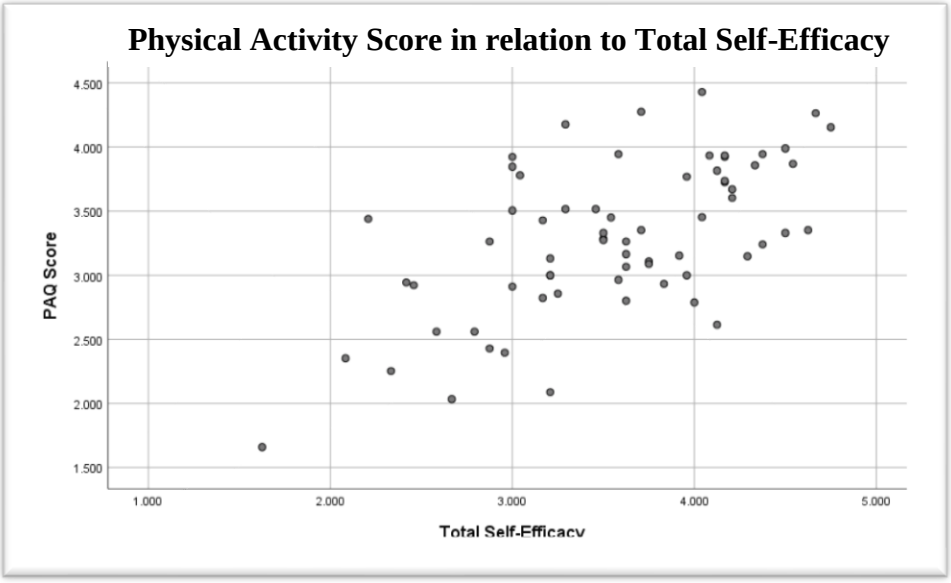


Figure 2- Physical Activity Score in relation to Total Self-Efficacy

Null Hypothesis Two

For null hypothesis two, the researcher analyzed if there was a relationship between participation in physical sports activity and *academic* self-efficacy in middle school students. The statistical test did not indicate a significant relationship between *academic* self-efficacy and the level of participation in physical sports activity. Therefore, the researcher failed to reject the null $r(67) = .45$, $p = .000$. The effect size was small based on Cohen's effect size index (Warner, 2013). Figure 3 illustrates scatter plot for *academic* self-efficacy and *participation in physical sports activity.*

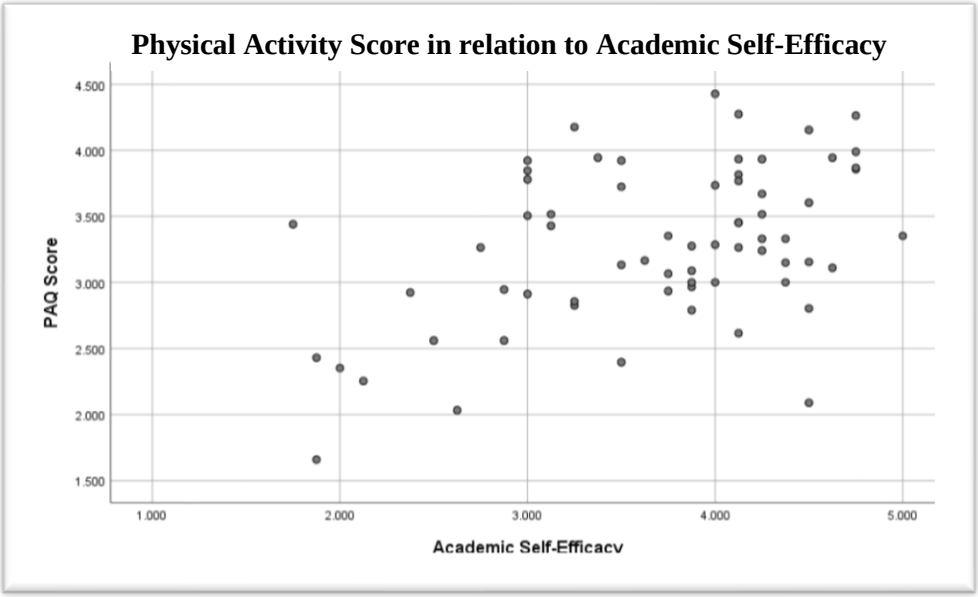


Figure 3- Physical Activity Score in relation to Academic Self-Efficacy

Null Hypothesis Three

For null hypothesis three, the researcher analyzed if there was a relationship between participation in physical sports activity and *emotional* self-efficacy in middle school students. The results indicated a significant relationship between *emotional* self-efficacy and the level of participation in physical sports activity. Therefore, the researcher rejected the null $r(67) = .61$, $p = .000$. The effect size was small based on Cohen's effect size index (Warner, 2013). Figure 4 illustrates the scatter plot for *emotional* self-efficacy and *participation in physical sports activity.*

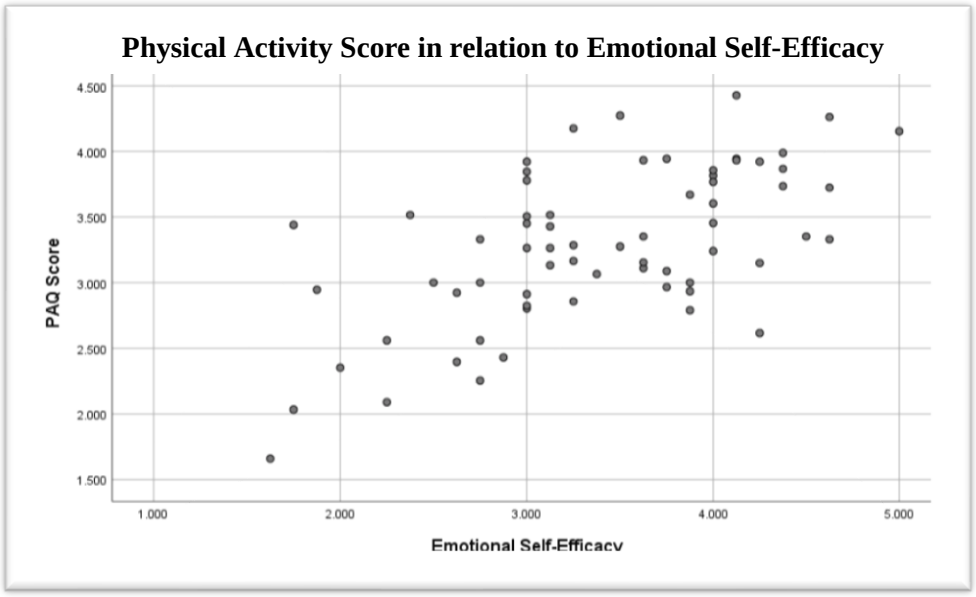


Figure 4- Physical Activity Score in relation to Emotional Self-Efficacy

Null Hypothesis Four

For null hypothesis four, the researcher analyzed if there was a relationship between participation in physical sports activity and *social* self-efficacy in middle school students. The statistical test indicated a significant relationship between *social* self-efficacy and the level of participation in physical sports activity. Therefore, the researcher rejected the null $r(67) = .589$, $p = .000$. The effect size was small based on Cohen's effect size index (Warner, 2013). Figure 5 illustrates the scatter plot for *social* self-efficacy and *participation in physical sports activity.*

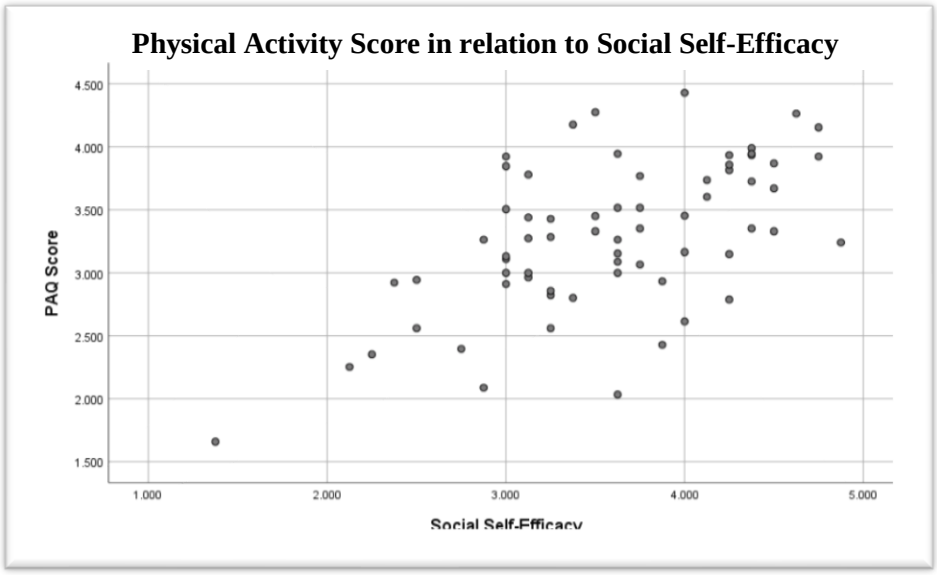


Figure 5- Physical Activity Score in relation to Social Self-Efficacy

CHAPTER FIVE: CONCLUSIONS

Overview

Clear research existed on the relationship between participation in physical sports and self-efficacy at the high school and collegiate level; however, no research existed addressing this relationship at the middle school grades. This research study examined the significant relationship between participation in physical sports and self-efficacy in seventh and eighth grade students, as well as further implications of the study.

Chapter Five addresses the correlational results of each of the four null hypotheses as related to previous research. Each of the relationships between the four types of self-efficacy and participation in sports were explored. The researcher's conclusions, perceived limitations, and further research suggestions are offered.

Discussion

The purpose of this study was to understand the relationship between the predictor variable, *participation in physical sports activities,* and the criterion variables, *overall* self-efficacy, *academic* self-efficacy, *emotional* self-efficacy, and *social* self-efficacy in middle school students. The aim of the correlation study was to determine the relationship between middle school students' levels of self-efficacy and their participation in physical sports activities.

The middle school students self-reported participation in physical sports activity, as measured by the Physical Activity Questionnaire for Children (PAQ-C). Kowalski (1997) created the survey originally for gauging participation in sports activities by adults and older children. The survey was later adapted for use with younger children, including middle school aged children. The *overall* level of self-efficacy was self-reported by the Self-Efficacy Questionnaire for Children (SEQ-C), which included three subscales of *academic, social,* and *emotional* self-efficacy. The two data-gathering instruments answered the research question:

Can seventh and eighth grade students' levels of participation in sports predict their self-efficacy?

Pearson correlations were used in this study with levels of *participation in physical sports activity* as the predictor variable and the levels of *overall* self-efficacy, *academic* self-efficacy, *social* self-efficacy, and *emotional* self-efficacy as the criterion variables. The correlation study was a valid method to explore the relationships of variables or where changes in one variable can be reflected in the changes of the other (Gall, Gall, & Borg, 2007).

Null Hypothesis One

For null hypothesis one, the results indicated a significant relationship between *overall* self-efficacy and the level of participation in physical sport activity. Downs and Strachan (2016) explored the participation in physical sports of Canadian high school males in relation to their self-efficacy. They found the more the athletes participated in sports, the physical health was higher, as well as the psychological health of the student, including self-esteem and confidence. Shelangoski's (2013) results in a similar research study indicated comparable findings in college athletes where the self-efficacy of athletes was higher than non-athletes; however, the college students' level of experience in the sport did not show a significant relationship between *overall* self-efficacy and participation in physical sports. Another study from Gu, Solmon, and Zhang (2014) analyzed the relationship between middle school students' physical activity and their overall quality of life including self-esteem and confidence. The researchers found the level of physical activity was positively associated with the physical, emotional, and social skills as well as overall happiness; however, self-efficacy was not directly addressed. Students who are actively involved benefit from the physical health, mental health, and emotional health boosts of physical sports activity, as well as the strong relationship opportunities found on a team. In the

present study, a significant relationship was found for the level of participation in physical sports activities on the overall self-efficacy of the students where a medium relationship calculated at Pearson's r = .61. Based on the previously mentioned studies of Downs and Strachan, (2016), Shelangoski, (2013) and Gu, Solmon, and Zhang, (2014) the medium effect of the present study was deemed reasonable.

Null Hypothesis Two

For null hypothesis two, the research indicated a significant relationship between the *academic* self-efficacy and the level of participation in physical activity. Cole (2014) found a strong link between high school students' participation in athletics and GPA through the variable of self-efficacy. The study indicated the higher level of self-efficacy correlated to higher levels of sports participation and resulted in higher overall GPAs. Morris (2016) reaffirmed the notion of higher academic success among high school students who participated in sports. The longitudinal study analyzed the relationship between participation in sports and academic success through the analysis of variables of self-concept. From his research, the presence of participation in physical sports supported the increased presence of positive self-concept. In the present study, a significant relationship was found for participation in physical sports activities and *academic* self-efficacy; however, a small relationship was calculated with a Pearson correlation where $r = .45$. Based on the previously mentioned studies of Cole (2014) and Morris (2016), the small effect of the present study was deemed reasonable, but the confidence level may have increased with a larger sample size (i.e., more students participating).

Null Hypothesis Three

For null hypothesis three, the research indicated a significant relationship between the *social* self-efficacy and the level of participation in physical activity. Bower and Carroll (2015)

found similar results in their study as it measured the social connectedness of youth participating in high school activities in relation to the students' self-reported strengths, engagement, and awareness of self-confidence. The researchers noted a significant difference in the social responsibility and awareness of students who participated in sports and activities compared to those students who did not participate. Additionally, the relationship was stronger with students participating in physical sports rather than school clubs. Cole (2014) stated that participation in sports raised the capacity for motivation, initiative for social interactions, and social awareness. He found students who had the chance to participate had raised engagement within school, as well as the social initiative both on and off the court. The students were more social and felt a higher sense of connection to school. In the present study, a significant relationship was found for participation in physical sports activities and *social* self-efficacy; however, a small relationship was calculated with a Pearson correlation where $r = .61$. Based on the previously mentioned studies of Bower and Carrol (2015), and Cole (2014), the small effect of the present study was deemed reasonable, but the confidence level may have increased with a larger sample size (i.e., more students participating).

Null Hypothesis Four

For null hypothesis four, the research indicated a significant relationship between the *emotional* self-efficacy and the level of participation in physical activity. Muir and Lodewyk's (2017) results indicated freshman girls' participation in soccer predicted the presence of positive state emotions, including *emotional* self-efficacy, lowered anxiety, and enjoyment in sports. The study supported that higher levels of participation correlated to positive *emotional* self-efficacy, lowered anxiety, and an increase in feelings of belonging. In the present study, a significant relationship was found for participation in physical sports activities and *emotional* self-efficacy;

however, a small relationship was calculated with a Pearson correlation where $r = .589$. Based on the previously mentioned studies of Muir and Lodewyk (2017), the small effect of the present study was deemed reasonable, but the confidence level may have increased with a larger sample size (i.e., more students participating).

Conclusions

At the beginning of the study, the researcher predicted that there would be a significant relationship between the levels of participation in physical sports activities and self-efficacy. Through careful analyzation of the data, positive correlations were discovered for three of the four types of self-efficacy with *academic* self-efficacy not indicating a relationship. Physical sports participation was positively correlated to *social* self-efficacy, *emotional* self-efficacy, and *overall* self-efficacy.

First, considering the lack of correlation for *academic* self-efficacy, research has indicated a positive correlation to high grades and *academic* self-efficacy (Brennan, 2015; Yeung, Craven, and Kaur, 2014). There is also support for academic success correlated to participation in physical sports (Cole, 2014; Bass, Brown, & Coleman, 2013). The lack of correlation in this research could have been due to the small effect size. With a larger sample of students, the results could have shown a stronger relationship. Additionally, previous research indicating higher academic success or *academic* self-efficacy could have been skewed due to the requirement of high grades to participate in the sport (Carchia & Kelley, 2013). Whether there stands a relationship, even a small one, with participation in physical activity and *academic* self-efficacy, it stands to reason that participating will provide multiple opportunities for students to improve their *academic* self-efficacy.

Regarding the significant relationship of the other three types of self-efficacy, the researcher agrees that the participation in physical sports activities is positively related to *academic, emotional, social,* and *overall* self-efficacy. Students participating in physical activities, especially sports, belong to a cohesive team with common goals. The other participants can provide opportunities for vicarious experiences, which is one of the sources of self-efficacy (Bandura, 1974; Usher and Parajes, 2006). As a student watches another student successfully participate in a sport or physical activity, they also believe they can achieve. The accomplishment of challenging tasks, such as completing a race or scoring a tough point, can positively feed the other members on the team, helping them to "think they can" accomplish similar tasks.

Additionally, the "team-like" mentality of the students can provide a positive social persuasion, from not only the other students, but also the coach and parents (Revich, 2010). As the other players, coach, and parents encourage the student, positive statements support the internal voice in a student's head, helping his self-efficacy. Lastly, the sense of belonging and connectedness of being with other students participating in physical activities can support a positive physiological status (Parajes, 2002; Revich, 2010). The student, as he participates, finds a sense of community and friends, which can be extremely difficult to establish in middle school. This strong physiological status is also a source of self-efficacy (Bandura, 1972).

Implications

According to Downs and Strachan (2016), a clear relationship between high school students' participation in physical sports activities had a significant relationship to self-efficacy; however, the study was limited to high school students. The implication was supported with Cole (2014) as the research found the relationship between sports and self-efficacy again in high

school but lacked the research at the middle school age. The present study also found a statistically significant relationship between the participation in physical sports activities and self-efficacy within the middle school indicating the important need for participation in physical sports activities on self-efficacy.

The evidence of a relationship between self-efficacy and participation in physical sports activities implies a critical need for the continuation of middle school sports and athletic opportunities for students. In affluent areas, such as the sampling site, the availability of sports and physical activities continues to be heavily supported by the school district where students are given many opportunities to participate. However, in school districts struggling with fiscal decisions, the clear and statistically significant relationship between the participation in physical sports and self-efficacy helps to establish a need to ensure students have plentiful opportunities for participation. Coupled with research indicating participating in sports is positively correlated with higher academic achievement, the current study adds another important reason to continue offering physical sports opportunities (Caskey, 2008; Chomithomitz et al., 2009).

Limitations

There were several limitations to this study. First, the population the sample was drawn from was a limitation. Middle school students from three middle schools in the same county were invited to participate once their parent had consented. The diversity of the three schools in which the sample was drawn from was limited; with most participants selecting white (88%) as the percentage of the three middle schools is mostly white (87%). Recruiting participants from more diverse populations may offer more information regarding ethnicity and cultural beliefs.

Also, this research study only invited students from a very affluent county with the average percentage of free and reduced lunch students being very low (13%). The financial

standing of the parents and district could increase the level of participation in physical sports activities, as the parents' ability to pay sports fees may not be a barrier to many students. This higher level of participation may not be typical for all middle school students and could be a limitation to the current sample location. Conducting a study in a less affluent district could provide insight to students with less physical sports opportunities.

Recommendations for Future Research

The following are recommendations for further research:

The next step in the research would be to study if participation in sports has a causal effect on self-efficacy, taking the correlation to the next level. If the participation in sports indicated a causal effect, Bandura's (1974) original four sources of self-efficacy could be expanded to include physical sports participation as well.

A researcher could conduct a follow-up study with a more diverse sample. For instance, a selection of an urban school district where the student population is more diverse, both socio-economically and ethnically, could offer additional insights to the relationship of self-efficacy and participation in physical sports. The same surveys could be used with the population with similar correlational relationships utilized.

It is recommended that further research be conducted to determine whether there is a difference in gender or age of the students' self-perceived self-efficacy and level of participation in physical sports activities. The current survey asked for grade but not age, which limited analysis of how age could be a factor in the relationship study. The Pearson correlation could be utilized to determine if there is a relationship between the self-perceived levels of participation with the additional variables of age.

As recommended in Shelangoski's (2013) study, it would be helpful to group the student participants by the type of activities they participate in. Some team-oriented sports, such as basketball and volleyball, could illustrate a different relationship to self-efficacy, especially social self-efficacy. These competitive team sports may provide a different lens than individual sports such as tennis or cross country that can require less social capital. Similar analyses and instruments could be used.

Overall, the present research study proved that participation in physical sports activities is important for middle school youth. The benefits of participating far exceed simply a healthier body or academic success. The benefits now include a higher self-efficacy in many areas. As educators know and understand the impact of a high self-efficacy on success in school, the research offered a viable and attainable way, through participation in sports, to impact a students' self-efficacy. Parents also can see the benefits for encouraging their child to be involved in physical sports activities. Overall, the research was important to understand the larger impact participation in physical sports has on students including academically, socially, and emotionally.

REFERENCES

Ahamed, Y., MacDonald, H., Reed, K., Naylor, P., Lui, T., & McKay, H. (2007). School based physical activity does not compromise children's academic performance. *Official Journal of the College of Sports Medicine.* doi: 10.1249/01.mss.0000241654.45500.8e.

Arslan, A. (2013). Investigation of relationship between sources of self-efficacy beliefs of secondary school students and some variables. *Educational Sciences: Theory and Practices, 13*(4), 1983-1994.

Bandura, A. (1974). Behavior theory and the models of man. *American Psychologist, 29*, 859-869.

Bandura, A. (1997). *Self-efficacy: Encyclopedia of human behavior*. New York: Academic Press.

Bandura, A., Barbaranelli, C., Caprara, G. V., and Pastorelli, C. (2001). Self-Efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*(1), 187-206.

Bayat, F. (2015). Student engagement: A qualitative study of extracurricular activities. ProQuest Dissertations & Theses Global: Social Sciences. Retrieved from: http://ezproxy.liberty.edu:2048/login?url=http://search.proquest.com/docview/1758251275?accountid=12085

Belton, S., Prior, P., Wickel, E., and Woods, C. (2017). The impacts of participation in extra-curricular physical activity on males from disadvantaged schools. *European Physical Education Review, 23*(1). 60-72.

Boekel, M., Bulut, O., Stanke, L., Zamora, J., Yoojang, J., Youngsoon, K., and Nickodem, K. (2016). Effects of participation in school sports on academic and social functioning. *Journal of Applied Developmental Psychology, 46*. 31-40.

Booth, M. Z., & Gerard, J. M., (2014). Adolescents' stage environment fit in middle and high school: the relationship between students' perceptions of their schools and themselves. *Youth and Society*, *46*(6). 735-755.

Bong, M. (2001). Between- and within- domain relations of academic motivation among middle and high school students: self-efficacy, task value, and achievement goals. *Journal of Educational Psychology*, *93*(1). 23-24.

Bower, J. & Carroll, A., (2015). Benefits of getting hooked on sports or the arts: Examining the connectedness of youth who participate in sport and creative activities. *International Journal of Child & Adolescent Health*. *8*(2). p 169-178.

Bradley, J. and Conway, P. (2016). A dual step transfer model: Sport and non-extracurricular activities and the enhancement of academic achievement. *British Educational Research Journal, 42*(4). 703-728.

Bradley, J., Keane, F., and Crawford, S. (2013). School sport and academic achievement. *Journal of School Health, 83*. p 8-13.

Caskey, M. (2006). Extracurricular participation and the transition to middle school. *Research in Middle Level Education*. *29(9),* 1-9. Retrieved from http://files.eric.ed.gov/fulltext/EJ804106.pdf

Caprara, G. V., Di Giunta, L., Eisenberg, N., Gerbino, M., Pastorelli, C., & Tramontano, C. (2008). Assessing Regulatory Emotional Self-Efficacy in Three Countries. *Psychological Assessment*, *20*(3), 227–237. http://doi.org/10.1037/1040-3590.20.3.227.

Chase, M. (2001). Children's self-efficacy, motivational intentions, and attributions in physical education and sport. *Research Quarterly for Exercise and Sport*, *27*(1). 47-54.

Chen, G. (2016). Hello budget cuts, goodbye sports: The threat to sports. *Public School Review*. Retrieved from https://www.publicschoolreview.com/blog/hello-budget-cuts-goodbye-sports-the-threat-to-athletics.

Chomitzhomitz, V. R., McGowanc, R. J., Mitchell, S., Dawson, G., & Hacker, K. (2009). Is there a relationship between physical fitness and academic achievement? positive results from public school children in the northeastern United States. *Journal of School Health, 79*. 30-37. doi:http://dx.doi.org/10.111/j.1746-1561.2008.00371.x

Cole, A. R., (2014). Sports participation and academic achievement: Does self-efficacy play a role? University of Arizona Campus Repository. Retrieved from: http://arizona.openrepository.com/arizona/handle/10150/318829.

Cornell University. (2007). *Measure: Self-Efficacy questionnaire for children.* Retrieved from: https://core.human.cornell.edu/resources/measures/SEQC.cfm.

Creswell, J. W. (2008*). Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson.

Crocker, P. R., Bailey, D. A., Faulkner, R. A., Kowalski, K. C., & McGrath, R. (1997). Measuring general levels of physical activity: Preliminary evidence for the Physical Activity Questionnaire for Older Children. *Medicine and Science in Sports and Exercise, 29*. 1344-1349.

Downs, M. & Strachan, L. (2016). High School sports participation: Does it have an impact on the physical activity self-efficacy of adolescent males. *International Journal of Human Movement and Sports Sciences, 4*(1). 6-11.

Fedewa, A. L., & Ahn, S. (2011). The effects of physical activity and physical fitness on children's achievement and cognitive outcomes: A meta-analysis. *Research Quarterly for*

Exercise and Sport, 82(3). 521-35. Retrieved from http://ezproxy.liberty.edu:2048/login?url=http://search.proquest.com/docview/895938318?accountid=12085

Ford, H. (1947). The reader's digest. *51*(1). The reader's digest association. Retrieved from https://boldomatic.com/view/post/IywQIg.

Gall, M., Gall, J., & Borg, W. (2007). *Applying educational research, (6th ed).* Boston, MA: Pearson.

Gano-Overway, L., Newton, M., Magyar, T. M., Fry, M. D., Kim, M., & Guivernau, M. R. (2009). Influence of caring youth sport contexts on efficacy-related beliefs and social behaviors. *Developmental Psychology, 45*(2). 329-340. doi:http://dx.doi.org/10.1037/a0014067

Gaylon, C., Blondin, C., Yaw, J., Nalls, M., Williams, R., (2012). The relationship of academic self-efficacy to class participation and exam performance. Retrieved from: Liberty Library. doi: 10.1007/s11218-001-9175-x.

Griffith, S. (2015). Self-efficacy in sport and exercise: Determining effort, persistence and performance. Retrieved from: http://believeperform.com/performance/self-efficacy-sport-exercise-determining-effort-persistence-performance/.

Hattie, J. (2009). *Visible learning; A synthesis of over 800 meta-analyses relating to achievement.* New York, New York; Routledge.

Hepler, T. J. (2016). Can self-efficacy pave the way for successful decision-making in sport? *Journal of Sport Behavior, 39*(2). 147-159. Retrieved from http://ezproxy.liberty.edu:2048/login.url=http://search.proquest.com/docview/1788569117.accountid=12085

Holland, K. (2014). Lower income students getting shut out of sports. *NBC News.* Retrieved from http://www.nbcnews.com/business/consumer/lower-income-students-getting-shut-out-sports-n164941.

Hough, D. (2004). Problem based learning in the middle school: a research case study of the perceptions of at-risk females. *Research in Middle Level Education, 27*(1). 1-13.

Israel, J. M. (2013). Student extracurricular participation, student achievement, and school perception: An elementary school perspective (Order No.3561144). Available from ProQuest Dissertations & Theses Global: Social Sciences. (1368985579). Retrieved from http://ezproxy.liberty.edu:2048/login?url=http://search.proquest.com/docview/1368985579?accountid=12085

Lodewyk, K. and Muir, A. (2017). High school females' emotions, self-efficacy, and attributions during soccer and fitness testing in physical education. *The Physical Educator, 74*. 269-295.

Lunenburg, F. (2011). Self-efficacy in the workplace: implications for motivation and performance. *International Journal of Management, Business, And Administration, 14*(1), Retrieved from http://www.google.com/url?sa=t&rct=j&q= &esrc=s&source=web&cd=1&ved =0CB4QFjAA&url=http%3A%2F%2Fwww. nationalforum.com%2FElectronic%0,d.cG

Kelley, B. & Carchia, C. (2013). *Hey, data data—swing!*. Retrieved from: www.espn.com/espn/print?id=9469252.

Kowalski, K., Crocker, P., & Donen, R. (2004). *The Physical activity questionnaire for children and adolescents manual.* Saskatoon: Canada. University of Saskatchewan.

Marzano, R. (2007) *The art and science of teaching.* Alexandria, Virginia; ASCD.

McCoach, M. (2016). The effect of extracurricular participation on academic outcomes and attendance with middle school students (Order No.10102287). Available from ProQuest Dissertations & Theses Global. (1786290475). Retrieved from: http://ezproxy.liberty.edu:2048/login?url=http://search.proquest.com/docview/1786290475?accountid=12085

McLeod, S. (2015). Bandura: Social learning *theory*. Retrieved from: http://www.simply psychology.org/bandura.html.

Morris, D. (2016). Extracurricular activity participation in high school: Mechanisms linking participation to math achievement and 4-year college attendance. *American Education Research Journal, 53*(5). 1376-1410.

Muris, P. (2001). A brief questionnaire for measuring self-efficacy in youths. *Journal of Psychopathology and Behavioral Assessment, 23*. 145-149.

Muris, P. (2002). Relationships between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. *Personality and Individual Differences, 32*. 337-348.

National Federation of High School Sports. (2014). High School sports participation increases for 26th consecutive year. *National federation of high school sports association.* Retrieved from: https://www.nfhs.org/articles/high-school-sports-participation-increases-for-26th-consecutive-year/

Oswalt, A. (2010). *Emotional self-efficacy.* Retrieved from: https://www.mentalhelp.net/articles/emotional-self-efficacy/.

Physical Activity Participation Report. (2016). *The Physical activity council's annual study.* Retrieved from: http://www.physicalactivitycouncil.com/pdfs/current.pdf

Pineau, T., Glass, C., Kaufman, K., & Bernal, D. (2014). Self- and Team-Efficacy beliefs to rowers and their relation to mindfulness and flow. *Journal of Sports Psychology, 8*. 142-158.

Richardson, D., Cavill, N., Ells, L., & Roberts, K. (2011). *Measuring Diet and Physical Activity in Weight Management Interventions: A Briefing Paper*. Oxford: National Obesity Observatory.

Rudestam, K. & Newton, R. (2007). *Surviving your dissertation: A comprehensive guide to content and process.* (3rd ed). Los Angeles, CA: Sage.

Sabo, D., & Veliz, P. (2008). Go out and play: Youth sports in America. *Women's Sports Foundation*. Retrieved from: http://www.nfhs.org/articles/high-school-sports-participation-increases-for-26th-consecutive-year/#http://ezproxy.liberty.edu:2048/login?url=http://search.proquest.com/docview/1322251036?accountid=12085

Sabitelli, R. , Anderson, S. & LaMotte, V. (2005). *Assessing outcomes in child and youth programs: A practical handbook*. Retrieved from: http://www.uwex.edu/ces/4h/evaluation/documents/ChildYouthOutcomeHandbook2005.pdf.

Sartawi, A., Alsawaie, O., Dodeen, H., Tibi, S., & Alghazo, I. (2012). Predicting mathamatics achievement by motivation and self-efficacy across gender and achievement levels. *Interdisciplinary Journal of Teaching and Learning, 2*(2). 59-77.

Sebald, H. (2010). Student participation in extracurricular activities, self-concept, academic self-concept, self-determination, and health habits during the middle school year and their impact on academic achievement (Order No.3415641). Available from Education Database; ProQuest Central. (634434020). Retrieved from: http://ezproxy.liberty.edu:2048/login?url=http://search.proquest.com/docview/634434020?accountid=12085

Shelangoski, B. (2013). Self-efficacy in intercollegiate athletics (Order No 1527668). Available from Education Database; ProQuest Central. Retrieved from: https://ir.library. louisville.edu/cgi/viewcontent.cgi?article=2314&context=etd.

Smith, H. M., & Betz, N. E. (2000). Development and validation of a scale of perceived social self-efficacy. *Journal of Career Assessment, 8*. 283-301.

Thomas, R. & Brubaker, D. (2008). *Thesis and Dissertations; A guide to planning, research and writing (2nd ed.).* Thousand Oaks, CA: Corwin.

Valois, R. F., Umstattd, M. R., Zullig, K. J., & Paxton, R. J. (2008). Physical Activity Behaviors and Emotional Self-Efficacy: Is There a Relationship for Adolescents? *Journal of School Health, 78*(6). 321-327.

Tomporowski, P. D., Davis, C. L., Miller, P. H., & Naglieri, J. A. (2008). Exercise and children's intelligence, cognition, and academic achievement. *Educational Psychology Review, 20*(2). 111-131. doi:http://dx.doi.org/10.1007/s10648-007-9057-0.

Vacca, R. (2006). They can because they think they can. *Educational Leadership, 63*(6). 56-59.

Warren, T. (2010). What the hell is a Bonferroni correction? *Generally thinking blog.* Retrieved from: http://generallythinking.com/what-the-hell-is-bonferroni-correction/.

Welk, G. & Eklund, B. (2005). Validation of the children and youth physical self-perceptions profile for young children. *Psychology of Sports and Exercise, 6*(1). 51-65.

Yeung, A., Craven, R., & Kaur, G. (2014). Influences of mastery goal and perceived competence on educational outcomes. *Australian Journal of Educational and Developmental Psychology, 14*. 117-130.

APPENDICES

Appendix A: Physical Activity Questionnaire- Children

Removed for Copyright purposes

APPENDIX B: Self-Efficacy Questionnaire- Children

Removed for Copyright purposes

Appendix C: Parent Email for Consent

Dear Parents/ Guardians of [redacted] Middle School,

Our seventh and eighth grade students have been invited to participate in an exciting research project through Ms. Alissa Richards, a doctoral student from Liberty University.

The research information is below. The project is studying how our students view themselves and their self-esteem and the connection to how active they are in sports. The students will simply fill out a quick survey that will ask them if they play sports and some questions about how successful they see themselves in school and in making friends. This is an exciting opportunity for our students to see how sports and physical activity affects their self-efficacy or confidence.

If you are interested in having your child participate, please click the link below and share your child's email address. A short survey link will be shared to your child through this email. No personal information will be collected by the survey.

Permission Link

Thanks!

_____
Principal of _____

If you would like additional information, I am including the full contact information for Ms. Richards below as well as the explanation from the University.

Appendix D: Letter of Collaboration

October 2, 2017

[redacted]

Dear [redacted]

As a graduate student in the Educational Leadership Department at Liberty University, I am conducting research as part of the requirements for an Educational Doctorate Degree. The title of my research project is the Relationship between self-efficacy and participation in physical sports activity. The purpose of my research is to determine the relationship, if present, between middle school students participating in physical sports activities and their respective social, emotional and academic self-efficacy.

I am writing to request your permission to conduct my research at [redacted] Middle School, [redacted] Middle School, and [redacted] Middle School with students who participate in physical sports activities in the seventh and eighth grades.

Participants will be asked to complete a simple survey through Google forms sent via email that is anonymous and askes students to self-report their feelings of self-efficacy and level of physical sports participation. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue at any time.

Thank you for considering my request. If you choose to grant permission, please provide a signed statement on school district letterhead.

Sincerely,

[redacted]

Appendix E: IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

February 12, 2018

[redacted]

Dear Alissa Richards,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

[redacted]

LIBERTY
UNIVERSITY.
Liberty University | Training Champions for Christ since 1971

Appendix F: Initial Principal Email of Information

Dear Principal,

I am Alissa Richards, a research student from Liberty University. I have secured the permission from [redacted], the Superintendent from [redacted] to conduct my research with the middle school students from your school.

The purpose of the research is to determine the relationship between participation in physical sports activities and the students' self-efficacy. To gather and analyze this data, students with permission from parents will answer a short survey measuring their level of self-efficacy and participation in sports.

With your support, please email the seventh and eighth grade parents/guardians listed on Infinite Campus seeking permission for their child to participate. The email script is pasted below. Please copy and paste, including the survey link and email to those parents by 02/20/2018. The parents will have the option to agree for their child to participate and they will provide their child's email, or they will opt out.

If a parent agrees for the student to participate, the child will be sent an email the following week with the survey link attached. I am asking for you to instruct your teachers to allow time on an electrical device such as a computer or IPad, to take the survey sometime through the day, preferably not during content time. As a student completes the survey, they are to get a ticket from the teacher (which I will be providing) and the tickets will be placed in an envelope for a drawing for a $25.00 gift card.

The information will be collected anonymously and analyzed looking for the relationship between how students view themselves and their level of participation in sports. I would be happy to provide you with the final decisions regarding the data.

If you have any questions or concerns, please contact me at 502-930-6274 or alissajrichards@gmail.com. Again, I appreciate your support and help in this research. You can also contact the Liberty University Institutional Review Board, 1971 University Blvd, Carter 34, Lynchburg, VA 24515 or email at irb@liberty.edu.

Sincerely,
Alissa Richards
Educational Researcher

Please see following script for the email to parents.

Dear Parents/ Guardians of [redacted] Middle School,

Our seventh and eighth grade students have been invited to participate in an exciting research project through Ms. Alissa Richards, a doctoral student from Liberty University.

The research information is below. The project is studying how our students view themselves and their self-esteem and the connection to how active they are in sports. The students will simply fill out a quick survey that will ask them if they play sports and some questions about how successful they see themselves in school and in making friends. This is an exciting opportunity for our students to see how sports and physical activity affects their self-efficacy or confidence.

If you are interested in having your child participate, please click the link below and share your child's email address. A short survey link will be shared to your child through this email. No personal information will be collected by the survey.

Permission Link

Thanks!

[redacted]
Principal of [redacted]

If you would like additional information, I am including the full contact information for Ms. Richards below as well as the explanation from the University.

PARENT/GUARDIAN CONSENT FORM

Physical Sports Participation and Self-Efficacy
Alissa Richards
Liberty University
School of Education

Your child/student is invited to be in a research study of how participating in sports activities affects how they view themselves. He or she was selected as a possible participant because they attend one of the middle schools in [redacted] ask that you read this form and ask any questions you may have before agreeing to allow him or her to be in the study.

Alissa Richards, a doctoral student in the school of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is exploring the relationship between participation in sports and self-efficacy.

Procedures: If you agree to allow your child/student to be in this study, I would ask him or her to do the following things:

1. Take a short survey online asking about how they view their success at school, how they think of themselves in making friends and how well they can learn. This will only take 20-30 minutes. It will completely be anonymous.

Risks and Benefits of being in the Study: The risks involved in this study are minimal, no more than you would encounter in everyday life.

There are no benefits to participating in this study other than helping to promote research that may help students with self-confidence and self-esteem and the power of participating in sports.

Compensation: If your child completes the survey, they will be entered to win a $25 Visa gift card.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. The document that lists the students that had permission to participate will be shredded immediately upon the student taking the survey.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether to allow your child/student to participate will not affect his or her current or future relations with Liberty University. If you decide to allow your child/student to participate, he or she is free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If your child/student chooses to withdraw from the study, you or your child/student should contact the researcher at the email address/phone number included in the next paragraph. Should your child/student choose to withdraw, data collected from him or her, apart from focus group data, will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Alissa Richards. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at 502-930-6274.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Carter 134, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to allow my child/student to participate in the study.

Appendix G: Parent Form for Consent

Consent Form for Middle School Survey

After reading the information about the research project, please give your consent by filling in the information below.

Date of consent:

Month, day, year

Please provide the PARENT NAME if you agree for your child to participate.

Short answer text

Please provide the CHILD NAME if you agree for your child to participate.

Short answer text

I am giving consent for my child to take the survey

- Yes
- No

My child's email to use is:

Short answer text

Appendix H: Student Survey

Removed for Copyright purposes

Appendix I: Teacher Instruction Sheet

Staff,

You are being asked to proctor a quick survey to selected students as part of a research project through Liberty University and facilitated by Alissa Richards, the researcher. The research is to determine if there is a relationship between students who participate in physical sports activities and their perceived levels of self-efficacy.

The parents were emailed a permission slip from your principal. If the parent agreed to the survey, they indicated "yes" and provided an email for their child. I then sent an email to the child's email. In the email is a quick survey link that they will click open and take. It was approved and supported by your building principal as well as [redacted] the students to be able to quickly take this survey at school using a device available to them.

The survey is 37 questions long and should take less than 30 minutes. If students ask, explain to them that this is completely anonymous and that it is important for them to be honest. No one will be able to connect who the answers belong to as the questionnaire does not ask for their names. Once they finish, they may show you they are complete. Please give them a ticket (provided to you). Have them write their name on the ticket and collect all tickets. At the end, please give the tickets to your head secretary. I will be drawing one name per school and awarding a $25.00 gift card to the student whose ticket was drawn.

Thank you for your time in supporting this project. If you have any questions or concerns, please contact the researcher:

Alissa Richards

502-930-6472

Appendix J: Informational FAQ for Teachers administering Survey

FAQ

1. Who can take this survey?

Students who parents indicated permission through an email consent will be sent the link. They must be seventh or eighth grade students.

2. Do their parents know about the survey?

Yes. They were asked to consent to a permission email that explained the research and explained there are no risks involved.

3. Will their information be shared?

No. The information gathered is completely anonymous. No identifying information is collected within the survey.

4. What if the student gets stuck and needs help? Can I help?

Yes. You can read the survey aloud and let the student select the correct answers. You can also explain the ratings of the Likert scale.

5. If the student does not finish, should they be given the time to complete the survey?

Please. If possible, allow the student to complete the survey so that the information gathered is valid.

6. Is there any gain or harm to the student taking the survey?

For every student who shows they have completed the survey will be entered to win a $25 gift card. There is no harm in this survey in any capacity.

7. If I have questions, who do I contact?

Alissa Richards at 502-930-6274 or alissajrichards@gmail.com

Appendix K: Student Email and Assent with link

Dear Student,

I am Alissa Richards and your family agreed to let you take a short survey on your participation in Physical sports activities and your self-esteem. You are asked to take this because you are a student at [redacted] Middle School. The survey will be about how you view your success at school, how well you learn and how well you get along with others.

Just by being a part of this research study has given you a chance to win a $25 gift card. If you do not want to be a part of the research project, just hit reply to the email and you can decline. Your answers are completely confidential and no one will know how you answered.

The survey link is below. Please take a few minutes and click the link. You will be asked a series of questions. Answer them to the best of your ability. There are no wrong answers.

Thanks!

Alissa Richards

Educational Researcher

Please see Child Assent Below

The Liberty University Institutional
Review Board has approved
this document for use from
2/12/2018 to 2/11/2019
Protocol # 3141.021218

ASSENT OF CHILD TO PARTICIPATE IN A RESEARCH STUDY

What is the name of the study and who is doing the study?
The study is about how participation in sports relates to how middle school students feel about themselves. Alissa Richards is the researcher and she is doing this project to finish the next step in her degree.

Why are we doing this study?
We are interested in studying to see if there is a relationship between participation in sports and how kids feel about themselves.

Why are we asking you to be in this study?
You are being asked to be in this research study because you are middle school student in Oldham County. You may or may not have joined a sport.

If you agree, what will happen?
If you are in this study you will take a short survey. The survey will ask you if you have participated in sports and some general questions about how you feel about yourself.

Do you have to be in this study?
No, you do not have to be in this study. If you want to be in this study, then tell the researcher. If you don't want to, it's OK to say no. The researcher will not be angry. You can say yes now and change your mind later. It's up to you.

Do you have any questions?
You can ask questions any time. You can ask now. You can ask later. You can talk to the researcher at her email- alissajrichards@gmail.com. If you do not understand something, please ask the researcher to explain it to you again.

Completing the survey means you want to be in this study.

Alissa Richards, alissajrichards@gmail.com, 502-930-6274
Chair- Dr. Jones, ajones17@liberty.edu, 256-710-2907

Liberty University Institutional Review Board,
1971 University Blvd, Green Hall 1887, Lynchburg, VA 24515
or email at irb@liberty.edu.