THE EFFECTS OF SPORTS PARTICIPATION ON ACADEMIC ACHIEVEMENT FOR SEVENTH-GRADERS IN URBAN PENNSYLVANIA

by

Jeffrey Steven White

Liberty University

A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

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ABSTRACT

This quantitative, causal-comparative study was designed to investigate the effect of students' participation in middle school interscholastic sports on their academic success among urban middle school students. The body of knowledge about the effect of participating in sports on academic achievement is comprehensive at the high school and college levels, but limited research has been done regarding sports participation among middle school students. The participants for this study were drawn from a convenience sample of 366 seventh-grade middle school students in eastern Pennsylvania during the 2018-2019 school year; stratified random sampling was also used to create groups with equal male and female participants. There were 108 student scores used for each research question. The independent variable for both research questions was students' participation in interscholastic sports programs. The dependent variable for both research questions was the students' scores on the Pennsylvania System of School Assessment for reading and mathematics. The data were archival as student scores on the Pennsylvania System of School Assessment were from the 2018-2019 school year. Differences between the two groups were examined by conducting two independent sample *t* tests. The researcher was unable to reject the null hypotheses for RQ1 and RQ2 and concluded that there was no significant difference in academic achievement demonstrated on Reading and Mathematics PSSA scores between the two groups (i.e. athletes and non-athletes). Recommendations for further research on this topic are to include more participants from multiple schools, require a minimum amount of time for participation in a sport, and use course grades to determine academic success.

Keywords: urban, middle school, academic achievement, athletics, causal-comparative

Copyright Page

Dedication

I dedicate this dissertation to my wife, Hollyann. I am truly grateful for your love, support, and patience throughout this journey. It has been a long road, but you cheered me on through it all! I want nothing more than to be the best for you.

Acknowledgments

First, I am thankful for the Lord. Without His guidance and blessings, this experience would not have been possible. This doctoral journey has shown me that that I can do all things through Christ who strengthens me.

It is also important for me to acknowledge my mom. She has provided me the path to be where I am today. Without her, this doctoral journey would not have been possible. She may not know this, but she has been the motivation I used to complete this journey. My goal has always been to make her proud! She deserves this degree just as much as I do! We did it, mom!

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List of Abbreviations

Grade Point Average (GPA)

Institutional Review Board (IRB)

Pennsylvania System of School Assessment (PSSA)

Statistical Product and Service Solution (SPSS)

CHAPTER ONE: INTRODUCTION

Overview

Researchers have spent significant effort investigating the impact of participating in athletics on students' academic success, but only at the high school (Qurban et al., 2018) or collegiate levels (Muñoz -Bullon et al., 2017). There is minimal research investigating the effect at the middle school/junior high level, most notably at the seventh-grade level. There is a research gap with respect to the effect of participating in interscholastic athletics on the academic outcomes of seventh-grade students. This study addresses that gap. Chapter 1 introduces the foundational elements of the study.. The chapter includes background information on the relationship between academic achievement and athletic participation as well as presents the initial literature justifying the theoretical framework for this study. The next section includes the problem statement, including the research gap documented in the literature. Following that, the purpose of the study is presented, and finally the chapter concludes with the research questions and key definitions.

Background

The 2017-2018 school year saw record participation in high school sports, with over 7.9 million students being involved in one or more sports programs across the US ("High School Sports Participation," 2018). Contrary to certain cultural stereotypes, the literature indicates that students' physical activity often goes along with academic success in high school (Wretman, 2017). For example, high school students who engage in athletic programs reported that they receive higher grades than they would if they did not participate in sports, although this result was based on self-reported data (Wretman, 2017). Burns et al. (2020) found that student participation in one or more sports teams was one of the factors associated with academic

achievement. These results were not isolated; research has frequently revealed that participating in sports programs positively affects a student's academic performance (Alahmed et al., 2016; Schwartz et al., 2015; Wretman, 2017). These studies lay a foundation for the notion that student athletes benefit from athletic participation during their time in school.

One potential reason for this link between athletics and success may be that connectedness at school is key to academic success for some students. Athletics may provide this necessary connection to the school. Bang et al. (2020) found that high school athletes expressed more positive feelings toward their school experiences, for instance attachment. This included more personal student-teacher exchanges and more parent-school contact. Hence, athletics may represent a straightforward and easily accessible way to achieve a sense of belonging at school. By participating in interscholastic athletics, students develop relationships with their coaches, who often hold students accountable for their grades (Burns et al., 2020). Burns et al. (2020) concluded that participating in more than one sport during the school year had more positive effect on academic achievement than participating in just one sport, potentially because of the seasonality of individual sports participation.

When participating in multiple sports, the student is exposed to more coaches or role models (Quora, 2016). However, there are also studies that have determined sports participation negatively affects academic achievement (Bulten et al., 2018; Chen & Harklau, 2017; Schultz, 2017). There are multiple potential reasons why sports participation could be detrimental to academic performance. One reason is that schools have a certain amount of resources and dedicating these resources to athletics can detract from educational quality (Bowen & Greene, 2012). Similar detrimental effects on academic outcomes can also play out at the individual level as students have only a finite amount of time. For example, Schwartz et al. (2015) found that

students who dedicated large amounts of time to their athletic endeavors lacked time for studying or homework, causing their grades to decline. In addition, attempting to balance one or more demanding sports with a rigorous educational regimen may have negative effects on a person's development both as a student and as an athlete (Bulten et al., 2018). Bulten et al. (2018) explained this as the overscheduling hypothesis. This hypothesis is commonly used throughout the literature to explain the negative impact of sports participation (Chen & Harklau, 2017; Schultz, 2017).

Thus, there is a conflict in the literature. Some researchers have argued that sports participation benefits academics, perhaps through a sense of belonging (Bang et al., 2020). Other researchers have suggested that time spent on athletics may take away from the time spent on academics (Chen & Harklau, 2017; Schultz, 2017). These contrasting results are indicative of a research gap as it relates to the effect of athletic participation on academic outcomes for student athletes.

In particular, the effects participating in athletics n the academic achievements of urban seventh-grade students has not been adequately addressed in the literature. According to Schwartz et al. (2015), urban students may experience a decline in academic outcomes after they transition to middle school at around the seventh-grade level, as many schools define middle school/junior high as grade seven to grade nine. However, they found that even in this transitional period, urban youths who participated in community or athletic settings had higher grade point averages (GPAs; Schwartz et al., 2015). Students in urban school districts, specifically those in Pennsylvania, are particularly at risk. Pennsylvania has a high school graduation rate of 86% statewide; however, the urban areas within the state are below this (Cineas, 2015). Numbers from 2019 indicate that this statewide graduation rate has remained

stable, after improving from 82% in 2011 (Atwell et al., 2019). However, the five largest metropolitan cities in Pennsylvania all had high school graduation rates lower than 70% (Cineas, 2015). These graduation rates can be supported by specific figures from the most recent academic years; the Philadelphia School District reported that their graduation rate is 66% (Philadelphia School District, 2020), and the Harrisburg School District, which is currently under state control, had a graduation rate of 59% (Harrisburg School District. 2020). These graduation rates are low, and further inquiry is necessary to determine how to improve high school graduation rates among urban students. One way of so doing may be to improve academic outcomes earlier, starting in middle school.

Another aspect of the difficulties facing urban schools is that the student populations within urban school districts are transient. These students are continually moving from school to school and never feel that sense of "home" within their classrooms. Cineas (2015) explained that schools must attempt to engage their students within their school community. Parents of these students must get involved and push their children to participate in their school community. Dyer et al. (2017) found that sports participation positively affected academic achievement when a parent of the student had at least some college education when compared to students with parents that have no college experience. According to Schwartz et al. (2015), structured extracurricular participation may help urban youth navigate transitions and schoolwork in the middle years of their education.

Analyses of sports participation's effect on academics have been a perennial issue in the literature, with such research appearing back as far as the 1970s. O'Donnell et al. (1973) investigated the influence of athletics as a reinforcement for academic achievement and found that student athletes saw gains of 0.5 to 1.2 grade levels of achievement compared to non-

athletes. O'Donnell et al.'s study was one of the first that linked sports and academics, and this prompted further research in subsequent years. Holland and Andre (1987) also investigated the impact of participation in sports programs on academic outcomes as they were interested in how adolescent development is aided by extracurricular activities, and found correlational evidence for some benefits of extracurricular activities. At that time, the studies in this area were limited and varied greatly. The early stages of the research often included only high school students (Holland & Andre, 1987). This study will expand on past literature by focusing on urban seventh-grade students.

Participation in sports programs and other forms of physical activity have been linked to many physical and psychosocial health benefits for youth (Coatsworth & Conroy, 2007). Research within the last decade has become more detailed in how the participation in interscholastic sports affects academic success. Bowen and Greene (2012) found that students could learn self-discipline and delayed gratification by participating in athletics. In the past, researchers wanted to determine the effects of sports participation on academic success. Current research shows that there is a positive relationship (Schwartz et al., 2015; Wretman, 2017), but now researchers are interested in determining what sports do to promote academic achievement (Bang et al., 2020).

Thus, while it is not conclusive that sports boost academic achievement, there has been a paradigm shift in recent years, away from the question of "if" and toward the question of "how." Whitley et al. (2018) explained that previous research demonstrates a potential for athletics to influence youth positively. Sports can help students develop important characteristics such as responsibility, work ethic, and time management (Whitley et al., 2018). The literature involving interscholastic sports participation effects on academic achievement has changed in focus over

time, and especially within the past half-decade from 2015-2020. However, this study helps contribute to the literature by focusing on urban seventh-grade school students.

Throughout the literature on this topic, there is a common foundation on which the studies have been built: the majority of researchers who investigated the relationship between participation in interscholastic athletics and academic achievement include high school and college students, and they used students' GPAs to proxy academic success. Dyer et al. (2017) and Schultz (2017) both conducted studies investigating how the academics of student athletes are affected by sports participation. The students' GPAs were used to determine academic success. This current study is similar to previous studies in that the effects of participation in interscholastic sports on academic success was examined. However, and unlike prior studies, the focus of this study was seventh-grade students who attended an urban school district and state standardized test scores in math and reading were used to proxy academic achievement.

Social capital theory and social learning theory were selected to create the theoretical foundation of this investigation. Social capital theory (SCT) is an essential foundational theory in research related to how academic achievement is affected by participating in sports programs. The basic concept of social capital is the benefits from social ties and interactions in a community (Daoud et al., 2017). Since participation in interscholastic sports could provide the interactions and ties within the community, interscholastic sports participation would be a source of social capital (Schüttoff et al., 2018). Vorhaus (2014) indicated the social ties will positively affect academic achievement. The act of physically playing the game in a team sport is not what will help a student grow academically, but rather the team-oriented aspects of most high school sports (Maslen, 2015).

Participation in interscholastic, team-based sports can be a place where students learn social norms, and these social norms must include the importance of academic achievement (Vorhaus, 2014). Norms come about as a means to reduce negative external effects or promote positive effects (Vorhaus, 2014). Vorhaus (2014) found that success within the context of school depended on unobstructed opportunities for building effective relationships with "institutional agents" across important social spheres. The social structure of a sports team should be used to the advantage of educators when attempting to educate their students. A school-based sports team has the opportunity to create a strong bond within the group, and this bond could be the piece needed to bring like-minded individuals together to focus on academics (Vaughan et al., 2015; Vorhaus, 2014). Establishing connections within social groups in this fashion is critically important in academic achievement as these connections provide support for the individuals involved (Vaughan et al., 2015). The social capital gained from participation in school-based team sports is essential in understanding how sports can benefit students inside the classroom as shown by the social connection opportunities team-based sports provide (Van Boekel et al., 2016). If this is the case, then urban, low-income students (the focus of this study) could benefit from participating in team-based sports.

Social learning theory is the present study's second theoretical basis. Bandura (1977) theorized that people learn from one another. Students' participation in team-based sports provides an opportunity for students to observe others. When a student is succeeding academically and athletically, others have the chance to see what that person is doing to be successful. A family can provide only so much in regard to modeling appropriate behavior; therefore, school and society are influential in a child's development (Hampden-Thompson & Galindo, 2017). People, processes, and institutions all affect the development of a human being

(Hampden-Thompson, 2017). Thus, social capital theory and social learning theory frame this study as these theories help explain how sports can create opportunities for success inside the classroom. Vaughan et al. (2015) found that a close social circle with friends and family allowed for support and reinforcement of identity. The proper environment and social experiences are the components of participation in interscholastic, team-based sports that can benefit a student academically (Van Boekel et al., 2016).

Student success in the classroom should be of great concern for every school district. Urban, low-income students often struggle to succeed academically, and there is often a lack of answers as to what should be done to help them succeed. Graduation rates for urban high school students are low. For example, in 2020, the School District of Philadelphia had a graduation rate of 66%, and the Harrisburg School District had a graduation rate of 59% (Philadelphia School District, 2020). Increasing the graduation rate within these communities is important. The literature has shown that a relationship between participating in interscholastic sports and achieving academic success for high school students exists (Dyer et al., 2017; Wretman, 2017). Whether this relationship is positive or negative is a matter of contention.

Regardless, athletic participation provides social opportunities that can benefit student athletes inside of the classroom. Athletics contribute to academics through formation of social capital, which can be seen as more parental and community support (Bowen & Greene, 2012). All too often, urban students lack other sources of this sense of community, and when they do have it, they find it in the wrong places. Team interscholastic sports provide an opportunity to structure students' leisure time and sharpen time management skills (Chen & Harklau, 2017). Students may benefit, as shown by academic achievement, from athletics at the high school level

(Dyer et al., 2017), so it is important to determine if students at younger grade levels also benefit from athletics.

Problem Statement

Enrollment in student athletics was at an all-time high during the 2017-2018 academic year ("High School Sports Participation," 2018), and student athletics remain a popular activity among students of all grade levels (Oberle et al., 2019), including at struggling urban schools (Gill et al., 2019). However, there are conflicting results in the literature with regard to whether participation in team interscholastic sports helps students succeed academically through community building and teaching teamwork (Burns et al., 2020; Dyer et al., 2017) or hinders academic success by distracting students from their studies (Bulten et al., 2018) and competing for resources (Schultz, 2017). Researchers have typically investigated the nexus between athletics and academics in the high school (Qurban et al., 2018) or collegiate contexts (Muñoz-Bullon et al., 2017). However, the middle school years, such as seventh grade, are a key transitional period (Jones & Kahn, 2017) that is also highly predictive of students' success throughout their academic careers (McKee & Caldarella, 2016). Therefore, there is a need to further research the question of how student athletes' academic outcomes differ from those of non-athletes at a wider array of grade levels (Guo et al., 2019). Such research should include a more diverse sample of students than prior research (Wretman, 2017), and also draw upon a larger sample size (Chen & Harklau, 2017). Therefore, the problem is that the literature has not addressed how participation in team-based interscholastic sports affects students' academic success at the seventh-grade level.

Purpose Statement

This quantitative, causal-comparative study sought to investigate the effect of interscholastic sports participation on academic success for urban seventh-grade students. The literature regarding athletic participation's effect on academics focuses on high school and college populations and focuses on how athletic participation will affect a high school or college student's GPA (Burns et al., 2020; Bulten et al., 2018; Dyer et al., 2017). To increase the body of knowledge, the researcher investigated the differences in academic performance (measured by standardized test scores) for seventh-grade student interscholastic athletes against those who do not engage in sports. Participation in an interscholastic sport was the independent variable for the two research questions in this study. The dependent variable was the students' score on the Pennsylvania System of School Assessment (PSSA) mathematics and reading tests. The population included seventh-grade, female and male students from an urban middle school in eastern Pennsylvania.

Significance of the Study

Researchers have explored the ways that participating in sports affects academic achievement at the high school and college level. However, the literature has neglected middle school students as well as an urban population. Wretman (2017) called for further research on the how sports participation affects academic achievement using a more diverse sample of students than the majority Caucasian sample used in his study. This study utilized previous studies as a foundation for this research. Chen and Harklau (2017) conducted a case study in which they followed the life of a teenage student and documented the effect athletics had on his academics. They concluded that the requirements associated with participating in multiple sports had a negative effect on his academics, prompting the question of whether this holds more broadly.

The current study investigated whether there are differences in academic success between students who participate in sports and those who don't using a much larger sample size than did Chen and Harklau (2017) to address effect of student athletics on academic achievement. More broadly, there is a conflict in the literature between the results of studies that indicate athletic participation helps academic success (Scwartz et al., 2015; Wretman, 2017) and those which indicate that athletic participation hinders academic success (e.g. McCreary et al., 2019). The present study can contribute to addressing this conflict by investigating the effects of athletic participation for seventh-grade urban students.

Middle school years, including seventh grade, are critically important in a student's educational journey. Students' course performance in middle school is a strong predictive factor of their future educational attainment (Schwartz et al., 2015). This study added to the literature because it includes urban middle school students who are at a critical point in their education; middle school is an important time for social-emotional and character development (Jones & Kahn, 2017). The time spent participating in team sports is an opportunity for middle school students to gain the social skills that will be beneficial inside the classroom. This study provides critical information for urban school districts to determine the importance of promoting athletics as well as prioritizing athletics within their schools. Urban students are struggling and often perform worse on standardized tests or fail to meet grade level performance standards (Steinberg & MacDonald, 2019). Information gained from this study can help others understand what resources are needed for these urban students and if interscholastic athletics can be beneficial or should be avoided.

Research Questions

Two research questions guide this study. The research questions are as follows:

RQ1: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Reading PSSA?

RQ2: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Mathematics PSSA?

Definitions

The following terms are critical to this study. For the reader to have a thorough understanding, definitions are provided below.

1. *Academic achievement* – For the purpose of this study, academic achievement are students' scores on the Pennsylvania Systems of School Assessment (PSSA), a state-mandated test that every Pennsylvania student in Grades 3 through 8 takes (Pennsylvania Department of Education, n.d.a).
2. *Sports participation* – Participation in one or more team-based interscholastic sports that is under the governance of a statewide athletic association (Fenzel & Richardson, 2018).
3. *Student-athlete* – A student-athlete is defined as a student who participates in any organized sport within the educational institution in which they are enrolled (Chen & Harklau, 2017). The student athletes participate in a sport that is governed by a statewide athletic association.
4. *Urban* – Urban is defined as a metropolitan area that typically includes a highly diverse population. The majority of the people in an urban area generally are economically disadvantaged (Chen & Harklau, 2017).

CHAPTER TWO: LITERATURE REVIEW

Academic achievement and participation in athletics are linked extensively throughout the literature. However, urban middle school students have not been included in past studies. Chapter two commences with a description of the theoretical framework that is the foundation for this study. The social capital theory and social learning theory are explained to show how participation in sports is critical for the success of urban middle school students. Following this section is a synthesis of related literature. This section will detail the literature on how participation in athletics can influence the academic achievement of this population. The chapter concludes with a summary addressing what is previously known regarding the topic of interest as well as the gap addressed.

Theoretical Framework

Studies have shown the positive impact that participation in extracurricular activities and the academic achievement of students (Abruzzo et al., 2016; Billonid et al., 2020). Specific components of being an active participant in interscholastic athletics seem to be beneficial to students in regard to their academics. To help describe the specific components of a sport that are beneficial, the theoretical foundation for this study is provided. Two theories are used to build this foundation: social capital theory and social learning theory.

Social Capital Theory

Social capital is one of the most influential theoretical concepts from contemporary sociology (Singh & Koiri, 2016; Stanton-Salazar, 2011). Based on the tenets of social capital theory (SCT), social capital are the resources that are embedded in social relations (Rogošić & Baranović, 2016). Two sociologists were integral in the development of the theory: James Coleman and Pierre Bourdieu. Both Coleman (1988) and Bourdieu (1986) developed the idea of

social capital in the late 1980s. According to Rogošić and Baranović (2016), the two scholars' theories are related to different paradigms of social theory. Coleman's approach to the theory is rooted in structural functionalism whereas Bourdieu's approach incorporates parts of conflict theory. Despite these differences, however, both scholars and the numerous authors who followed their works focused on how investing in social relationships can help raise social capital, which can then influence the development of human capital as measured by educational achievement (Rogošić & Baranović, 2016). Rogošić and Baranović also noted that research in the area of educational sociology mostly relies on the framework put forward by Coleman, whose work allows for the analysis of relationships within the family, away from the family, and in social institutions under the single concept of social capital.

According to Coleman (1988), there are two primary streams for the explanation and description of social action. In the perspective of one stream, the actor can be seen as socialized, and the action as guided strictly by norms, obligations, and rules. From the perspective of the other stream, the actor can be seen as acting independently, as having goals that are arrived at independently and as altogether self-interested. Coleman then developed a theoretical direction in sociology that encompasses these two broad intellectual avenues in a manner that abides by the principle of purposive action and in conjunction with social contexts can explain the actions of people in specific situations for the progression of the social organization to which the individual belongs. His definition essentially states that individuals calculate and subsequently determine their actions based on the quality and quantity of their social relationships (Rogošić & Baranović, 2016).

Coleman (1988) argued that social capital is tied to function and an assortment of entities with two main components in common: they all are comprised of facets of social contexts and

they all promote actions within such structures. In contrast to human and physical capital, social capital is not fully interchangeable because one mode of social capital that is an asset in promoting certain actions may be useless or negatively affect others. Coleman further stated that contrary to other forms of capital, social capital exists within the arrangement of relationships experienced by actors, not within the actors or in the physical implementation of production (Coleman, 1988). He posited that social relations could stand in as capital resources for individuals, and he emphasized that specific kinds of social structures are notably important in promoting the development of a few forms of social capital. Coleman also stated that one effect of social capital that is notably influential is its effect on the formation of human capital among future generations. Social capital in the family and in community play a big part in the establishment of human capital from generation to generation (Coleman, 1988).

To further delineate between social capital and human capital, Coleman (1988) clarified that while children are often deeply affected by their parents' human capital, the human capital can be rendered inconsequential to children's varying developmental outcomes if parents are absent in the child's life or the parent's human capital is tied to work or places outside the home. Coleman emphasized how such social structures within the family can affect the educational outcomes of young people across various measures, including dropout rates, measures of achievement, and IQ scores. He went on to highlight how social capital that has meaning for the advancement of a child is not found only in the family; rather, it can be located in the social relationships that exist between the child and the individuals and institutions within the community to which the child belongs. This sort of social capital, the kind that can be measured on the level of educational institutions, involves a network of individuals who identify as members of particular organizations (Rogošić & Baranović, 2016). The more resources students

have within their family structure and outside social structures, the better they will be in their development and academic achievement. Coleman believed that a parent must put an effort into building a meaningful relationship with the child in order for the child to reap the benefits of social capital. Thus, the social context must be positive and the social organizations a child finds himself or herself in must promote positive ideas (Coleman, 1988).

Theorists who focus on social capital all seem to agree on the three functions of social capital. It is stated by Portes (1998) that the three basic purposes of social capital are (a) as a source of social control, (b) as a source of family support, and (c) as a source of benefits from networks outside of the family. Social capital as a source of social control means that authorities can maintain discipline and promote compliance (Portes, 1998). Portes added that bounded solidarity and enforceable trust that can render overt and formal controls unnecessary are a source of this type of social capital. Parents and teachers with social capital could serve to influence school behavior, and students with positive social capital around them will be directed to do what is needed to succeed in school (Portes, 1998).

Social capital can also serve as a source of family support (Portes, 1998). The more parental support a child has, the better that child will do academically. Families with two parents maintain more of this type of social capital than families with a single parent (Coleman, 1988; Portes, 1998). Portes noted that parental, intellectual, and other resources influence how family capital emerges that are useful in promoting positive results for children. The final, possibly most commonly observed, function of social capital is access to network-mediated resources beyond parents and siblings (Portes, 1998). A child will have a better chance of succeeding if he or she has more social structures that those of just within the family, and students are likely to benefit from having memberships in community networks (Portes, 1998). This third function ultimately

relates to the purpose of this current study. Student athletes are generally considered to experience stronger social networks and unique sense of community largely due to the frequency and intensity of their interactions with their coaching staff and teammates (Forbes-Mewett & Pape, 2019).

Multiple studies have focused on academic achievement, and it is common to see social capital as a contributing factor to achievement. Novak et al. (2018) explained that family support, trust, and cooperation among students positively affect the students' academic achievement, and the researchers specifically concentrated on the part played by social capital in academic achievement. These authors found that when there was more support, a child was able to achieve at higher levels. Parents, teachers, friends, and coaches are all examples of social support that allow a child to do better academically. Novak et al. noted the importance of these social structures for children, and they underscored the relationship between family social capital and academic achievement.

Students from urban environments lack the resources they need to be successful. Urban students often experience high dropout and low college enrollment rates (Chen, 2019). Students in urban settings are not as likely to graduate from high school compared to their suburban counterparts (Chen, 2019). Unwanted outcomes are especially common among urban young people because of high rates of economic poverty, immigration status, and/or limited accessibility of supportive services (Fenzel & Richardson, 2019). Scholars continue to work on conceptual and theoretical frameworks that can help explain social networks, socialization, and the educational attainment of youth, especially those from racial minorities and those from economically-disenfranchised urban communities (Chen, 2019; Stanton-Salazar, 2011). Stanton-Salazar (2011) emphasized the importance of such frameworks because they help express the

intricacies of socialization, network relations, and positive educational outcomes among minority students, including the various roles played by committed and resourceful socialization and institutional agents on empowering both the youth in focus and the agents, which include their parents, teachers, youth program personnel, and counselors.

Previous research in the area of academic achievement among urban youth also provides insight into the role of social capital. Fenzel and Richardson (2018) examined the effects of out-of-school activities on students' academic achievement. Fenzel and Richardson noted that initiatives like My Brother's Keeper and the Nativity Miguel model of urban middle level education created by the Nativity Mission Center continue to be developed as a means to enhance the social capital of disenfranchised and minority youth from urban schools. The Nativity Mission Center adopted programs to support students with counseling, tutoring, and after-school activities, which are staffed by Nativity Miguel school personnel. They found that out-of-school activities, including community service activities, sports and clubs, and summer enrichment programs, helped prepare urban young adolescents for later academic success and developed effective leadership skills. Activities outside the classroom helped students foster a greater sense of belonging and stronger bonds with their Nativity classmates. According to Fenzel and Richardson, the community is responsible for providing activities that can serve as safe spaces for children with opportunities to establish new skills, socially connect with others, and resist negative influences.

Researchers in the area of academic achievement have also emphasized the salience of social capital as a source of support (Chen & Harklau, 2017; Fenzel & Richardson, 2019). Fenzel and Richardson (2019) found that genuine care and mentoring helped urban children overcome academic challenges. Fenzel and Richardson also highlighted the importance of peer support and

brotherhood in improving the academic success, resilience, and agency of urban youth. They found that students were able to call on one another when they needed help or guidance. Having close friends is beneficial to young people because tight social networks can provide a connection to many resources (Vaughan et al., 2015). Vaughan et al. (2015) found that academic achievement was mediated by social networks, indicating that students who are around other like-minded individuals have a better chance at success.

Social structures within the school are important sources of social capital. Nelson (2016) found that social capital from school environments was influential for disadvantaged youth and that students benefitted from the additional social structures they develop within their school. Community social capital could occur as a result of participation in sports because sports allow for more social networks to be created (Nelson, 2016). Researchers found that school-aged students who have support from family, peers, and teachers have higher school achievement than students who receive support from none, one, or two of these sources (Novak et al., 2018). The current study has the opportunity to advance the idea that social capital gained from participation in interscholastic team-based sports plays a critical role in helping students improve academically. Based on these studies, social capital is an important component of this study as middle school students are at a stage in life where they need to build their social and academic capital.

Social Learning Theory

Social learning theory (SLT) is another theory that contributes to the theoretical foundation of this present study. Bandura developed SLT in the 1970s (Ata, 2018). Ata (2018) referred to SLT as learning theory by observation as people learning by observing other people. Bandura (1977) posited that if children are to learn a behavior, they must observe others display

the behavior. By observing the behaviors of other people, children learn what to do or not to do, how to use their environment, and how to use objects. Bandura centered human behavior in the context of continuous interactions between others that form the behavioral, cognitive, and environmental influences surrounding the child (Qurban et al., 2018). Proponents of SLT believe that children acquire behaviors by observing the behaviors and learning experiences of those who are socially important to them, most notably their parents (Qurban et al., 2018). Bandura placed importance on the interactions between the model and the observer, which further emphasizes the importance of exemplary behaviors of teachers and leaders in school environments as these interactions increase (Ata, 2018).

Bandura (1977) identified and described four mediational processes in SLT: attention, retention, reproduction, and motivation. The attention process pertains to how individuals pay attention to and imitates behaviors based on the degree to which they are exposed to the behaviors of influential models, including their mother, father, teacher, or role models of similar age and gender (Ata, 2018). The retention process pertains to how individuals recall the behaviors they learn through imitation and observation (Ata, 2018). The reproduction process pertains to how observers take their memories of learned and observed behaviors and apply them as part of their own behaviors (Bandura, 1977). The motivational process attributes to the degree to which individuals are willing to put forth effort to reproduce the behavior and to persevere in the face of challenges (Ata, 2018). The motivational process, which is based on punishment and reinforcement, involves the components that are crucial for observational learning to occur (Peña, 2013). Peña (2013) found that individuals are most likely to take up modeled behavior if they valued the results of behavior more than the negative effects of the behavior.

Cultural behavior patterns, including academic behaviors, are transmitted and regulated through social systems at different stages of development in a human's life (Peña, 2013). Peña (2013) used Bandura's SLT to frame their study on the academic achievement to offer insight to how self-regulatory behavior and motivational factors can affect individuals' behavior. He found observing and imitating the appropriate models benefitted students. Peña noted that parents are often the first people from whom children learn through observation, and they are the individuals who initiate future aspirations for children. Children eventually gain other people in their lives whose behaviors they will model. Peers and teachers are usually next in children's lives to model behaviors. Peña concluded that parents, teachers, and peers contributed to the gradual development of the behaviors students needed to achieve academic success, including motivation, preparedness, and resiliency.

Prior researchers used SLT to investigate student athletes' behaviors at the middle- and high-school levels (Bali, 2015; Fraser-Thomas et al., 2005). Fraser-Thomas et al. (2005) found that coaches play an integral part in children's lives and that children who look up to their coach have the motivation to imitate his or her actions. Sports coaches can and should encourage the behaviors student athletes need to be successful in life (Fraser-Thomas et al., 2005; Wiium & Säfvenbom, 2019). Sports participation provides moments for children to develop and learn social skills (Fraser-Thomas et al., 2005). Teammates, coaches, and opponents are some of the people from whom children learn through their participation in sports. Children must be given the opportunities to be social; however, to achieve success, children need the right people in their lives, including supportive family members, mentors, and motivating peers (Peña, 2013; Wiium & Säfvenbom, 2019). Sports provide a healthy environment where children can learn from people who model appropriate behaviors (Fraser-Thomas et al., 2005).

SLT incorporated concepts of self-regulation, which is the process through which individuals adapt behaviors by observing their own behaviors and comparing them with their criterion of acceptable or unacceptable behavior (Arslantas & Kurnaz, 2017). Bandura (1977) argued that behaviors adopted by humans were not controlled by external rewards or punishments; rather, people self-regulated their own behavior. In self-regulation, learners engage in dynamic and constructive practices in which learners create their own learning goals and govern their motivation, behaviors, and cognition based on their own goals and the contextual features of their environments (Arslantas & Kurnaz, 2017). Bandura highlighted three leading components of self-regulative mechanisms: (a) self-observation, which is a process in which learners observe their own behaviors, its causes, and its effects; (b) individuals' appraisal of their behavior in relation to their own standards and environment context, and (c) effective self-reaction (Ozhiganova, 2018).

This study is framed by SLT. The student athletes in this study have the opportunity to observe and model the behaviors of coaches and teammates within their social circles and the opportunity to socialize with outside the classroom setting. Deaton (2015) explained that for social learning to take place, students must be placed in interactive environments. Gymnasiums, soccer fields, football fields, and baseball fields are interactive environments wherein student athletes have opportunities for social learning (Qurban et al., 2018). Children are social beings, and through their participation in sports, they have another social network. Given their proximal influence in the classroom, adults and coaches must exhibit exemplary behaviors to encourage student athletes to increase their academic achievement (Qurban et al., 2018).

As student athletes aim to retain membership in the school's sports team, they are motivated to model the behaviors of positive role models (Qurban et al., 2018); however, they do

not adapt all observed behaviors (Deaton, 2015). The four components of social learning theory must be present for children to model the observed behaviors (Bandura, 1977). Thus, SCT and SLT are the theoretical foundations for this study. These theories are the theoretical lenses for investigating the effect of participating in middle school interscholastic team-based sports on the academic success of urban middle school students.

Related Literature

Most academic facilities' ultimate goals are to graduate well-rounded students (Chrabaszcz et al., 2018). Academics are the primary focus of educational institutions; however, extracurricular activities play an important role in shaping students into well-rounded individuals (Billonid et al., 2020). Young people are engaged in various contexts, including their home, communities, neighborhoods, peer groups, and their schools, which shape their motivations, values, behaviors, competencies, and their valuations of themselves and the world (Im et al., 2016). Im et al. (2016) found that extracurricular settings were important contexts for the development of youth, and their transactions within these settings, including collaborating with adult leaders and peers, observance of routines and rules, performance goal-setting and monitoring, and management of challenges, are considered to be proximal drivers of development. However, different types of activities offer different experiences that may then account for differential effects on students (Im et al., 2016).

Sports participation is one form of extracurricular activity that provides students with opportunities for after-school physical activity, personal enjoyment, and the development of prosocial behaviors and a stronger sense of social support, which they may receive from coaches or their peers (Burns et al., 2020). The influence of athletic participation one students' academic achievement has been a topic of discussion for decades (Abieraba et al., 2019). Popular

stereotypes suggest that one is either academically inclined or athletically inclined, but rarely both (Billonid et al., 2020). Critics of school-based sports assert that athletic participation takes time away from the classroom and that students who put their energies into sporting endeavors are less likely to pursue academic goals (Abieraba et al., 2019); conversely, proponents of school-based sports argue that participating in athletics can improve students' academic achievement and motivation and raise their overall commitment to and engagement in school (Abieraba et al., 2019). Athletic participation has also been shown to positively impact students' physical health and psychological well-being (Zarrett et al., 2018).

Although the association between physical activity and academic achievement are well-researched, the body of research targeting the more specific associations between athletic participation and academic achievement is less comprehensive and requires further research (Burns et al., 2020). Furthermore, the existing research on the links between athletic participation and academic achievement predominantly focus on student athletes at the collegiate or high school levels (Guo & Meyerhoefer, 2016). According to Guo and Meyerhoefer (2016), the human capital aggregation in high school and in early adulthood are expanded on by the experiences encountered in middle school. There is evidence that participation in sports in middle school has an impact on the intellectual development and growth of students. The NCAA found that few student athletes become professional athletes after finishing their education; therefore, it is crucial for students to succeed academically as it is a signal of their human capital (Insler & Karam, 2019).

Furthermore, school-level factors, including ethnic composition and prevalent socioeconomic status may moderate the effect of extracurricular participation; therefore, further research should focus on particular school and activity contexts (Im et al., 2016). It is important

to design policies and interventions that will be effective for all children and youth regardless of their geographical setting (Jones & Kahn, 2017). Therefore, the problem that this study addresses is that the literature has not addressed how participation in team-based interscholastic sports can affect the academic success of urban middle school students. The purpose of this quantitative, causal-comparative study is to investigate the effect of participation in middle school interscholastic team-based sports on the academic success of middle school students in an urban area.

To conduct this literature review, I used the following databases: Google Scholar, Taylor & Francis Online, JSTOR: Journal Storage, Springer Link, and ResearchGate. The key search terms I used for this review were as follows: academic achievement, athletic participation, educational climate, extracurricular activities, middle school, sports participation, student athletes, team-based sports United States, and urban schools. Literature on the theoretical framework for this study, which comprises social capital theory and social learning theory, were also gathered. Most of the research studies were published between 2017 and 2020 to help ensure that the findings are still applicable to the current state of academic achievement and athletic participation within academic institutions. However, I also included historical studies to provide conceptual and historical foundations to the review as well as seminal works that I needed to provide information regarding the theoretical framework.

The literature lacks consensus of the influence of sports participation on students' academic achievement. Researchers found a positive relationship between participating in sports and academics (Abruzzo, et al., 2016; Wretman, 2017) while others found there was either no relationship or a negative relationship between participation in athletics and academic success (Qurban et al., 2018; Schultz, 2017). In the related literature section of this dissertation, I discuss

the findings of studies on the relationship between extracurricular activities and academic successt, the state of athletic participation among American schools, with a focus on participation in athletics at the middle school level. I also analyze the positive and negative effects of athletic participation on academic outcomes. Next, I discuss the specific nature of team-based sports and how they influence academic achievement. This section additionally includes a summary of the common research methods and instruments researchers use to investigate the effect of athletic participation on students' academic achievement. A short analysis of differences in educational settings and their effect on the topic of interest is also be included. This literature review concludes with an analysis of research gaps and a summary.

Extracurricular Activities and Academic Achievement

Extracurricular activity participation is one of several factors that affect academic achievement. Academics are considered to be the primary focus of the school environment; however, extracurricular activities are found to play a role in molding well-rounded individuals (Billonid et al., 2020). Extracurricular activities are essential components of modern-day academic curriculums, and students are encouraged to participate in games, cultural activities, and sports as a way to develop their attitudes, knowledge, and skills (Ahmad et al., 2019). It is possible that the amount a student participates in extra-curricular activities may be a good indicator of their academic successes (Cleofas, 2020; Im et al., 2016). The overall involvement of students with school activities may have a positive relationship with the social and emotional learning of students from diverse backgrounds, which can positively influence their success in both school and life (Cleofas, 2020).

Students benefit by participating in extracurricular activities. Research has focused on how positive relationships that exist between extracurricular activity and cognitive, social, and

psychological outcomes among children and adolescents (Carbonaro & Maloney, 2019; Oberle et al., 2019). Diverse extracurricular activities, including sports, clubs, and music facilitate high-quality peer interactions, which then help students develop prosocial friendships that are ultimately beneficial in increasing their commitment in school (Im et al., 2016). In the context of college students, Ahmad et al. (2019) investigated the relationship between students' extracurricular activity participation within college campuses and their academic achievement. They collected and analyzed data from a total of 475 students. The collected data comprised different professional examination results, gender, and participation or nonparticipation in extracurricular activities. Ahmad et al. found extracurricular activities generally were beneficial for students in terms of earning higher results on their professional examinations, higher standardized test scores, higher self-concept, and educational attainment. Ahmad et al. noted that involvement in college club activities improved skills like teamwork and leadership and decreased the likelihood of problematic behavior.

Despite the comprehensive body of research establishing a link between students' extracurricular activity participation and their academics at the high school and college levels, there are few studies that have investigated the topic at the middle school level. Middle school years are critical to the continuing academic success of students (Oberle et al., 2019). The transitions that occur during those years often bring a larger and more complex peer ecology to it, less support from teachers, and a departmentalized curriculum. Those challenges are often associated with lower engagement during the middle school years (Im et al., 2016). Based on the bioecological model of development, individuals' transactions within particular contexts over time are the proximal drivers of human development (Im et al., 2016). Im et al. (2016) posited that certain transactions within the context of extracurricular activities may affect developmental

processes differently depending on the individual's characteristics, the contexts' characteristics, and the timing of the experiences depending on the person's age and the frequency and duration of the experiences. Oberle et al. (2019) found that children established participation patterns during their middle childhood years, and understanding how stakeholders could use extracurricular activity programs to foster children's development was important.

Among urban youth, out-of-school programs are considered to be important sources of positive social development and academic achievement (Fenzel & Richardson, 2018). Fenzel and Richardson (2018) found that after-school care participation often culminated in greater parental involvement in schools and increased academic achievement as evidenced by high homework completion rates. They further noted that extracurricular activities and out-of-school events provided urban youth with opportunities to strengthen their bonds and encourage a school-oriented peer culture. After-school programs, including sports, also promote self-discipline and counteract young people's tendency to enlist in risky behaviors. Students from urban who are not engaged in extracurricular activities are 57% more likely to drop out of school by their senior year in high school (Garcia & Subia, 2019).

Various types of extracurricular activities may also have distinct effects on students. Im et al. (2016) found that different types of activities, such as sports versus arts or music, may offer different experiences and thus account for differential effects on the development of students. In addition, Balaguer et al. (2020) found that the effect of extracurricular activities on students' academic achievement varied according to age, sex, and parent educational level. They also noted that some extracurricular activities could relate negatively to academic achievement when compared to others. For instance, they highlighted that sports-related activities were often found to relate with lower academic achievement than other types of extracurricular activities. With

sports' status as the most desirable extracurricular among citizens of the United States (Zarrett et al., 2018), understanding how they influence the academic achievement of students, especially during their formative middle school years, is paramount (Oberle et al., 2019).

Youth Sports in American Culture

Youth sports are physical activity opportunities for children and adolescents (Howie et al., 2020). Youth sports in American culture includes any athletic program that provides a methodical progression of practices competitions for young people. These sports experiences can vary greatly in level, cost, skill levels of the athletes, and the qualifications of the officials and coaches (Seefeldt et al., 1993). According to Seefeldt et al. (1993), sports programs for young people in the United States have been divided into six main categories: (a) agency-sponsored programs, (b) club sports, (c) national youth service organizations, (d) recreation programs, (e) intramural programs, and (f) interscholastic programs. Interscholastic athletic programs pertain to organized interschool sports participation for boys and girls at the middle, junior, and senior high school levels.

Howie et al. (2020) found through a study of 38 countries across the globe that approximately half of children participate in some form of organized youth sport; however, this figure varies from country to country (Howie et al., 2020). Howie et al. (2020) noted that various elements from multiple levels affect the access, quality, and outcomes of youth sports participation. They added that research on the relationship between physical activity and sports in both children and adults have generally focused on intrapersonal factors, including biological, demographic, behavioral, and psychosocial variables. However, they also emphasized that as an inherently social experience, youth sport participation is likely to also be influenced by interpersonal factors or social factors, which include teachers, family, friends, and or any other

influencing agents. They highlighted that in the context of youth sports, one of the most obvious social agents is the coach. Howie et al. (2020) highlighted that in order to maximize the physical and psychosocial benefits of an evidence-based and positive sporting experience, it is important to investigate social influences on youth sport participation.

Interscholastic athletic participation in the United States was often repudiated during the late 19th century as it was presumed to negatively impact students' academics. Thus, the introduction of sports in American high schools triggered debate (Zayas, 2018). According to Zayas (2018), opposition to interscholastic sports was prominent from 1880 to 1896 as educational leaders emphasized the importance of traditional educational curriculum and rejecting the importance of extracurricular programs. Leaders then started to appreciate the value of extracurricular programs in the early 20th century as part of the overall educational program (Fraunce, 1960). G. Stanley Hall, who founded The American Journal of Psychology in 1887, argued that in order to improve retention of male students in particular, schools needed to provide social experiences that could help students improve their leadership skills. Following Hall's recommendations, educators started establishing interscholastic athletic programs as a instrument to promote school attendence among male youth (Tyack & Hansot, 1992). School-sponsored sports then became a trademark of the United States public education system during the Progressive Era, when large, urban, public school sports leagues like the Public Schools Athletic League were established (Bowen & Hitt, 2016).

Researchers using qualitative interviews and surveys found that the most common factors that children reported for participating in youth sports were related to their relationships with their family and peers (Howie et al., 2020). Howie et al. (2020) concluded that while family, siblings, and community relationships were strong motivators for children to join youth sports

programs, their relationships with their peers were the most important factor for their continued participation. They also accentuated the influence of teammates on the sporting experience of young people. Howie et al. highlighted that in order for the sporting experience to encourage prosocial behavior, organizers must develop systematic evaluation and valid interventions to ensure that teammates are positively influencing each other through positive socialization and other quality after-school activities.

The value of interscholastic athletics to the American educational system has continued to strengthen. The brands of many institutions, educational or otherwise, have become closely connected to the success of the athletes who represent them. For educational institutions in particular, it is consequently related to the recruitment, enrollment, retention, and graduation of student athletes (Brecht & Burnett, 2019). According to Howie et al. (2020), the youth sport industry in the United States is estimated to be a $15 billion industry. According to the National Federation of High Schools (NFHS) (2018), the 7,980,886 students across the United States participated in high school sports during the 2017-18 scholastic year. They emphasized the historically steady increase of participation in various male and female sports programs, which showed an annual growth for a record-breaking 29th year upon the release of the report.

During the 2018-19 scholastic year, the rate of participation in high school sports declined for the first time in 30 years, with 7,937,491 students across the United States participating in high school sports (NFHS, 2019). Karissa Niehoff, NFHS executive director, stressed the importance of involving students in sports programs related to athletics and performing arts. In its 2019 report, NFHS (2019) found that the participation rates in football and basketball contributed to the overall drop in high school sports participation, with football participation rates declining by 30,829 participants, which was the lowest mark since the 1999-

2000 scholastic year. Wretman (2017) found that rates of children's total and school-based physical activity are on the decline, with multiple schools reducing the opportunities for physical activity for students in recent years. He surmised that it may be due to schools' increased focus on core academic areas, including math and reading, as a result of legislation like the No Child Left Behind Act.

However, Wretman (2017) also emphasized that nationally representative data indicate that more than half of high school students annually participate in school sports. The NFHS (2019) highlighted some notable increases in participation rates in some sports. The most significant increase registered was in adapted and unified sports programs, which include sports that join people with and without intellectual disabilities on the same team. The NFHS also cited increased participation in volleyball and wrestling across both genders. McCreary et al. (2019) found in an early study with predominantly European and American adolescents that participation in school-based sports programs was associated with both positive and negative outcomes. Wretman (2017) found that students who participated in some form of school sports or athletics demonstrated statistically significant increases in self-reported grades. Wretman (2017) highlighted that further research that extends the knowledge on the links between academic achievement and school sports participation are needed to leverage school sports as an intervention within schools to promote overall success (Wretman, 2017).

Positive Effects of Athletic Participation on Academic Achievement

The literature on athletic participation and academic achievement includes studies that have shown a positive relationship between sports participation and academic performance. Alahmed et al. (2016) found that that participation in university sports' teams had a significantly positive influence on academic performance. They found that higher participation in university

sports' teams was associated with higher academic achievement for student athletes. Wretman (2017) examined data from 3,196 sixth- through ninth-grade students from 14 schools in one North Carolina county. Wretman concluded that students' participation in some form of interscholastic athletics, including basketball, soccer, and tennis, was directly associated with increases in self-reported grades. He found that participation in school sports was related to a statistically significant standardized effect (.225) on academic achievement. Schwartz et al. (2015) also conducted a study with middle school and junior high school students who participated in athletics, and they concluded that athletic participation is positively related to a student's course performance.

Sports participation at the high school and college levels have also shown positive effects on educational attainment and labor market outcomes. According to Guo and Meyerhoefer (2016), students who participate in school sports are more likely to attend college, less likely to drop out of high school, and are more likely to earn higher wages than their counterparts who do not participated in sports. Guo and Meyerhoefer found that participation in school-sponsored sports among children in eighth grade was associated with an approximate of 24-36% increase in test scores in math, reading, and science. They noted that this effect was mediated through reduced absenteeism and improved academic self-concept. Muñoz-Bullon et al. (2017) conducted a study comparing the academic performance of sport participants and non-participants, and they found that participation in athletics was associated with higher grades. Among college students, McCreary et al. (2019) highlighted that past sports participation in high school may be beneficial in improving young people's self-efficacy, which could then be reflected in more positive academic performance as they enter their college years. Cabane and Clark (2015) found that engagement in sports during childhood is related with improved labor

market outcomes in adulthood among both men and women. They found that childhood sporting activities were often correlated with the level of managerial responsibilities and level of autonomy reported by individuals at work in their adult years.

Increased physical activity has also been associated with positive academic achievement. Physical activity has beneficial effects on the mental and physical health of young people, which are considered to be important drivers of their academic success (Barbosa et al., 2020). According to Dalaguit (2019), after participating in vigorous physical activity, children are almost immediately able to better concentrate on classroom tasks. He also noted that over time, as children engage in developmentally appropriate physical activity, their improved physical fitness can lead to additional positive effects on their academic performance in reading, writing, and mathematics. Sneck et al. (2019) performed a systematic literature review on the effects of school-based physical activity interventions on the mathematics performance of children aged 4-16 years old. The review consisted of a total of 29 studies and included 11, 264 participants. Positive effects of physical activity interventions were found in 13 of the studies, neutral overall effects in 15 studies, and only one study reported significant negative results for a subgroup of children. They concluded that physical activity interventions could enhance children's mathematics performance.

The positive health and lifestyle behaviors associated with increased physical activity have been found to improve academic performance among adolescents (Burns et al., 2020). Burns et al. (2020) found that physical activity that increased caloric expenditure above resting energy expenditure was a positive health behavior that has been consistently associated with improved performance areas such as cognitive functioning, school grades, and classroom behavior. Burns et al. also found that school-based sports programs that are designed to improve

physical activity among students were correlated with higher levels of physical activity and improved cardiorespiratory endurance, which may, in turn, have positive effects on the students' cognitive domain and academic performance. Sports participation can also improve student athletes' perceptions of academic excellence, their mental processes, and their ability to be more logical and patient (Montecalbo-Ignacio et al., 2017).

The improved cognition associated with increased physical activity can also help improve academic performance. According to Álvarez-Bueno et al. (2017), the development of core executive functions, including working memory, inhibition, and cognitive flexibility, and metacognition, has been associated with positive classroom behaviors and academic achievement among children. Álvarez-Bueno et al. found that physical activity improved classroom behavior and various aspects of academic achievement, especially in reading and mathematics-related skills. Ballester et al. (2018) studied the relationship between different types of sports expertise (self-paced vs. externally-paced sports) on the vigilance performance of 20 children with a mean age of 11. Vigilance performance or sustained attention is the child's capacity to maintain attention over time and react efficiently to different kinds of stimuli. Ballester et al. found that there was a positive relationship between sport participation and vigilance performance during childhood.

There are studies that indicate that sports play a key role in a child's developmental outcomes. Wiium and Säfvenbom (2019) found that engagement in organized sports was positively related to developmental factors like healthy growth, cognitive abilities, lower substance use, and psychological well-being. Super et al. (2018) studied the relationship between sports participation and various youth development outcomes, including prosocial behavior, problem behavior, subjective health, well-being, self-regulation skills, sense of coherence, and

school performance. They also investigated the stability of the relationships between their variables of interest over a 6-month period by administering two identical questionnaires that measured these variables 6 months apart. They found that sports participation was positively related to subjective health, well-being, prosocial behavior, and sense of coherence at both measurements. Sports participation was found to be positively related to academic performance.

Further studies are needed to explore the relationship between school sports participation and academic achievement. Guo and Meyerhoefer (2016) emphasized that there has been little research conducted on the academic return of participating in school sports among middle school students. Wretman (2017) recommended further research on the relationship of school sports participation and academic achievement because he noted the great variations in the effects of different school-based sports programs on the academic performance of middle school and high school students. Wretman found that different types and duration of school-based forms of physical activity can impart different benefits to students' grades. Wretman found that the positive effects of athletic participation may be mediated by a variety of factors that are present in the natural environments, school contexts, and interpersonal relationships of the students, and he emphasized that further research in the area must consider these variables in order to inform future interventions for young people using school sports.

Negative Effects of Athletic Participation on Academic Achievement

James Coleman was one of the first to criticize the negative effect of sports participation on academic achievement (Bowen & Hitt, 2016). Coleman (1961) was critical of how academics tended to be a secondary priority to athletic achievements among young people, especially among boys. Ripley (2013) argued against the increased importance placed on high school sports within United States schools as she pointed out that high school students in the United States had

lower test scores than students from Finland or Singapore, where students' sports participation was not inherently connected to their schools. While Ripley did not argue that participating in sports was in itself harmful for students, she posited that integrating them into schools could compromise the schools' academic mission. According to Bowen and Hitt (2016), despite the perceived benefits of interscholastic sports, funds for extracurricular activities are typically the first to get cut in times of budgetary constraints as critics argue that sports participation has no role in academic development and that sports participation could undermine academics.

Some critics argue that American schools may place undue importance on scholastic sports, which may lead to the neglect of core academic responsibilities. Overman (2019) argued that middle and high school sports are given excessive focus in American culture, and middle school and high school institutions are increasingly emulating collegiate and professional sports models and losing sight of their academic mission. He found that school administrators shockingly and consistently capitulated to the demands of athletes' parents who were able to exert inordinate influence on the priorities of the school. Overman also highlighted the incongruity of educational systems that are becoming increasingly involved in the business of entertainment, which may divert their focus from academic integrity and overall educational outcomes. High school football in Texas is an example of the "craze" of sports in the United States. Katy High School in Texas spent $58 million dollars on their football stadium while high schools in parts of the United States still have wooden bleachers (Symon, 2015).

Some studies have reported that sports participation could contribute to lower levels of academic achievement. Insler and Karam (2019) investigated the influence of intercollegiate athletic participation on the grades of student athletes who attended the U.S. Naval Academy. They found that sports participation had modestly adverse effects on the student athletes' grades.

Balaguer et al. (2020) studied the relationship between extracurricular activities and academic achievement of students aged between 12 and 18 years. They found that participants in sports-related extracurricular activities tended to have lower academic achievement than those who participated in artistic activities. Other studies have found that sports participation has little to no effect on academic achievement. Qurban et al. (2018) concluded that sports participation had no direct effects on academic achievement based on the current grade point average (GPA) of 248 students. McCreary et al. (2019) conducted a study among college students with similar results. McCreary et al. found that there was no relationship observed between participation in sports and GPA. According to Pellegrini and Hesla (2018), the College Sports Project, which is a large-scale, multiyear study among Division III athletes found that the sample underperformed academically as they earned lower grades than predicted based on their standardized test scores and high school GPAs.

Engagement in scholastic sports can also have an effect on the time management of students. The time spent on athletics takes away from the time students could be spending on academics (Schultz, 2017). Participating in sports is a time-intensive endeavor (Insler & Karam, 2019). Students only have a certain amount of time to complete tasks throughout their day, including extracurricular activities like athletics, academics, and social and family interactions. When students spend the majority of their time on athletics, their academics may suffer. Schultz (2017) found that high school varsity athletes had lower GPAs when they actively participated in athletics. Schultz found that when students have to choose where to put their time, it seems that they may choose sports over academics. High school sports tend to require a certain time commitment, which may lead to the neglect of academic tasks and further lead to poorer academic results (Schultz, 2017). Pellegrini and Hesla (2018) emphasized the need to investigate

how the time management of student athletes can affect their academic achievement and how differences in their time allocations can account for variations in their academic performance.

Team-Based Sports and Academic Achievement

Participation in team-based settings is an often-cited benefit of scholastic athletic participation. Researchers have explored how the team aspect of interscholastic sports influences academic success. Fox et al. (2010) conducted a study examining physical activity and sports team participation and its association with academic success. They wanted to determine if academic success was due to the physical activity associated with a sport or if it was the team aspect that resulted in academic success. This study differs from most research as it focused on team participation rather than just the overall association between sports involvement and academic success. Fox et al. included middle and high school students as participants and used GPAs to measure academic success. The findings varied for boys and girls. Fox et al. concluded that, for girls, physical activity and team participation were each independently associated with academic success, and, for boys, only sports team participation was associated with academic success. They further concluded that boys benefited from participating on a team.

Burns et al. (2020) also conducted a study to analyze the relationship between participation in team sports and academic success. This study is another example of research conducted to determine the specific component of sports participation that promotes academic achievement. Burns et al. explained that there is more to athletics than physical activity. They posited that team sports provided discipline, self-esteem, and developed overall life skills. Data were collected from high school students through their self-reported grades. Burns et al. concluded that participation in team sports and academic success was dose-dependent because

participating on multiple sports teams had a stronger association with academic achievement when compared to participating on only one team.

Chuan et al. (2013) conducted a study on factors that influenced the academic achievement of Malaysian university athletes. As with many other studies that were conducted outside the United States, this study showed that sports participation could negatively affect academic achievement. Contrary to previously cited work conducted in the United States (Burns et al., 2020; Fox et al., 2010), Chuan et al. found that the competitive nature of intercollegiate sports often led to an 'anti-intellectual' subculture, over dependency on personal support from other people, and lower academic achievement among student athletes. Chuan et al. explained that one of the components of the university athlete culture is the influence that coaches and teammates have on student athletes. How coaches and teammates perceive academics is an indicator of how student athletes perceive academics. The various factors that Chuan et al. analyzed were parental influence, support systems, socialization, teammate behavior, and learning environment. They concluded that parental influence was the most influential factor of academic achievement for college athletes. They also found that the behavior of teammates and coaches as well as the support system and socialization also influenced the academic achievement of college athletes. The researchers provided further evidence that participation in team sports influenced student athletes.

Studies have shown that there is a direct correlation between participation in team sports and academic performance (Maslen, 2015). Maslen (2015) analyzed various studies to explain the benefit of participation in athletics on academic achievement. Maslen found there was a 97% graduation rate among high school student athletes and an 87% graduation rate among non-athlete students. Maslen explained that participation in team sports promoted emotional

development and provided student athletes with opportunities to work with other people, who can then become positive role models. Maslen also explained that mentorship is another key component of athletic participation. Players who have positive sports mentors during their youth will be more likely to seek effective role models throughout their life. Participation in team sports can also develop skills that could benefit students in the classroom, including communication, decisive action, teamwork, time-management, and self-esteem (Maslen, 2015). Maslen (2015) also noted that athletes in team sports often had great time management, which translates to the classroom. Maslen noted that the time commitment required by their involvement in sports could help athletes learn valuable time management skills like careful planning and work precision that can help them focus on reaching their goals sooner than non-athletes. Another important idea that Maslen expressed was that teamwork is all about collaboration with other individuals to achieve a common goal. Maslen explained that the pairing of diverse personalities helped a person become adaptable, persistent, and patient, which are key components to being successful in life.

Common Research Methods

Researchers have conducted various types of studies on the effects of participating in sports on academic achievement. Based on the review of the literature, researchers used different methodologies.

Cross-sectional Design

A cross-sectional design was a common design that researchers used. A cross-sectional study is when data are collected at one point in time from different groups of participants; this type of study allows for a quick collection of samples (Gall et al., 2007). Dapp and Roebers (2019) used a cross-sectional design to investigate the effects of sports-related physical activity

on the mathematical achievement of fourth-grade students. The authors used questionnaires that asked the students about their level of physical activity and mathematical achievement. Dapp and Roebers collected data at one point in time from 10 classes at eight different schools. They concluded that participation in sports activities was positively related to mathematical achievement if the sports activities were done in a structured setting.

In another study, Saevarsson et al. (2017) examined the effects of sports participation on academic achievement. Saevarsson compared the standardized test scores of 248 nine-year-old children. Saevarsson et al. concluded that frequent sport participation could be beneficial to achievement based on the students' standardized tests. Castro-Sanchez et al. (2019) also conducted a cross-sectional study that focused on the relationship between sports-related physical activity and academic performance. The participants in this study were 2452 students aged 13-16 years old who participated in school-based sports programs. They found that engagement in physical activity was associated with higher levels of academic performance. Kvalø et al. (2019) used a cross-sectional design to investigate aerobic fitness and academic achievement. The participants were 378 nine- and 10-year-old children from nine different primary schools. The authors concluded that aerobic fitness was significantly and positively associated with academic achievement on math standardized tests. The cross-sectional design is popular in this area of research; however, researchers used other research methods to analyze the effects of sports participation on academic achievement.

Longitudinal Design

A longitudinal design was another common design that researchers used. A longitudinal design is appropriate when researchers collect multiple observations of data collection from the same population over a period of time and analyze potential changes in the data (Gall et al.,

2007). Researchers used this design to track student athletes and analyze how successful they were in their academics over time. Haghighat and Knifsend (2019) began with students in 10th grade and analyzed their achievement over a period of 8 years in order to understand the influence of different types of extracurricular activities, including sports, on future educational attainment. The researchers checked in with the participants during their senior year of high school, and they found that the participants who engaged in extracurricular activities during 10th grade placed higher value on their education during their senior year. At the end of the 8-year period, Haghighat and Knifsend concluded that greater time spent on homework at the end of a student's high school career did not correlate with educational attainment.

Dyer et al. (2017) followed 271 high school students over a 2-year period and concluded that sports participation was positively related to academic achievement for these students based on their GPAs in English and mathematics. Kari et al. (2017) followed participants from 1980 until 2010. The participants included 1,723 12-year-old children and 2,445 15-year-old children. The initial measurement of physical activity was taken at the start of the study, and the children were studied until they reached an average age of 40. Kari et al. concluded that physical activity in adolescence was positively associated with their GPAs and their post-compulsory education in adulthood. Researchers used different research designs to investigate the effect of athletic participation on academic achievement. The cross-sectional and longitudinal designs were two common designs researchers used, and they used different instruments to investigate the effects of sports participation on academic achievement.

Common Instrumentation of Academic Achievement

Researchers with an interest in the effects of sports participation on academic success have used a variety of instruments to measure academic success. Throughout the literature, the

two most popular instruments used to measure academic success were students' grade point averages (GPA) and their scores on state-mandated standardized tests.

Grade Point Average

Past research utilized GPAs to measure the academic success of student athletes. McElveen and Ibele (2019) investigated the relationship between participation in Division III sports and the academic success of first-year college students. The researchers chose to look at students' GPAs to determine how successful students were after their first year. The authors concluded that participating in Division III varsity sports did not negatively affect the students' GPAs. Abruzzo et al. (2016) also conducted a study using GPA to measure academic success for students who participated in extracurricular activities. This study included 11th graders. The authors chose to let the participants self-report their GPAs. Abruzzo et al. concluded that participating in extracurricular activities improved the students' academic self-concept and final GPAs.

Routon and Walker (2015) used GPAs to determine the impact of participation in intercollegiate athletics on the academic achievement of student athletes. Routon and Walker found that participation in college sports had a small negative effect on a student's GPA. McCreary et al. (2019) conducted a study that focused on students' past sports participation in high school and GPAs in college. These researchers concluded that the students' GPAs were a measure of academic success, and they concluded that academic performance was not related to past participation in sports.

Brecht and Burnett (2019) conducted a study to identify factors that contributed to the academic success of college athletes at the end of their first year of college. They concluded that high school GPAs were significant predictors. It is another example of how researchers have

used GPAs to quantify academic success. The use of GPAs is common through the literature, but it is not the only way researchers have measured academic success.

Standardized Tests

State-mandated, standardized tests have also been applied to measure the academic success of students. Standardized tests are universal; therefore, it is a popular measurement tool because researchers can collect data seamlessly. Dapp and Roebers (2018) determined the effects of participation in sports on the mathematical achievement of fourth-grade students based on standardized test scores and found that structured sports activity may be beneficial. Janak et al. (2014) used standardized test scores to analyze the association between physical fitness and academic achievement of elementary, middle, and high school students. They found that students who were in the highest fitness categories were more likely to meet the standards of the Texas Assessment of Knowledge and Skills standardized test, which assesses reading, writing, math, science, and social studies.

In a more recent study, Guo et al. (2019) used district-standardized test scores in reading, math, and science to determine the effects of participation in interscholastic sports on the academic performance of middle school students. They found that participation in school sports increased test scores by 24-36%. Srikanth et al. (2015) used standardized test scores to measure math and reading skills of sixth, seventh, and eighth grade students and concluded that students' fitness level was a consistent, positive predictor of performance.

Gu et al. (2019) used math and reading scores of 330 middle school students on the State of Texas Assessments of Academic Readiness to investigate the relationship between physical activity and academic performance. They concluded that components of physical literacy (i.e., physical activity, health-related fitness, and motor competence) had a significant, positive

correlation. Researchers incorporate common instrumentation for measuring academic success. State-mandated, standardized assessments are often used for research focused on elementary and middle school whereas GPA's are often used for research on high school and post-secondary students.

Influence of Educational Culture on School-Based Sports

The value placed on school-based sports varies based on the prevailing educational system and culture. Schools in the U.S. generally place great emphasis on interscholastic athletic participation. By contrast, schools in other countries, such as South Korea and Japan, generally have rigid academic programming and do not extensively staff and manage school-based sports (Ripley, 2013). Ripley (2013) referred to a U.S. high school student who spent a semester in Poland and realized in Poland, educational attainment is highly valued, and high school interscholastic athletics is non-existent. Ripley posited research on school-based sports must consider prevailing educational culture.

Studies on sports participation and academic success have also been conducted in Asian countries. Sasayama et al. (2019) studied the relationship between physical fitness and academic achievement among 1,189 seventh and ninth-grade students from two Japanese schools by comparing results of a physical fitness test to their academic achievement in Japanese, mathematics, and a foreign language. They found higher fitness levels was an indicator of higher academic achievement in each subject. Alahmed et al. (2016) studied the relationship between sports participation and academic performance among 102 undergraduate student athletes from three universities in Saudi Arabia focusing on the mediating role of participants' attitudes toward sports participation. They concluded that participation in competitive sports can have positive academic benefits, especially when student athletes exhibit positive attitudes toward

participation. However, they noted that the attitude toward sports participation in Saudi Arabia was low because students feared it might have a negative impact on academics.

Researchers have also explored sports participation and academic achievement in countries outside of Asia. Carriedo and Gonzalez (2019) studied the effect of athletic participation on the academic achievement, physical self-concept, and academic self-concept of 224 students enrolled in the final courses of primary education in Spanish schools. They found academic achievement was influenced by academic and physical self-concept. Participants with high academic self-concept were highly motivated to do well in their classes, and participants with high physical self-concept participated in more extracurricular activities. Although students who showed high levels of academic achievement showed high levels of physical and academic self-concept, they did not have elevated levels of sports participation. Muñoz-Bullón et al. (2017) investigated the influence of sports participation on the academic achievement of undergraduate students at a Spanish university and found that participation in formal sporting activities was associated with higher grades. Yarkwah and Agyei (2020) posited that researchers investigating the relationship between sports participation and academic achievement in different countries had contrasting findings. They highlighted the need for further research on sports participation and academic achievement that reflect the country's educational culture.

The culture in the U.S. differs from countries like Finland, South Korea, and Japan regarding the emphasis of sports within schools (Ripley, 2013). Organized sports were established in the U.S. in the 1870s and are deeply ingrained in the culture (Quora, 2016) Quora (2016) explained that the infrastructure in the U.S. gives almost every young person access to sports through schools. According to the NFHS (2018) organized sports benefits youth by promoting sportsmanship, instilling a sense of community pride, facilitating physical and

emotional development, and teaching lifelong lessons on teamwork and discipline. However, the opinion in many countries, particularly Asian countries, is that sports detract from academics.

There is evidence that school-based sports programs can be positive for American teens. Zarrett et al. (2018) found that teens who participated in two or more sports performed better academically and reported better psychological and physical health than those who played a single sport or no sport. They emphasized that U.S. teens are exposed to a broad range of growth-related opportunities and skills, such as task commitment, schedule management, and teamwork through their participation in school-based sports programs. Zarrett et al. (2018) concluded that sports are widely accessible to teens in the U.S. and those who participate reap important educational and health benefits. This view is different from the prevailing perspective in other countries that regard school-based sports programs as a distraction from the academic mission of educational institutions.

Summary and Conclusions

Social capital theory and social learning theory were the theoretical frameworks for this study. Social capital theory is largely credited to Coleman (1988) and Bourdieu (1986). Coleman (1988) explained that social capital is in the structure of relations between and among actors; social capital from family and community help create human capital. The more resources children have (e.g., family, friends, teachers, and coaches) the more likely they will thrive. Social learning theory also informed this study. Bandura (1977) developed social learning theory during the middle of the 20th century. He theorized that people observe, imitate, and model the behaviors of other people. Students must be placed in situations where they have the opportunity to imitate positive role models, and participating in sports teams can provide children with

opportunities to meet new friends and be around positive adults. The theories help explain how students' participation in team-based athletics may influence their academic performance.

Studies of athletic participation and academic success often have methodological commonalities. The two most common are cross-sectional and longitudinal research designs. Researchers conducting cross-sectional studies collect data at one point in time from different groups of participants, whereas longitudinal designs involve describing changes in a sample's characteristics over a range in time (Gall et al., 2007). Several studies included in this review were conducted using a cross-sectional design (e.g., Dapp & Roebers, 2019; Saevarsson, et al., 2017) or a longitudinal design (e.g., Dyer et al., 2017; Haghighat & Knifsend, 2019).

There are also commonalities in the instruments that researchers use to investigate the effects of athletic participation on academic success. Studies that include primary and middle school students typically use standardized tests whereas studies that include high school and post-secondary students typically use GPAs to determine academic achievement.

Researchers investigated athletic participation and academic achievement in different countries. Schools in the U.S. typically emphasized school-based athletics (Ripley, 2013). In Poland, educational attainment is paramount and high school sports teams are non-existent (Ripley, 2013). Educational cultures around the world vary, and regions have different paradigms (Chuan et al., 2013); however, I found that the students in this study who participated in team sports reaped benefits.

The literature rendered varied findings. Studies indicated a positive relationship, no relationship, or a negative relationship between sports participation and academic achievement. The conflicting findings indicate that there are gaps to be addressed; more research is warranted.

Qurban et al. (2018) underscored the need to investigate the effect of sports participation on academic achievement in various settings and contexts. Wretman (2017) emphasized the need to investigate the effect of sports participation on academic achievement among non-Caucasian students. To address these gaps, this study focuses on urban middle school students.

CHAPTER THREE: METHODS

Overview

Literature in the area of athletic participation and academic achievement neglects the urban, middle-school population. It is common to read that participating in sports does positively affect the academic achievement of high school students (Burns et al., 2020); however, no research in this area determines the effects in an urban, middle school population. This study examined the effects of participating in interscholastic athletics and not participating in interscholastic athletics on the academic achievement of urban middle school students. This chapter explains the specific research design as well as the research questions and hypotheses. Also, included in this chapter is a detailed description of the participants and setting, instrumentation, and procedures. The chapter concludes with how the data will be analyzed.

Design

This study utilized a quantitative causal-comparative research design. This study is quantitative because numerical data was analyzed. A causal-comparative design was used to determine if a cause-effect relationship existed between the independent and dependent variables (Gall et al., 2008). A characteristic of a causal-comparative design is that the independent variable is categorical (Gall et al., 2008). The independent variable in this study was categorical: student-athlete and non-student-athlete. The present study attempted to determine if a causal relationship existed between participating in interscholastic athletics and PSSA scores in math and reading. The causal-comparative design is also known as *ex post facto* research (Salkind, 2010). This design was appropriate because participating in an interscholastic sport was already present within the independent variable (athlete vs. non-athlete) groups for both of the research questions. The dependent variable in this study was the students' math and reading scores on the

PSSA (academic achievement test). In causal-comparative research, the independent variable on one or more dependent variables is measured, and the implications of possible causation are used to draw conclusions (Maheshwari, 2018). Causal-comparative research aims to identify the causal relationship among variables (Maheshwari, 2018). This design helped create an understanding as to whether or not participating in interscholastic athletics could impact academic success in regards to PSSA scores.

Causal-comparative research seeks to identify a causative relationship between an independent variable and a dependent variable where the relationship is suggested and not proven because the researcher does not manipulate the independent variable (Maheshwari, 2018). A causal-comparative design was appropriate for this study because the researcher did not manipulate the variables (Maheshwari, 2018).

The PSSA reading and math scores were used to measure academic achievement. The PSSA is a state-mandated test that every Pennsylvania student in Grades 3 through 8 takes. The subjects covered by this test are mathematics and reading. In this study, the researcher investigated the effect of participating in interscholastic sports (independent variable) on student athletes' scores and non-student athletes' scores on the math and reading PSSA (dependent variable). The researcher included students in this research who already participated in interscholastic team sports; the year in which they participated was the 2018-19 school year. Lastly, the quantitative, causal-comparative research design chosen was appropriate for the present study because the researcher attempted to determine the cause or consequences of differences between specific groups of individuals (Maheshwari, 2018). The specific groups being student athletes and non-student athletes.

Research Questions

Two research questions guide this study.

RQ1: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Reading PSSA?

RQ2: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Mathematics PSSA?

Hypotheses

The null hypotheses are as follows:

$H_0$1: There is no statistically significant difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Reading PSSA.

$H_0$2: There is no statistically significant difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Mathematics PSSA.

Participants and Setting

The participants for this study were drawn from a convenience sample of archival data of seventh-grade students who attended ABC Middle School located in eastern Pennsylvania during the spring semester of the 2018-19 school year. ABC Middle School is an urban school composed of a diverse population; this school ranks among the top 20% of public schools in Pennsylvania in regards to diversity. Minority enrollment is 46% of the student body, which is higher than the average in Pennsylvania. Male students make up just over half (52%) of the

population. A majority of the students were identified as low-income, with 59% of the students eligible for free or reduced lunch. ABC Middle School is a Title 1 school; Title 1 funds are to support underprivileged, low-achieving students. To receive these funds, at least 40% of the student body must be considered low-income. The student-to-teacher ratio is 16:1, which is higher than the state average.

For the two research questions, each of the two groups were formed with the same number of students in each group. One group included seventh-grade students who participate in interscholastic athletics, and another group consisted of seventh-grade students who do not participate in interscholastic athletics. These groups were compared on the dependent variables, reading and math PSSA scores.

The student information was obtained from the data coordinator and superintendent of the school district the seventh-grade students attended (student athletes and non-student athletes). A random sample of 108 students, split evenly among the groups, was selected from the available archival data. Stratified random sampling was used because the researcher needed to choose from strata of student athletes and non-student athletes. A sample size of 108 exceeded the minimum requirement of 100 for a *t* test, assuming a medium effect size, power of .7 and alpha of .05. There were 54 student-athlete participants and 54 non-student athlete participants for the two research questions in this study. Stratified random sampling was used for both of the research questions. A stratified random sample is a sample selected so that certain subgroups in the population are adequately represented in the sample (Gall et al., 2007). This method of sampling was used because the researcher wished to have equal numbers of female and male students in each group. The participants' gender was evenly distributed between both groups for

the first and second research questions, and each group had 27 males and 27 females, resulting in 54 students per group.

There were 366 seventh-grade students at ABC Middle School during the 2018-2019 school year, which means the data collector had 366 middle school students from which to choose from for this study. When selecting students from the pool of 366 students, stratified random sampling was used to ensure males and females are evenly represented for the two research questions, as well as an equal number of athletes and non-athletes.

ABC Middle School uses a software system that allows for random selection of students. The system can group the students to enable a random selection of students from various strata (males/females and athletes/non-athletes, and female athletes/male athletes). The data coordinator made four different groups (strata) to choose 27 students from each. The four groups were male non-athletes, male athletes, female non-athletes, and female athletes. Selecting 27 students from each of these groups gave the researcher 54 athletes (27 females and 27 males) and 54 non-athletes (27 females and 27 males). This made up the 108 needed participants for the first and second research questions. The researcher had the school's data coordinator select the participants and remove all identifiers prior to providing data to the researcher. The participants' in this study had an age range of 11-13. The ethnicities varied within the population because there was no ethnicity strata to select.

Instrumentation

The purpose of this study was to investigate the effects of interscholastic sports participation on the academic achievement of urban, middle school students. Academic achievement has been used in multiple studies, and state-mandated testing is often used to define it throughout the literature. Shultz and Willard-Holt (2004) and Zwerling (2008) both studied

academic performance, and they used a state-mandated test as a tool to measure the performance. This study used PSSA scores in math and reading of the seventh-grade students to measure academic success. A student received a scaled score, and that score fell into one of four categories. The categories were below basic, basic, proficient, or advanced. The score range for each of the PSSA subject tests was 600-1685. A score in the range of 600-907 was below basic; a score in the range of 908-999 was basic; a score in the range of 1000-1106 was proficient; a score in the range of 1107-1685 was advanced.

Throughout the literature, various state-mandated tests have been used to determine academic achievement. The PSSA is a state-mandated, standards-based, criterion-referenced test (Pennsylvania Department of Education, n.d.a.). This test has been used to determine academic achievement in various studies in the field of education (Shultz & Willard-Holt, 2004; Zwerling, 2008). Shultz and Willard-Holt (2004) conducted a study wherein they compared the academic achievement of students who took a world language class and students who did not take a world language class. They used the PSSA to define the academic achievement of these students. Shultz and Willard-Holt concluded that by eleventh grade, students that studied a language outperformed the students that did not study a language on the math and reading PSSA (Shultz & Willard-Holt, 2004). Wainer and Zwerling (2006) also conducted a study where they used the PSSA to define academic success. The authors discussed whether smaller or larger schools are better at educating their students. The authors looked at the PSSA scores of students in small and large schools to see which had higher achievement. They concluded that the larger high schools had more success on the PSSA's than the small schools. Lastly, Zwerling (2008) examined the academic success of students whose teachers went on strike to provide evidence against the claims that teacher strikes negatively impact student achievement. Zwerling used the PSSA test

to define the academic achievement of these students. Zwerling concluded that there was no evidence to support the idea that teacher strikes negatively affect academic achievement.

Consistent use of the PSSA to define academic achievement has shown that it is a reliable method of defining academic success. The Cronbach's alpha score for reliability of the seventh-grade mathematics PSSA is 0.92, and the Cronbach's alpha for the seventh-grade reading PSSA is 0.87 (Pennsylvania Department of Education, n.d.b.). This state-mandated test is given to every student in third through eighth grades in the state of Pennsylvania, so data are available each year for each student. The PSSA scores were used to measure the academic success of each participant in this study.

This assessment was developed to provide stakeholders with an understanding of a student's proficiency on the state academic standards (Pennsylvania Department of Education, n.d.a.). Standards that must be met for each grade level are tested using the PSSA. This allows for a score to be generalized across the state for all same-grade students. The goal is to have the assessment adequately measure what was learned by the students throughout the year. Same-grade students across Pennsylvania are tested on the same material (i.e., all third-grade students in PA are tested on the same material). There is a strong link between each PSSA item and its associated eligible content, thus establishing validity (Pennsylvania Department of Education, n.d.b.). The standards tested on this assessment do not change year over year. The use of this assessment allows this study to be replicated across time and location in the state. Permission was granted to use the students' PSSA scores by the school superintendent.

This researcher did not administer the test to the students. The teachers of the students administered the tests during the five predetermined testing days. The testing for each of the students was not timed, and students had as long as they needed to complete the assessment. The

seventh-grade reading PSSA is composed of 57 multiple choice questions and two constructed response questions. The seventh-grade mathematics PSSA is composed of 48 multiple choice questions and four open-ended questions. Once completed, the teacher puts a sticker on the edge of the testing booklet to show the assessment is complete, and no answers were changed. The tests are graded by volunteers for the Pennsylvania Department of Education. The school is responsible for sending the completed assessments back to the Department of Education for grading, and the school will then have access to scores once the grading was completed.

Procedures

After the proposal for this study was approved, ABC Middle School principal and district superintendent were notified regarding the purpose of the research and to request approval to complete this study. Next, an application was submitted to the Liberty University Institutional Review Board (IRB) requesting approval to conduct this study. See Appendix A for IRB approval. Once the study was approved by the two school administrators and IRB, research began with ABC Middle School student data. One hundred and eight participants were needed for this quantitative causal-comparative study. For each research question, there was two groups with 54 students in each group. For both of the research questions, there were 27 males and 27 females in the athlete group and 27 males and 27 females in the non-athlete group. The sampling method used was stratified random sampling. Stratified random sampling was used because the researcher wished to have equal numbers of female and male students. School software was used to select participants. Each student selected was identified by a number to maintain confidentiality throughout the study. Each student was identified and mentioned by their respective number, as the researcher only knew students by numbers.

Stratified random sampling was used to choose from the 366 seventh-grade students as there were both athlete and non-athlete groups. Since males and females were evenly distributed in the groups for the first and second research questions, the school data coordinator used the school software, PowerSchool, to generate strata of female athletes, male athletes, female non-athletes, and male non-athletes. A total of 27 students were randomly selected from each stratum to comprise the 108 participants needed. Once participants were put into groups, the data collection began.

The school's data coordinator pulled the PSSA score reports for all participants to obtain the students' scores. The data coordinator only provided gender and athletic participation information on each student's set of scores. All identifiers were scrubbed before being provided to the researcher. The scores for these students were from the 2018-19 PSSA in mathematics and reading. The 2018-19 PSSA data are currently available. The data were entered into a computer software program, the Statistical Product and Service Solution (SPSS), and appropriate tests were conducted. An independent samples *t*-test was used for both null hypotheses to determine if there is a significant difference in means between the groups.

Data Analysis

Data was analyzed using two independent samples *t* tests. Each participant was assigned a unique number, and SPSS was used to process and organize the data. The students' PSSA scores for the tested subjects, mathematics and reading, were entered into SPSS for each group within the research questions, and the differences in means between the groups were analyzed. An independent samples *t* test was chosen as the most appropriate test to analyze and examine the null hypotheses. The requirement of the independent samples *t* test is to have one categorical independent variable with two groups and one dependent variable measured on a continuous

scale. The researcher wanted to determine if there was a difference between the two groups of the independent variable as measured by the dependent variable. The current study's data matched these requirements as each null hypothesis was tested for a difference in the means on a continuous variable, the test scores are continuous, between two groups making up a single independent variable. The student participants could only be a member of one group for each independent variable. All groups within the two research questions had PSSA scores obtained at one time, and the means were compared for significance.

A rigorous test of the null hypotheses was needed to minimize the chances of a Type I error, which is a false rejection of the null hypothesis (Gall et al., 2007). When conducting multiple analyses on the same independent variable, the chance of committing a Type 1 error increases (Warner, 2013), so the alpha level must be adjusted using a Bonferroni correction. The new alpha level is obtained by dividing the original alpha level (0.05) by the number of analyses being completed (0.05/2 = .025). Therefore, an alpha level of 0.025, using a Bonferroni correction, was calculated (Warner, 2013)

Next, three assumption tests were conducted in order to use the *t* test for analysis. The first was a test for outliers. A box and whisker plot for each group was used to identify outliers, and extreme outliers were analyzed to determine whether to exclude from the data set (Warner, 2013). An assumption of normality is also necessary in order to conduct a *t* test. A Kolmogorov-Smirnov test in SPSS was used to test normality. This test was used because there are over 50 participants in the study. Lastly, the assumption of equal variance must be met. Levene's test of equality of error variance was used, and the effect size was reported using Cohen's *d*.

CHAPTER FOUR: FINDINGS

Overview

This chapter presents the findings of the study. The purpose of this study was to determine if there was a significant difference in performance on the Mathematics and Reading PSSA between urban seventh-grade students who participate in athletics and urban seventh-grade students who do not participate in athletics. Included in this chapter are the research questions and the null hypotheses for each. Also included are descriptive statistics for the sample population, outcomes of the assumption tests, and the results of each of the research questions.

Research Questions

RQ1: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Reading PSSA?

RQ2: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Mathematics PSSA?

Null Hypothesis

$H_0$1: There is no statistically significant difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Reading PSSA.

$H_0$2: There is no statistically significant difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Mathematics PSSA.

Descriptive Statistics

Descriptive statistics were obtained on the dependent variable, Reading PSSA scores, for each group. See Table 1 for the descriptive statistics for RQ1. Descriptive statistics were also obtained on the dependent variable, Mathematics PSSA scores, for each group. See Table 2 for the descriptive statistics for RQ2.

Table 1

Descriptive Statistics: Reading PSSA

Sports participation	*n*	*M*	*SD*
Athlete	52	1052.63	69.68
Non-athlete	53	1044.43	74.76

Table 2

Descriptive Statistics: Mathematics PSSA

Sports participation	*n*	*M*	*SD*
Athlete	54	968.30	96.89
Non-athlete	53	965.77	94.08

Results

Hypothesis One

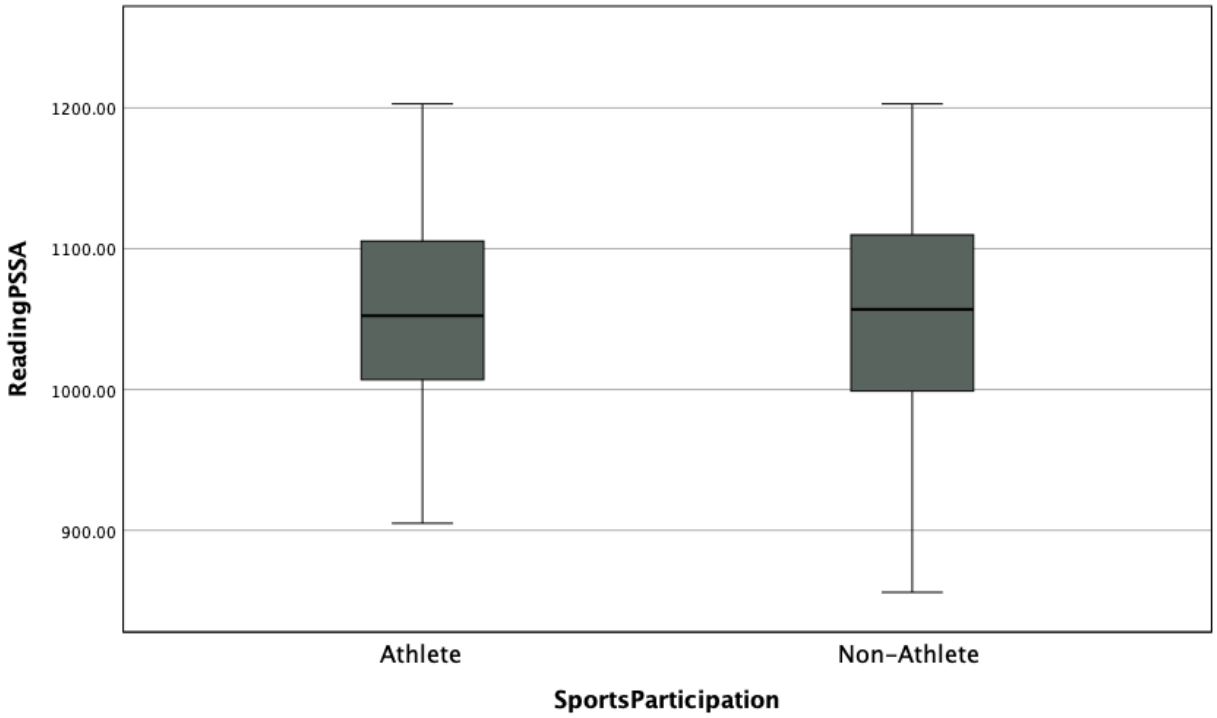
$H_0$1: There was no statistically significant difference in the academic achievement of urban, seventh-grade students who participated in athletics and urban, seventh-grade students who did not participate in athletics, as shown by their score on the Reading PSSA.

Data screening

Data screening was conducted on the dependent variable, Reading PSSA scores. The researcher sorted the data on each variable and scanned for inconsistencies. No data errors or inconsistencies were identified. Box and whiskers plots were used to detect extreme outliers on the dependent variable. Three outliers were identified. The outliers that were removed were Reading PSSA scores of 1294 and 1319 for the athlete group and a score of 781 in the non-athlete group as the scores were more than three standard deviations away from the mean. See Figure 1 for box and whisker plots for athletes and non-athletes on the dependent variable, Reading PSSA.

Figure 1

Reading PSSA Box and Whisker Plots



Assumptions

An independent samples *t* test was used to test the null hypothesis. The *t* test required that both the assumptions of normality and the homogeneity of variance were met. Normality was examined using a Kolmogorov-Smirnov test. Kolmogorov-Smirnov was used because the sample size was greater than 50. No violations of normality were found. See Table 3 for tests of normality.

Table 3

Kolmogorov-Smirnov: Reading PSSA

Sports Participation	Statistic	*df*	Sig.
Athlete	.089	52	.200*
Non-Athlete	.077	53	.200*

*This is a lower bound of the true significance.

The assumption of homogeneity of variance was examined using the Levene's test. No violation was found where $p = .611$, so the assumption of homogeneity of variance was met.

Results for Null Hypothesis One

A *t* test was used to test the null hypothesis regarding differences in Reading PSSA scores among seventh-grade athletes and seventh-grade non-athletes who attended an urban middle school. The researcher failed to reject the null hypothesis at a 95% confidence level where $t(103) = .581$, $p = .562$, so there was no significant difference between the athlete group ($M = 1052.63$, $SD = 69.68$) and the non-athlete group ($M = 1044.43$, $SD = 74.76$).

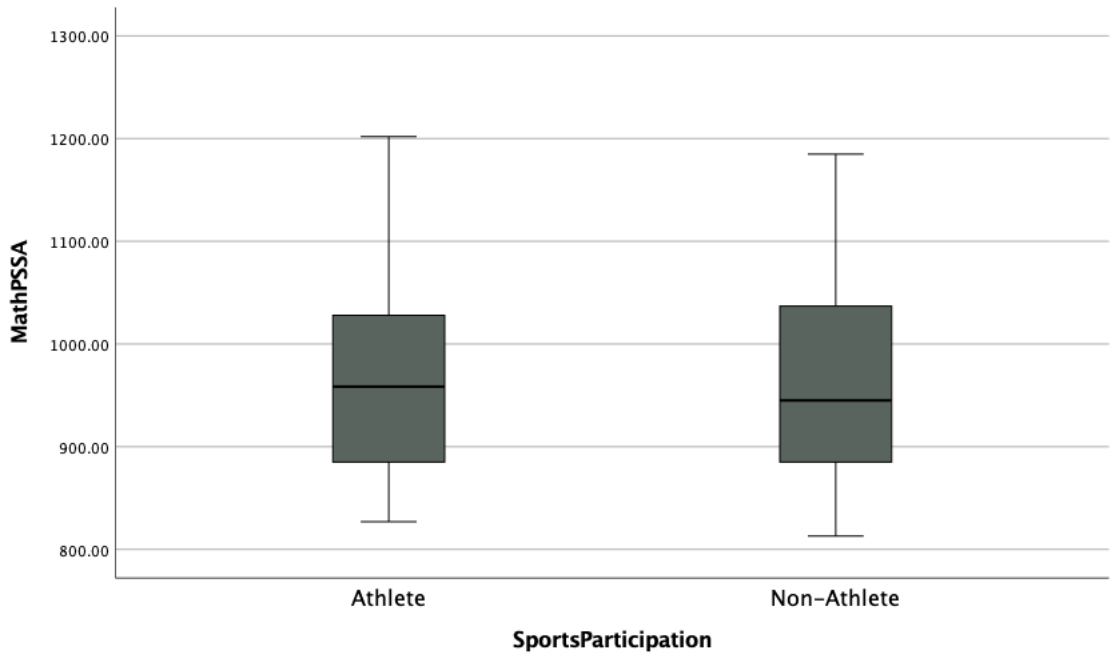
Hypothesis Two

$H_0$2: There was no statistically significant difference in the academic achievement of urban, seventh-grade students who participated in athletics and urban, seventh-grade students who did not participate in athletics, as shown by their score on the Mathematics PSSA.

Data Screening

Data screening was conducted on the dependent variable, Mathematics PSSA scores. The researcher sorted the data on each variable and scanned for inconsistencies. No data errors or inconsistencies were identified. Box and whiskers plots were used to detect extreme outliers for the dependent variable. One outlier was identified. The outlier that was removed was a Mathematics PSSA score of 1270 in the non-athlete group, as this score was more than three standard deviations away from the mean. See Figure 2 for box and whisker plots for athletes and non-athletes on the dependent variable, Mathematics PSSA.

Figure 2



Assumptions

An independent samples *t* test was used to test the null hypothesis. The *t* test required that both the assumptions of normality and the homogeneity of variance were met. Normality was examined using a Kolmogorov-Smirnov test. Kolmogorov-Smirnov was used because the sample size is greater than 50. No violations of normality were found. See Table 4 for tests of normality.

Table 4

Kolmogorov-Smirnov: Mathematics PSSA

Sports participation	Statistic	*df*	Sig.
Athlete	.092	54	.200*
Non-athlete	.111	53	.115

*This is a lower bound of the true significance.

The assumption of homogeneity of variance was examined using the Levene's test. No violation was found where $p = .910$, so the assumption of homogeneity of variance was met.

Results for Null Hypothesis Two

A *t* test was used to test the null hypothesis regarding differences in Mathematics PSSA scores among seventh-grade athletes and seventh-grade non-athletes attending an urban middle school. The researcher failed to reject the null hypothesis at a 95% confidence level where $t(105) = .137$, $p = .892$, so there was no significant difference between the athlete group ($M = 968.30$, $SD = 96.90$) and the non-athlete group ($M = 965.77$, $SD = 94.08$).

CHAPTER FIVE: CONCLUSIONS

Overview

The purpose of this quantitative, causal-comparative study was to investigate the effect of interscholastic sports participation on academic success for urban seventh-grade students**.** Included in this chapter is a discussion of the results for each of the two research questions. Following the discussion are the implications of the study as well as the limitations that potentially impacted the study. Lastly, the researcher includes recommendations for future research that could benefit this area of study.

Discussion

Upon receiving site approval, the school's data coordinator secured a sample of seventh-grade athletes and a sample of seventh-grade non-athletes. The groups were compared on the dependent variables, Reading and Mathematics PSSA scores. The following research questions were addressed:

RQ1: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Reading PSSA?

RQ2: Is there a difference in the academic achievement of urban, seventh-grade students who participate in athletics and urban, seventh-grade students who do not participate in athletics, as shown by their score on the Mathematics PSSA?

The results follow:

Null Hypothesis One

There was no statistically significant difference in the academic achievement of urban, seventh-grade students who participated in athletics and urban, seventh-grade students who did

not participate in athletics; hence, the null hypothesis was not rejected. The result produced with the first research question was not significant, which is similar to other studies in this area of research. It is not uncommon to find researchers that compared the academic achievement between non-student athletes and student athletes report that there is a negative effect or no link at all between sports participation and academic achievement (Overman, 2019; Qurban et al., 2018).

According to Bowen and Hitt (2016), James Coleman was among the first to question the effects of athletic participation on academic achievement. Coleman (1961) suggested that student athletes tend to give academics a lower priority than athletics. Other researchers agreed (e.g., Balaguer et al., 2020; Overman, 2019; Qurban et al., 2018; Ripley, 2013) and suggested that sports divert focus from academics. Although the results of this study did not indicate that athletic participation significantly improved academic achievement, it contradicts the notion that participation in sports negatively affects academic achievement.

Other research indicated that participation in sports improved academic performance (Alahmed et al., 2016; Schwartz et al., 2015; Wretman, 2017). Guo and Meyerhoefer (2016) reported a 24-36% increase in test scores for students who participated in athletics, but this study contradicts research that links sports participation to improved academic achievement. Although the findings showed there was no significant difference, the athletes did outperform the non-athletes on both PSSA tests.

Null Hypothesis Two

There was no statistically significant difference in the academic achievement of urban, seventh-grade students who participated in athletics and urban, seventh-grade students who did not participate in athletics; hence, the null hypothesis was not rejected. The insignificant result

produced from the second research question was similar to the first research question as well as other studies in this area of research. With a deep analysis of the current results, it is noticeable that athletes do outperform non-athletes on the Math and Reading PSSA tests.

Munoz-Bullon et al. (2017) conducted a study similar to this study comparing student athletes to non-student athletes, but they found that participation in athletics was associated with higher grades, and other researchers agreed (McCreary et al., 2019; Wretman, 2017). Although the results of this study did not indicate that athletic participation impedes academic achievement, it contradicts the notion that participation in sports significantly improves academic achievement. It is noteworthy that athletes did outperform non-athletes on the Mathematics PSSA. Failing to reject the null hypothesis does not mean participation in athletics did not enhance academic achievement.

The findings of the current study lend to the thought that sports participation does not significantly improve academic achievement. If there is no positive relationship, then sports participation should not continue to be emphasized in American culture. However, the varying results in this area of study show that continuing in this area of research is important. When potential student success is at stake, a long, hard look at sports participation must be made.

Implications

There is research that indicates sports participation benefits academics (Alahmed et al., 2016; Schwartz et al., 2015; Wretman, 2017), and there is research that indicates there is no direct link, or sports have a negative effect on academics (Balaguer et al., 2020; Bowen & Hitt, 2016; Overman, 2019). The results of the present study indicated that there was no statistically significant relationship between seventh-grade athletes and seventh-grade non-athletes on the Reading and Mathematics PSSA. However, athletes outperformed non-athletes on both tests.

Theoretically, participation in sports can boost academic achievement. Children assimilate behaviors and gain learning experiences from those who are socially important to them (Qurban et al., 2018) and modeling influences knowledge acquisition (Atta, 2018; Bandura, 1977). Coaches can be socially important and positive role models to student athletes. Social capital theory also illuminates how participation in sports may be beneficial to academic achievement. Social capital is gleaned from social relations (Rogošić & Baranović, 2016). The idea is that the more positive relationships children have, the more social capital they gain, and the greater the likelihood they will be successful. According to Novak et al. (2018), the more community support children have, the better they will do in school. Athletics can enhance social capital, and sports teams are a medium for developing substantial interpersonal relationships. It is important to note that failing to reject the null hypothesis does not mean social capital does not impact academic achievement. It was founded in the current study that athletes outperformed non-athletes. This is a fact that administrators and policymakers should note.

The present findings were not significant; however, student athletes outperformed the non-athletes on both PSSA tests. These findings are an important contribution to the literature in this area because they show a need for further research. The findings show that student athletes had higher academic achievement than non-student athletes, although the results did not show a statistically significant difference. This tends to allow a researcher to feel conflicted as to what to believe. The results of this study give a reason for researchers to continue to increase the literature on academics and sports participation.

More research is needed to determine the effect of sports participation on academics for middle school students. Middle school is a crucial age for decision making. During the middle school years for children, friend selection, career pathways, and interests are crucial decisions

that are often made and these decisions will shape students' futures. The more positive relationships students have, the better they will do academically (Novak et al., 2018). Participation in sports can expose children to role models they can benefit from. In the present study, student athlete PSSA scores were slightly higher than non-athlete PSSA scores, suggesting that social capital might be gained from sports, thus providing academic benefits. If student athletes outperform their peers, athletic participation should be encouraged.

Limitations

The first limitation of this study was the use of a convenience sampling procedure, thereby limiting the generalizability of the findings. Generalizability is the ability to draw inferences from the sample to the broader population. The inability to generalize results was the result of the researcher including a sample of students from one grade level who attended one urban middle school. The second limitation was that there was no consideration for the amount of time students spent playing a sport, and there was no consideration for the number of sports the students participated in. In the present study, students who participated in sports for multiple years and students who just started participating in sports were both considered student athletes. The time spent playing a sport and the number of sports played may have had an effect on the outcome of this study. The third limitation was that a state mandated standardized test was used to determine academic achievement. This test does not count toward a student's grade, and it is taken one time during the school year. One test at one point in time may not be a true gauge of a student's academic ability. Beaver and Weinbaum (2015) found that only 26% of teachers believed standardized state assessments were an accurate gauge of student achievement. The fourth limitation was the research design. By using a causal-comparative research design, the researcher did not manipulate the independent variable (participation in interscholastic sports)

and could not establish a causational relationship between the independent variable (participation in interscholastic sports) and the dependent variable (students' scores on the PSSA).

Recommendations for Future Research

In this section, the researcher describes recommendations for future research. The recommendations are intended to increase the body of knowledge regarding the effects of sports participation on the academic achievement of student athletes.

1. The use of convenience sampling is not conducive to generalizability. Future research should use a random sampling technique to increase generalizability.
2. The amount of time participating in a sport or the number of sports a student participates in may affect a student's academic achievement. Future research should have a minimum participation requirement and identify the number of sports in which a student participates.
3. An annual, state-mandated standardized test was used to determine academic success. State-mandated standardized tests may not be an accurate representation of student athletes' academic achievement (Beaver & Weinbaum, 2015). Future research should consider course grades for a more accurate representation of student athletes' academic achievement.
4. A causal comparative design was used in this study. Future research should use a true experimental design when investigating the academic achievement of student athletes and non-student athletes.

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APPENDIX A: IRB APPROVAL

April 23, 2021

Jeff White

David Gorman

Re: IRB Exemption - IRB-FY20-21-768 The Effects of Sports Participation on Academic Achievement for Seventh-Graders in Urban Pennsylvania

Dear Jeff White, David Gorman:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if . . . the following criteria is met: (ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of

continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP

Administrative Chair of Institutional Research

Research Ethics Office