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AN ANALYSIS OF YOUTH
PARTICIPATION IN ATHLETICS

An Abstract of a Thesis
Submitted
In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Jonathan Wayne Klein
University of Northern Iowa
May 2017

ABSTRACT

School athletics has a significant impact on the development of youth. This study is an exploration of the differences between youth who participate in school athletics and those who do not. Specifically, the study examined youth academic performance and behavior referrals, and variables such as grade level, age, gender, and ethnicity. In addition, the study examined whether or not there was a relationship between participation in the school's free or reduced lunch program and athletic participation.

To determine the differences and relationships of youth that participate in school athletics and those who do not participate, an existing dataset of 4,078 students was used from a mid-sized Midwestern school district. The data was provided from a local nonprofit organization that gathers data from the school district and offers the data to other nonprofit organizations to measure participant outcomes.

The study found that there was a significant difference between youth who participate in school athletics and those who do not based on academic performance (GPA), behavior referrals, age and grade level. The study found that there was a significant relationship between youth who participate in school athletics and those who do not based on participation in the school's free or reduced lunch program and their ethnicity. There was no significant relationship between youth who participate in school athletics and those who do not based on gender.

The results suggest that youth should be actively involved with school athletics because the findings have demonstrated to have a significant impact on the study participant's GPA and behavior. A reason that this may occur is athletes may be held to a

higher standard by their coaches because if they do not achieve a certain grade or they are misbehaving, then they may not be able to participate in athletics.

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This Study by: Jonathan Wayne Klein

Entitled: AN ANALYSIS OF YOUTH PARTICIPATION IN ATHLETICS

has been approved as meeting the thesis requirement for the

Degree of Master of Arts

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Dr. Julianne Gassman, Chair, Thesis Committee

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Date

Dr. Kavita R. Dhanwada, Dean, Graduate College

DEDICATION

I would first like to dedicate this research to God for giving me the abilities and skills it took to conduct this research. I would also like to dedicate it to my family: Wes, Patty, Kyrsten, Justin, Eleni, Laryssa, Josh, Matthew, Wayne, Darlene, John, and Dorothy, for their constant support and pushing me to accomplish my goals and aspirations.

ACKNOWLEDGEMENT

I would like to thank Dr. Julianne Gassman for supporting me throughout my academic career at the University of Northern Iowa. Her guidance and commitment of assisting me to achieve my academic goals have allowed this thesis to be completed.

I would also like to thank my committee members, Dr. Christopher Edginton for his encouragement and exposure to new opportunities and Dr. Heather Olsen for challenging me to excel in my work. I deeply appreciate your support throughout my academic career. I would like to thank Brad McCalla for his willingness to work with me and for providing the dataset for this study.

I would like to extend my appreciation to my siblings, Kyrsten, Laryssa and Matthew, as well as my brother-in-laws Justin and Josh, for being fun, loving, and caring of me throughout our lives.

Lastly, I would also like to thank my parents, Wes and Patty, for grounding me in the Eastern Orthodox Christian faith. Their guidance and support has helped me to reach my goals throughout my life. Words cannot describe how appreciative and thankful I am to have you in my life and to call you my parents. God has truly blessed me with a wonderful family, and I thank Him for that.

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CHAPTER I

INTRODUCTION

Today, youth ages 12 to 17 comprise of nearly 7.8% of the population in the United States (United States Census Bureau, 2017). Throughout one's development, youth engage in many different forms of activities. Ranging from athletics to fine arts, extracurricular activities are an integral part of the development of youth. This study will examine whether participation in athletics has an effect on academic performance and the behavior of youth. Furthermore, this study will also analyze whether or not youth are participating in athletics if they receive financial assistance (i.e. free or reduced lunch).

The benefits of participating in structured athletic programs of youth have been studied by numerous researchers (Bush & Miller, 2011; Coatsworth & Conroy, 2007; Csikszentmihalyi, 1975; Hauser & Lueptow, 1978; Mahoney & Cairns, 1997; Marsh & Kleitman, 2003; Perkins & Noam, 2007; Pish, 2014; Yeung, 2015). Annually, roughly 40 million youth participate in athletics and continue participating in athletics for roughly five years from when they began (Murphy, 1999; National Council on Youth Sports, 2008). There are many reasons for individuals to participate in athletics during their youth. Allen (2003) points out that one of the reasons youth participate in athletics is for social interaction. Youth may see that their friends are participating in athletics and are having fun. This increases their desire to participate as well. According to Pish (2014), when participating in athletics, youth gain skills such as sportsmanship, valuing competition, social awareness, leadership abilities, as well as, a greater awareness of

one's physical capabilities. Youth may want to become more skilled in a certain sport which can be another motive for participating in athletics.

The effects of athletics on academic performance has been studied by various researchers. Whereas, some studies have shown athletics to have a positive effect on academic performance (Bush & Miller, 2011; Coatsworth & Conroy, 2007; Mahoney & Cairns, 1997; Marsh & Kleitman, 2003; Yeung, 2015), other research has shown no effect (Hauser & Lueptow, 1978). Dwyer, Sallis, Blizzard, Lazarus, and Dean (2001) found a positive correlation between children actively involved with physical activity and academic performance.

Academic performance can be thought of as the success of youth in a school environment (Centers for Disease Control and Prevention, 2010). A measurement of academic performance can be Grade Point Average (GPA; Dickinson & Adelson, 2016). Often, a student's GPA is linked to their ability to continue their participation in athletics offered in a school environment. Thus, there is often a relationship between academic performance and participation in that students seek to maintain a minimum GPA in order to continue their athletic participation.

Participation in athletics when young can lead to a healthier lifestyle. According to Perkins, Jacobs, Barber, and Eccles (2004), individuals who exhibited high amounts of participation in athletics as youth were eight times more likely to stay active as young adults. Similarly, Larson and Verma (1999) confirm a positive correlation between the participation of athletics and physical activity as youth and the career achievement of adults. Fraser-Thomas, Côté, and Deakin (2005) emphasize children who are engaged in

physical activities from childhood into adulthood are less likely to contract health challenges, such as obesity, heart problems, cancer, diabetes, and other diseases later on in life. Furthermore, Csikszentmihalyi (1975) explains youth that are actively involved with athletics and physical activity can reduce stress levels and increase self-esteem. On the contrary, Wankel and Kreisel (1985) has explained that self-esteem and confidence may decrease as youth feel the pressures of winning.

In order for athletics to be effective and contributing to the process of positive youth development, there should be an adult who encourages individuals to grow and develop. The lack of an adult figure in a child's life can have a detrimental effect on their development. Coaches have the ability to play a significant role in the development of youth. According to Fraser-Thomas et al. (2005), coaches can assist youth in four categories of development when serving as their coach: (1) *Physical development*; (2) *Psychological/emotional development*; (3) *Social development*; and (4) *Intellectual development*. These components can be enhanced as youth are often surrounded by their coaches, whether it be at practices or competitions, they act as mentors to the young athletes by teaching them both athletic and life skills (Fraser-Thomas et al., 2005). By teaching both athletic and life skills, coaches can serve as role models to the youth.

According Larson (2000), arts, sports, athletics and the involvement in organizations which are structured in voluntary contexts, aid youth to grow as an individual. Positive Youth Development (PYD) can be accelerated in youth through the structure and participation in youth programs, such as athletics (Bruner, Eys, Wilson, & Côté, 2014).

Initially developed in 1993, Little composed the *Four C's of Positive Youth Development*, which consisted of *competence, confidence, connection, and character* (Lerner et al., 2005; Little, 1993). It wasn't until 2004 when Eccles, Gootman, Roth, Brooks-Gunn and Lerner added the fifth C, *caring* (Lerner et al., 2005). This serves as a framework for positive youth development. These *Five C's* can guide coaches to ensure they are teaching life skills to the youth.

Although there are positive impacts to participating in youth athletics, there are also negative outcomes which they can experience. The physical development of youth may be affected because of the chances of an injury. According to Burt and Overpeck (2001), roughly 2.6 million emergency room visits are made annually with athletic related injuries between the ages of 5 and 24. According to Brooks-Gunn, Burrow, and Warren (1988), research has shown that female athletes are self-conscious about their body image which increases their chance to developing an eating disorder. Another form of aberrant behavior that can be seen as a result of participating in athletics is the consumption of alcohol. A study by Eccles and Barber (1999) found that youth who participated in athletics were linked to drinking alcohol in social settings.

Youth who come from families of low socioeconomic status are less likely to participate in youth athletics (C.S. Mott Children's Hospital, 2012). A determinant of socioeconomic status is whether or not youth are on free or reduced lunches (Iowa Department of Education, 2011). The costs to participate in athletics can take a toll on families. A study done by Dunn, Dorsch, King, and Rothlisberger (2016) showed that up to 10% of a family's gross income is spent on their children's athletic activities.

However, “59.5% of families invested less than 1% of their gross annual income” (Dunn et al., 2016, p. 292). This is a significant amount of money for a family to spend annually on their child. If the parent(s)/guardian(s) cannot afford paying for their child’s athletic interests, then the child may find alternative activities such as gangs, drug and alcohol abuse, etc. Furthermore, Woodland (2008) highlights the lack of research examining young boys in low-income neighborhoods that are involved with youth development programs.

Participation in athletics often plays an important role in the development of youth. Through athletic participation, not only do youth develop their physical capabilities, knowledge, and skills through athletic participation, such activities also provide a foundation for their moral and character development. Participation in youth athletics is increasingly diminished as individuals grow older. Furthermore, the locus of service provision and participation often shifts from the community to the schools, where the environment is more focused on performance and competition. Few studies have been conducted to determine the differences between youth who participate in school athletics and those who do not.

Purpose of the Study

The purpose of this study is to explore the differences between youth who participate in school athletics to those who do not participate. Specifically, this study will examine youth academic performance and behavior in school, including variables such as grade level, age, gender, and ethnicity. In addition, the study will examine whether or not there is a relationship between the involvement in the school’s free or reduced lunch

program and athletic participation. Moreover, this study will review the positive and negative outcomes of participating in athletics.

Problem Statement

Students are encouraged by their parents to participate and be involved in athletics, but one does not fully understand how being involved affects youth (Callender, 2010). This paper is focused on determining the differences regarding one's involvement in athletics and their academic performance in school and behavior. In addition, this study will determine the relationship regarding youth on the free or reduced lunch program and their involvement in athletics. Furthermore, this study will examine the relationship between participation in athletics and grade level, age, gender, and ethnicity.

Research Questions

Several research questions have been formulated to guide this research project.

The following research questions are offered to guide this study:

1. What are the differences between youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA)?
2. What are the differences between youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals?
3. What is the relationship between youth involved in school athletics and those not involved based on youth who receive a free or reduced lunch?
4. What are the differences between youth involved in school athletics and those not involved based on grade level, age, gender and ethnicity?

Null Hypotheses

The following hypotheses statements have been crafted in null form to aid in the statistical analysis of the study. They are as follows:

1. There will be no significant difference between the youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA).
2. There will be no significant difference between the youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals.
3. There will be no significant relationship between youth involved in school athletics and those not involved based on youth who receive a free or reduced lunch.
4. There will be no significant difference between the youth involved in school athletics and those not involved based on grade level, age, gender and ethnicity.

Significance of the Study

The author of this study participated in many different athletics during his childhood and into his youth. Participation ranged from age six and continued all through high school and college. Athletics had an impact on the author's life and presumably on the lives of many other individuals. Whether these impacts are positive or negative, analyzing the effects of athletics is important because youth professionals can use this information when implementing youth programs.

The results of this study may offer insights into whether or not participating in athletics as youth has an effect on one's academic performance and behavior. Further, it

will examine whether or not youth who have a lower socioeconomic status participate in athletics. This may offer some additional insights into the value and worth of athletics especially to individuals of lower socioeconomic status. This will be determined by analyzing whether or not youth are on their school's free or reduced lunch program and participate in athletics.

The literature suggests that there have been contradictory findings regarding the relationship between athletics and academic performance. Some researchers suggest that there is a relationship (Mahoney & Cairns, 1997; Marsh & Kleitman, 2003; Yeung, 2015), whereas others suggest otherwise (Hauser & Lueptow, 1978). The most recent Midwestern study that the researcher could find was completed over 45 years ago regarding youth athletics and academic performance. This is another important reason why this research is being carried out.

This study will allow those working with youth, including coaches, youth workers, youth leaders, teachers, and others, to enhance their knowledge of the relationship between athletics and youth development. Gaining an understanding of the relationships between academic performance, behavior and other significant variables is the primary reason for this study.

Limitations

A limitation that may occur in this study is the sample not being a representation of the population of youth. This study is conducted in the Midwest, therefore, it will not represent the population of youth in the United States. An additional limitation to this

study is whether or not youth participate in athletics because of the cost. If the cost is too great, the parent(s)/guardian(s) may not allow their child to participate.

Definition of Terms

1. Positive Youth Development (PYD): Lerner et al. (2005) explains that Positive Youth Development is youth gaining skills to be confident, competent, one of good character, caring and one who connects with others, to reach their full potential.
2. The Five Cs of Positive Youth Development: The Five C's of Positive Youth Development consist of: Competence, confidence, connection, character and caring (Lerner et al., 2005).
3. Athletics: According to Donnelly, Helms, and Mitchell (1958), sports become athletics when they are competitive in nature. For the purposes of this study, the middle school athletics considered in this study are: Volleyball, wrestling, basketball, cross country, track and field, and football. The high school athletics considered in this study are the aforementioned, as well as: Golf, soccer, swimming, tennis, bowling, baseball, football cheerleading, wrestling cheerleading, dance squad, and trapshooting.
4. Youth: Youth is described by the United Nations Educational, Scientific and Cultural Organization (2016) as the period of time between dependence in childhood to the independence of adulthood.
5. Academic Performance: According to the Centers for Disease Control and Prevention (2010), the term academic performance is used to determine the academic success of youth in school.

6. Grade Point Average (GPA): According to Dickinson and Adelson (2016), Grade Point Average is considered a measure of academic performance. Table 1.1 describes the Grade Point Average system used at the schools used in this study.

Table 1.1
Grade Point Average (GPA) Scales

Middle School GPA		High school GPA (Unweighted)		High School GPA (Weighted)	
Grade	GPA Value	Grade	GPA Value	Grade	GPA Value
A	4.00	A	4.00	A	5.00
A-	4.00	A-	3.67	A-	4.67
B+	3.00	B+	3.33	B+	4.33
B	3.00	B	3.00	B	4.00
B-	3.00	B-	2.67	B-	3.67
C+	2.00	C+	2.33	C+	3.33
C	2.00	C	2.00	C	3.00
C-	2.00	C-	1.67	C-	2.67
D+	1.00	D+	1.33	D+	2.33
D	1.00	D	1.00	D	2.00
D-	1.00	D-	0.67	D-	1.67
F	0.00	F	0.00	F	0.00

7. Behavior Referrals: According to Todd, Horner, and Tobin (2006), behavior referrals are problem behaviors that are committed by youth. Table 1.2 illustrates the different types of behavior referrals.

Table 1.2

Different Types of Behavior Referrals

Behavior Referrals	Major	Minor
Abusive/Inappropriate language/Profanity/Verbal argument	✓	
Bullying founded	✓	
Harassment/Bullying-unfounded	✓	
Defiance/Disrespect/Insubordination/Non-compliance	✓	✓
Extortion	✓	
Fighting with injury	✓	
Fighting with serious bodily injury	✓	
Fighting without injury	✓	
Fighting/Physical aggression/Physical assault	✓	✓
Physical aggression	✓	✓
Physical aggression with serious bodily injury	✓	
Physical aggression without injury	✓	✓
Molesting	✓	
Inappropriate language		✓
Intimidation	✓	
Racial slurs/Overt bigotry/Intolerance/Harassment	✓	
Teasing		✓
Arson	✓	
Attempted arson	✓	
Bomb threat/False alarm/False fire alarm/False 911	✓	
Burglary	✓	
Harassment/Bullying/Intimidation	✓	
Disruption		✓
Gang affiliation display	✓	
Forgery/Theft	✓	✓
Alcohol sale/ Distribution/ Use/ Possession of	✓	
Drugs sale/Distribution/Use/Possession of	✓	
Use/Possession of a weapon or dangerous object (Includes look alike and laser devices)	✓	
Use/Possession of combustibles or chemical devices	✓	

Table continues

Behavior Referrals	Major	Minor
Use/Possession of tobacco	✓	
Possession of look alike drugs	✓	
Possession of stolen property	✓	
Property misuse/Damage/Vandalism	✓	✓
Indecent exposure	✓	
Robbery	✓	
Building rule violation	✓	✓
Bus violation	✓	✓
Dress code violation	✓	✓
Gambling	✓	
Inappropriate display of affection		✓
Inappropriate location/Out of bounds area	✓	
Lying/Cheating	✓	✓
Other behavior	✓	✓
Skip class		✓
Tardy	✓	✓
Technology violation (Includes cell phones)	✓	✓
Unexcused or excessive absences	✓	
Vehicle violation	✓	
Reported incident		

8. **Extracurricular Activities:** According to Mahoney and Cairns (1997), athletics, vocational clubs, student government, and academic clubs are just a few of activities that are considered extracurricular activities. For the purposes of this study, athletics will be the extracurricular activity that is observed.
9. **Socioeconomic Status:** According to the American Psychological Association (2017), socioeconomic status represents the class an individual holds within society.

10. Free or Reduced Lunches: According to the Iowa Department of Education (2011), whether or not a child receives free or reduced lunches can be used as an indicator of their socioeconomic status. Table 1.3 describes the qualifications for the free or reduced lunch program in the state of Iowa. (Iowa.gov, 2016).

Table 1.3
Free or Reduced Lunch Program Qualifications

Free Lunches		Reduced Lunches	
Family Size	Maximum Income Level	Family Size	Maximum Income Level
3	\$26,208	3	\$37,296
5	\$36,972	5	\$52,614
8*	\$53,157	8**	\$75,647

* Each additional family member, add \$5,408

**Each additional family member, add \$7,696

Source: (Iowa.gov, 2016)

11. Ethnicity: According to Bhopal (2004), “Ethnicity is a multi-faceted quality that refers to the group to which people belong, and/or are perceived to belong, as a result of certain shared characteristics, including geographical and ancestral origins, but particularly cultural traditions and languages” (p. 441).
12. Gender: According to the United Nations Entity for Gender Equality and the Empowerment of Women (2017), gender “...refers to the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men” (para. 3).

CHAPTER II

INTRODUCTION TO LITERATURE REVIEW

The purpose of this study is to explore the differences between youth who participate in school athletics to those who do not participate. Specifically, this study will examine youth academic performance and behavior in school, including variables such as grade level, age, gender, and ethnicity. In addition, the study will examine whether or not there is a relationship between the involvement in the school's free or reduced lunch program and athletic participation. Moreover, this study will review the positive and negative outcomes of participating in athletics. Chapter II provides a critical review of the related literature for this study.

This chapter is divided into four sections. The first section of the literature review deals with the topic of athletics and academic performance and includes ten citations. The next section of the literature review is focused on athletics and positive youth development and contains seventeen citations. The third section of the literature review is concerned with athletics and low-income families and is comprised of six citations. The fourth and final section of the literature is focused on athletics and youth demographics and offers nine citations. Table 2.1 is split into four sections that reflect a graphic representation of the literature review.

Table 2.1
Literature Review Sources

Study Areas	Sources
Athletics and Academic Performance	Suskie, 2015; Yeung, 2015; Bush & Miller, 2011; Lumpkin, 2009; Coatsworth & Conroy, 2007; Marsh & Kleitman, 2003; Dwyer et al., 2001; Mahoney & Cairns, 1997; Marsh, 1991; Hauser & Lueptow, 1978
Athletics and Positive Youth Development	Office of Juvenile Justice and Delinquency Prevention, 2015; Pish, 2014; Jones, Dunn, Holt, Sullivan, & Bloom, 2011; Daniels, 2007; Perkins & Noam, 2007; Fraser-Thomas, Côté, & Deakin, 2005; Lerner et al., 2005; Bartko & Eccles, 2003; Lerner, 2004; McCaul, Baker, & Yardley, 2004; Perkins, Jacobs, Barber, & Eccles, 2004; Pittman, Irby, Tolman, Yohalem, & Ferber, 2003; Roth & Brooks-Gunn, 2003; Eccles & Barber, 1999; Little, 1993; Wankel & Kreisel, 1985; Csikszentmihalyi, 1975
Athletics and Low-Income Families	Patel & Mohl, 2015; Waterloo Schools, 2017; Iowa.gov, 2016; C.S. Mott Children's Hospital, 2012; National Center for Education Statistics, 2012; McHale et al., 2005
Athletics and Youth Demographics	United States Census Bureau, 2017; Katzmarzyk et al., 2016; King, 2015; Centers for Disease Control and Prevention, 2015, 2011; Green, 2011; National Council on Youth Sports, 2008; Burt & Overpeck, 2001; Murphy, 1999

Athletics and Academic Performance

Athletics and academic performance is the topic summarized in this portion of the literature review. Athletics may provide students with skills that would be beneficial in the classroom (Yeung, 2015). A skill that occurs on the competitive stage is teamwork, and it can be translated to group projects in the classroom. Being involved with athletics may provide students with the ability to manage their time more effectively to ensure they get their studying done.

Although there is a study that has shown there is not a relationship between athletics and academics (Hauser & Lueptow, 1978), there are multiple studies that have found athletics to have a positive effect on academics (Bush & Miller, 2011; Coatsworth & Conroy, 2007; Dwyer et al., 2001; Mahoney & Cairns, 1997; Marsh & Kleitman, 2003; Yeung, 2015). Dwyer et al. (2001) also confirms a positive correlation between children actively involved with physical activity and academic performance. A study by Marsh and Kleitman (2003) demonstrated positive effects from participating in high school athletics and on academic grades. Similarly, a study was conducted by Yeung (2015) where he analyzed and compared the average test scores of athletes to non-athletes. Yeung found that athletes had statistically significant better average test scores than non-athletes on Reading ($p=.001$), Math Level 1 ($p=.000$), Math Level 2 ($p=.000$), Civics ($p=.002$), Science ($p=.000$), and Vocabulary ($p=.001$) (Yeung, 2015).

Mahoney and Cairns (1997) conducted a longitudinal study following students from 7th through 12th grade and analyzed whether there was a relationship between students who participated in extracurricular activities and early school dropout. The

extracurricular activities that were considered were: Athletics, fine arts, student government, assistants, press, vocational, service, royalty and academics. They found that students who engage in extracurricular school activities are less likely to drop out of school (Mahoney & Cairns, 1997).

In contrast, a study was conducted in a large Midwestern city that consisted of 852 senior males from five high schools in 1972. The research found there was not a statistically significant relationship between the involvement in athletics and academic performance (Hauser & Lueptow, 1978). With this study being more than 45 years old, it is important to further examine the differences in athletics and academic performance in a Midwestern city.

It is reported that youth who are engaged in activities at school show they have positive school outcomes. Marsh (1991) stated that school engagement creates an increased academic self-concept, which results in a student studying more frequently. Similarly, Suskie (2015) described that participation in athletics can promote learning experiences in an academic setting. This type of engagement shapes youth academically. Suskie (2015) goes on to discuss student experiences in an activity: "...whether co-curricular or extra-curricular, should contribute to student learning, growth, and development in some way, even if it is a subtle way of which students are unaware" (p.6).

Furthermore, athletics can have an impact on academic performance because some athletic coaches may enforce high academic benchmarks that the athletes need to attain (Lumpkin, 2009). This holds them to a higher standard and keeps them accountable

for each other. If an athlete is not reaching the standard that the coach sets, they will be unable to participate.

Athletics and Positive Youth Development

Youth participating in athletics has resulted in positive outcomes in their development; literature related to this topic is analyzed in this portion of the paper. In 2004, Eccles, Gootman, Roth, Brooks-Gunn and Lerner coined the phrase, the *Five C's of Positive Youth Development*. The *Five C's of Positive Youth Development* serve as a framework for youth to gain skills to live a healthy life in society (Lerner et al., 2005). Prior to the *Five C's of Positive Youth Development*, there were four components: Competence, confidence, connection, and character (Lerner et al., 2005; Little, 1993). Not too long after the four C's, the fifth C, caring (compassion) was added (Lerner et al., 2005). When these components are seen in an individual, a sixth component appears: Contribution (Lerner et al., 2005) . This framework serves as a mold to develop youth into a well-rounded human being. Below, each component is described.

Competence is the first key component in the Positive Youth Development model. Lerner (2004) explains that there are four parts to competence: Academic, social, vocational, and cognitive. Competence is the positive outlook of an individual on their actions (Lerner, 2004). Academic competence takes place in the school setting. Test scores, school grades, and attendance are just a few of the many components of academic competence (Lerner, 2004). Social competence comprises of relational skills between two or more individuals. An example of social competence would be how an individual resolves conflict. Vocational competence incorporates the different types of work ethic an

individual possesses. Finally, cognitive competence includes decision-making abilities that an individual possesses.

The second component of the *Five C's* is *confidence*. It is important for an individual to portray confidence in everything they do. Lerner (2004) describes confidence as being an intrinsic perception of one's self-efficacy and self-worth. However, there is a notable difference between being overconfident and an individual having a lack of confidence. If an individual is overconfident, they may not be liked by their peers and be perceived as arrogant. An individual that lacks the sense of confidence may have low self-esteem and self-efficacy. There must be a healthy medium that is in between these two extremes.

The third element of the *Five C's* is *connection*. Lerner (2004) describes connection to occur when people interact with each other. These interactions create positive bonds and relationships between both parties (Lerner, 2004). Youth can connect with their community, peers, family, and at the school they attend (Lerner, 2004). One of the main components to connection is the harvesting relationships between these individuals.

An example of connection could be a teenager that is new to a community, deciding to get involved by volunteering. Perhaps this person goes to the nursing home once a week and plays cards and has conversations with the elderly. The individual is displaying relationships that are strong within the community. Connection can also be a form of networking, given that there are bonds being formed.

The fourth piece of the *Five C's* is known as *character*. Lerner (2004) portrays *character* to be the amount of respect an individual has for one's culture and society. Not only does the individual have respect for their own culture, but also different cultures of which they may not be accustomed to. High values of integrity and internal knowledge of right versus wrong is another important element of *character* (Lerner, 2004). The final key component that was introduced by Lerner (2004) is *caring* or *compassion*. These terms can be used interchangeably with each other. Lerner (2004) defines *care* and *compassion* as an individual having sympathy and empathy towards another person when a conflict may arise.

A sixth C emerges when all five of the C's are present in an individual. This C is *contribution*. *Contribution* occurs when an individual uses all of the other components to make a positive influence on society (Pittman et al., 2003; Roth & Brooks-Gunn, 2003). This framework acts as a developmental lifecycle, hoping that once youth attain these attributes, they will teach them to other individuals. The more an individual maintains these qualities, the more likely they will display Positive Youth Development (Jones et al., 2011).

Youth can obtain other skills from participating in athletics. These skills include, but are not limited to the following: Sportsmanship, competitive skills, social skills and leadership abilities (Perkins & Noam, 2007; Pish, 2014). These skills can be taught to youth when they are surrounded by a coach or coaches that serve as positive role models. When a coach creates a setting that is conducive for the development of the athlete as a whole person, these skills are developed and solidified (Perkins & Noam, 2007). If taught

correctly, these skills give youth confidence (Daniels, 2007). Similarly, coaches can help youth develop in four categories of development: (1) *Physical development*; (2) *Psychological/emotional development*; (3) *Social development*; (4) *Intellectual development* (Fraser-Thomas et al., 2005).

By participating in youth athletics, it can lead to a healthier lifestyle. Youth who participate in athletics when young are eight times more likely to stay active as adults (Perkins et al., 2004). Similarly, Csikszentmihalyi (1975) noted that when youth who are actively involved in athletics, their self-esteem levels increase and their stress levels reduce. However, Wankel and Kreisel (1985) found that youth may be at risk for a lack of self-esteem and confidence because they can feel the high pressures and expectations to win.

The opposite of Positive Youth Development can lead to deviant behavior. For the purpose of this study, deviant behavior will be measured by behavior referrals and will be analyzed as an indication of youth who are not experiencing Positive Youth Development. In 2012, 3,939.6 per 100,000 youth, ages 10-17, were arrested (Office of Juvenile Justice and Delinquency Prevention, 2015). This is the lowest rate that was recorded since 1980. The Office of Juvenile Justice and Delinquency Prevention (2015) expect the number to continue to fall. This data may suggest that youth are finding other activities to do rather than committing crime and/or engaging in harmful, deviant behavior.

Another form of deviant behavior which is a result of participating in athletics is the consumption of alcohol. A study done by Eccles and Barber (1999), found that youth

who participated in athletics were linked to drinking alcohol in social settings. McCaul et al. (2004) affirm that alcohol consumption is linked with youth who participate in team athletics. Bartko and Eccles (2003) pointed out that youth who participated in athletics were more likely to engage in problem behaviors, such as substance abuse, than youth who were in school-based clubs.

Athletics and Low-Income Families

Participating in athletics can potentially take a financial toll on families. This section of the literature review examines the financial strain of participating in athletics. According to the C.S. Mott Children's Hospital (2012), athletes are often required to pay team fees in order to participate in school-based youth athletics. The C.S. Mott Children's Hospital conducted a national level research in 2012 regarding the participation of school athletics in middle school and high school. The research found that 61% of the students had a "pay-to-play" charge in order to participate in athletics with the average cost of \$93 (C.S. Mott Children's Hospital, 2012). The parents of the study stated that the "pay-to-play" charge was only one element of participating in athletics. Equipment and travel costs are other expenses that can be incurred by a family. The average cost from this study for youth to participate on an athletic team was \$381 (C.S. Mott Children's Hospital, 2012). Roughly 33% of families whose average household income is less than \$60,000 have at least one teen in school athletics; as opposed to, more than 50% of families who make more than \$60,000, where they have at least one teen participating in school athletics (C.S. Mott Children's Hospital, 2012).

If youth have talent but come from a lower income family, it is harder for the youth to be exposed to colleges because they cannot afford to participate in club teams. An analysis done by Patel and Mohl (2015) of the Massachusetts Interscholastic Athletic Association's, showed that youth who grow up in wealthier communities have more exposure to different athletic opportunities compared to youth who grow up in poorer communities. McHale et al. (2005) conducted a study of youth who lived in a lower income community and found that boys who came from low-income families but participated in athletics were less likely to smoke marijuana than boys who were not involved in athletics (McHale et al., 2005).

Throughout this study, we will analyze low-income families by looking at whether or not students receive free or reduced lunches. Being on free or reduced lunch is one way to measure the socioeconomic status of youth. On a national level from 2010-2011, 48.1% of youth from public schools are eligible to receive free or reduced lunches (National Center for Education Statistics, 2012).

Table 1.3 from Chapter I illustrates how a family in Iowa can be eligible to receive a free or reduced lunch. In order to qualify for reduced lunches in Iowa, a family of three, five, or eight has to have a maximum income level of \$37,296, \$52,614, or \$75,647 per year (Iowa.gov, 2016). For each additional family member over eight, add \$7,696 (Iowa.gov, 2016). In order to qualify for free lunches, a family of three, five or eight has to have a maximum income level of \$26,208, \$36,972, or \$53,157 per year. For each additional family member over eight, add \$5,408 (Iowa.gov, 2016).

In Iowa from 2010-2011, 38.9% of youth from public schools were eligible to receive free or reduced lunches (National Center for Education Statistics, 2012). From the school district that is being analyzed during this study, 69.9% of the students were on free or reduced lunches (Waterloo Schools, 2017).

Athletics and Youth Demographics

This portion of the literature review is dedicated to the topic of athletics and youth demographics. According to the United States Census Bureau (2017), on December 31, 2015, the population of the United States was 322,060,152. Of those people, 25,120,692 are aged 12 to 17 years old and make up 7.8% of the population (United States Census Bureau, 2017). This study will specifically be analyzing this age group.

Today, nearly 40 million youth aged 5 to 17 participate in athletics (Murphy, 1999; National Council on Youth Sports, 2008). Additionally, participation in athletics across the United States has been declining over recent years (King, 2015). According to King (2015), 20% of youth, aged 6-17 years old, have not participated in athletics at all.

Participating in youth athletics has also been more prevalent in males than females (Green, 2011; Katzmarzyk et al., 2016). In a study done by the Centers for Disease Control and Prevention in 2015, 57.6% of youth in America participated in at least one athletic sport in high school (Centers for Disease Control and Prevention, 2015).

In 2011, 64.1% of youth in Iowa played on at least one athletic team (Centers for Disease Control and Prevention, 2011). Additionally, 60% of females and 68.1% of males participated in at least one athletic team (Centers for Disease Control and Prevention, 2011). Furthermore, participating in athletics can cause injury to the athlete.

According to Burt and Overpeck (2001), nearly 2.6 million emergency room visits are made annually with athletic related injuries amongst youth between the ages of 5 and 24.

The 2015-2016 academic year's enrollment of students at the school district being used for this study was 10,444 students (Waterloo Schools, 2017). Of those students, 51% were white, the rest consisted of a minority background (Waterloo Schools, 2017). The average class size in the middle schools were 22.9 students, and high school 23.7 students (Waterloo Schools, 2017).

Summary

Chapter II provided a critical review of athletics and academic performance, positive youth development, low-income families and youth demographics. Research has shown that there is a limited amount of studies regarding the effect of athletics on youth development and behavior. There has been contradictory literature whether or not there is a difference between participation in athletics and academic performance.

Youth that participate in athletics have the potential to gain positive outcomes, given that there is a coach that demonstrates positive behavior. Lerner et al. (2005) describes the *Five C's of Positive Youth Development* as a model for youth to live healthy lives in society. When the *Five C's* are present, *contribution* occurs, where the individual positively contributes to society (Pittman et al., 2003; Roth & Brooks-Gunn, 2003).

As previously stated by C.S. Mott Children's Hospital (2012), athletes are typically required to pay fees to participate in athletics. This can be a financial burden on families, especially those of a lower socioeconomic status. The average cost to play was

\$93, which does not take into account travel and equipment expenses (C.S. Mott Children's Hospital, 2012).

Finally, from the 2010 Census, there are 53,980,105 youth that are aged 5-17 in America, which is 17% of the United States population (Howden & Meyer, 2011). Youth should be involved in activities when they are not at school to prevent them from becoming involved with violence and other deviant behavior.

CHAPTER III

METHODS

The purpose of this study is to explore the differences between youth who participate in school athletics to those who do not participate. Specifically, this study will examine youth academic performance and behavior in school, including variables such as grade level, age, gender, and ethnicity. In addition, the study will examine whether or not there is a relationship between the involvement in the school's free or reduced lunch program and athletic participation. This study analyzes youth from a Midwestern community school district during the 2015-2016 academic year. In addition, this chapter will examine the research methods used throughout this study.

Participants

This dataset represents youth who attend a Midwestern community school district. The population of the community is approximately 68,000 people. The ages of the students from the school district ranges from 13 to 21 years old (grades 7 through 12); 4,078 students are analytically used in this study. The *Application for Use of Existing Data* was submitted and approved by the Institutional Review Board (IRB) at the University of Northern Iowa in October 2016. The approval number is: IRB 17-0065.

Instrumentation

The methods of the study used a quantitative method approach. At the end of every school term, the school district sends data on their students to a local nonprofit organization that collects and organizes the data. The organization supplies the data to other organizations to measure the outcomes of youth who participate in their programs.

The data that is provided for this study consist of students' Grade Point Average (GPA), behavior referrals in the schools, whether they received free or reduced lunches, whether or not they participated in school athletics, and demographic information. This dataset consists of students from the 2015-2016 academic school year.

The type of athletic activities considered for high school athletics included in this dataset are as follows: Volleyball, wrestling, basketball, cross country, track and field, football, tennis, golf, soccer, swimming, baseball, bowling, football cheerleading, wrestling cheerleading, dance squad and trapshooting. However, the athletic activities that are considered for middle school students are the following: Volleyball, wrestling, basketball, cross country, track and field and football.

Procedures

In the early stages of this study, the researcher met with the Executive Director of a nonprofit organization who receives data from local community school districts in the Midwestern part of the United States. During this meeting, permission was granted to use data from this agency.

In October of 2016, the *Application for Use of Existing Data* was submitted and approved (IRB 17-0065) by the Institutional Review Board (IRB) at the University of Northern Iowa.

Along with receiving data from school districts, the organization also receives data from the local YMCA, YWCA, Boys and Girls Club, and other organizations. The nonprofit organization gives the data to other organizations to analyze how their participants are performing in school.

The data was supplied to the researcher without any identifiers to specifically isolate any particular individual in the study. The data was analyzed using IBM Statistical Analysis for the Social Science (SPSS) to understand whether there were significant differences or relationships regarding the participation in athletics and youth development.

Data Analysis

The IBM Statistical Analysis for the Social Science (SPSS) was used to analyze the data. The dependent variables that were analyzed in this study were Grade Point Average (GPA), behavior referrals in the schools, and socioeconomic status measured by students on the free or reduced lunch program. The independent variable was whether or not the student participated in athletics. Demographics such as grade level, age, ethnicity and gender were also analyzed in this study.

According to Field (2005), the parametric independent t-tests are used to determine if there is a significant difference between two means of an independent sample. Therefore, for the purposes of this study, an independent samples t-test will be conducted to determine whether there is a difference between: Youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA); youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals; youth involved in school athletics and those not involved based on the demographic grade level; and youth involved in school athletics and those not involved based on the demographic age. Gravetter and Wallnau (2007) state the nonparametric test Pearson's chi-square test is

used to test whether there is a significant relationship between the variables. Therefore, the nonparametric test, Pearson's chi-square, will be conducted to determine whether there is a relationship between: Youth involved in school athletics and those not involved based on youth who receive a free or reduced lunch; and youth involved in school athletics and those not involved based on gender and ethnicity.

Summary

The data was provided from a local nonprofit agency and will be analyzed using IBM Statistical Analysis for the Social Science (SPSS). Four thousand seventy-eight students were examined in this study. Independent t-test and Pearson's chi-square tests will be used to determine if a statistically significant result was present in this study.

CHAPTER IV

RESULTS

The purpose of this study was to explore the differences between youth who participated in school athletics to those who did not participate. Specifically, this study examined youth academic performance and behavior in school, and variables such as grade level, age, gender, and ethnicity. In addition, this study examined whether or not there was a relationship between the involvement in the school's free or reduced lunch program and athletic participation. Moreover, this study reviewed the positive and negative outcomes of participating in athletics. Chapter IV presents the findings and results of the study.

This chapter details the procedures for the collection and utilization of data to determine the following: (1) The differences between youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA); (2) The differences between the youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals; (3) The relationship between youth involved in school athletics and those not involved based on youth who receive a free or reduced lunch; and (4) The difference between the youth involved in school athletics and those not involved based on grade level, age, gender and ethnicity.

Descriptive Statistics

This chapter presents descriptive statistics regarding the participants of the study, including their grade level, age, gender, ethnicity, participation in athletics, behavior

referrals, as well as the school free or reduced lunch program. Table 4.1 illustrates the descriptive statistics from this study.

Table 4.1

Descriptive Results: Grade, Gender, Ethnicity, Participation in Athletics, Behavior Referrals, and Free or Reduced Lunch

Variables	All individuals (N=4,078)		Participated in athletics (n=1,792)		Did not participate in athletics (n=2,286)	
	n	%	n	%	N	%
Grade Level						
7 th	732	17.9	399	22.3	333	14.6
8 th	699	17.1	379	21.1	320	14.0
9 th	710	17.4	281	15.7	429	18.8
10 th	711	17.4	266	14.8	445	19.5
11 th	653	16.0	265	14.8	388	17.0
12 th	573	14.1	202	11.3	371	16.2
Total	4,078	99.9	1,792	100.0	2,286	100.1
Age						
13	330	8.1	181	10.1	149	6.5
14	687	16.8	368	20.5	319	14.0
15	721	17.7	363	20.3	358	15.7
16	638	15.6	267	14.9	371	16.2
17	691	16.9	271	15.1	420	18.4
18+	1011	24.8	342	19.1	669	29.3
Total	4,078	99.9	1,792	100.0	2,286	100.1
Gender						
Female	2,004	49.1	878	49.0	1,126	49.3
Male	2,074	50.9	914	51.0	1,160	50.7
Total	4,078	100.0	1,792	100.0	2,286	100.0

Table continues

Variables	All individuals (N=4,078)		Participated in athletics (n=1,792)		Did not participate in athletics (n=2,286)	
	n	%	n	%	N	%
Ethnicity						
Caucasian	2,215	54.3	1,060	59.2	1,155	50.5
African American	1,006	24.7	448	25	558	24.4
Hispanic	442	10.8	141	7.9	301	13.2
Multiracial	206	5.1	95	5.3	111	4.9
Asian	133	3.3	31	1.7	102	4.5
Pacific Islander	64	1.6	13	0.7	51	2.2
Indian	12	0.3	4	0.2	8	0.3
Total	4,078	100.1	1,792	100.0	2,286	100.0
Behavior Referrals						
0	1,473	36.1	732	40.8	741	32.4
1	420	10.3	203	11.3	217	9.5
2-3	425	10.4	194	10.8	231	10.1
4-5	319	7.8	136	7.6	183	8.0
6-10	371	9.1	162	9.0	209	9.1
11-20	420	10.3	164	9.2	256	11.2
21-46	400	9.8	134	7.5	266	11.6
47-334	250	6.1	67	3.7	183	8.0
Total	4,078	99.9	1,792	99.9	2,286	99.9
Free or Reduced Lunch						
Free	2,222	54.5	820	45.8	1,402	61.3
Reduced	342	8.4	172	9.6	170	7.4
Ineligible	1,514	37.1	800	44.6	714	31.2
Total	4,078	100.0	1,792	100.0	2,286	99.9
Grade Point Average (GPA)						
0.00-1.00	153	3.8	18	1.0	135	5.9
1.01-2.00	754	18.5	229	12.8	525	23.0
2.01-3.00	1,516	37.2	597	33.3	919	40.2
3.01-4.00	1,604	39.3	909	50.7	695	30.4
4.01-5.00	51	1.3	39	2.2	12	0.5
Total	4,078	100.1	1,792	100.0	2,286	100.0

Note: Percentage may not equal 100% due to rounding

Grade Level

The grade level of the individuals in the study ranged from 7th through 12th grade and included, as previously mentioned, 4,078 individuals. There were 732 individuals in 7th grade representing 17.9% of the total number of individuals in the study. Of the individuals in the study, 699 were 8th graders representing 17.1% of the study. There were 710 participants in 9th grade representing 17.4% of the total number of individuals in the study. Of the individuals in the study, 711 were 10th graders representing 17.4% of the study. There were 653 participants in 11th grade representing 16.0% of the total number of individuals in the study. Of the individuals in the study, 573 were 12th graders representing 14.1% of the study.

From the dataset, the percentage of youth that participated in school athletics gradually declined from 7th through 12th grade. Of the youth who participated in athletics, the highest participation level was in 7th grade at 22.3%, and the lowest in 12th grade, at 11.3%.

Age

When looking at the age of the participants, 330, or 8.1%, were 13 years old. Six hundred and eighty-seven, or 16.8% of the individuals were 14 years old. There were 721 individuals, or 17.7% that were 15 years old. Six hundred and thirty-eight individuals, or 15.6% of the persons in this study were 16 years old. Seventeen year olds were composed of 691 individuals, or 16.9%. Finally, the largest group, 18 years old and older, consisted of 1,011 individuals, or 24.8%.

Gender

Of the total number of participants, 2,004 were identified as females and 2,074 were identified as males. Thus, 49.1% of the dataset were identified as females and 50.9% were identified as males. The percentage of the individuals that participated in athletics were distributed evenly with 49.0% being female and 51.0% being male.

Ethnicity

When viewing the subjects by ethnicity, 2,215 participants, or 54.3%, were identified as Caucasian. One thousand and six, or 24.7%, of the individuals could be identified as African American. The next largest ethnic group were Hispanics representing 10.8% of the study population, which included 442 participants. Two hundred and six individuals, or 5.1%, could be identified as Multiracial. The remaining individuals (209) represented 5.2% of the study population and included individuals from the following ethnic groupings: Asian, Pacific Islander and Indian.

When looking at the number of youth who participated in school athletics and their ethnic makeup, 59.2% were Caucasian, 25.0% were African American, 7.9% were Hispanic, 5.3% were Multiracial, 1.7% were Asian, .2% were Indian, and .7% were Pacific Islander.

Participation in Athletics

The aforementioned individuals identified whether or not they participated in school athletic programs. One thousand seven hundred ninety-two, or 43.9%, of the study population, reported being involved in a school athletic program. On the other hand, 2,286 or 56.1% reported that they were not involved in a school athletic program.

Free or Reduced Lunches

This analysis of the dataset provided information whether or not individuals in the study population received a free or reduced lunch. In this study population, 2,222 or 54.5% individuals reported receiving a free lunch. On the other hand, 342 or 8.4% reported that they were involved in the reduced lunch program. Further, the study population revealed that 1,514 youth (37.1%) were ineligible for either the free or reduced lunch program.

Of the youth who participated in athletics, 45.8% of them received a free lunch; 9.6% received a reduced lunch; and 44.6% of them reported being ineligible for the free or reduced lunch program.

Grade Point Average (GPA)

Some of the Grade Point Averages were received on a five-point scale because some students were enrolled in Advanced Placement (AP) or International Baccalaureate (IB) courses in which they use the weighted system. The researcher grouped the GPA from 0.00-1.00, 1.01-2.00, 2.01-3.00, 3.01-4.00, and 4.01-5.00. In the study population, 153 individuals, or 3.8%, had a GPA between 0.00 and 1.00. There were 754 individuals, or 18.5%, whose GPA was between 1.01-2.00. One thousand five hundred and sixteen individuals, or 37.2%, of the study population had a GPA between 2.01-3.00. There was 1,604 individuals, or 39.3%, that had a GPA between 3.01-4.00. Finally, 51 individuals, or 1.3%, had a GPA between 4.01-5.00.

Youth that reported participating in athletics tended to have a higher GPA. Only 1.0% of youth who participated in athletics recorded a GPA between 0.00 and 1.00. As

the GPA scale increased, the frequency of youth increased with a majority of the students having a GPA between 3.01-4.00 (50.7%).

Behavior Referrals

As indicated in the Definition of Terms section, behavior referrals can be thought of as problem behaviors that are committed by youth (Todd, Horner, & Tobin, 2006).

Table 4.2 indicates the exact frequency of behavior referrals students made.

Table 4.2

Frequency of Behavior Referrals (N=4,078)

Number of Behavior Referrals	n	%
0	1,473	36.1
1	420	10.3
2	251	6.2
3	174	4.3
4	186	4.6
5	133	3.3
6	91	2.2
7	81	2.0
8	67	1.6
9	62	1.5
10	70	1.7
11	49	1.2
12	66	1.6
13	31	0.8
14	54	1.3
15	29	0.7
16	49	1.2
17	33	0.8
18	50	1.2
19	22	0.5
20	37	0.9

Table continues

Number of Behavior Referrals	n	%
21	29	0.7
22	39	1.0
23	16	0.4
24	34	0.8
25	16	0.4
26	20	0.5
27	12	0.3
28	20	0.5
29	7	0.2
30	17	0.4
31	11	0.3
32	16	0.4
33	8	0.2
34	22	0.5
35	10	0.2
36	16	0.4
37	6	0.1
38	11	0.3
39	13	0.3
40	14	0.3
41	6	0.1
42	18	0.4
43	7	0.2
44	12	0.3
45	4	0.1
46	16	0.4
47	3	0.1
48	9	0.2
49	4	0.1
50	9	0.2
51	3	0.1
52	4	0.1
53	4	0.1
54	9	0.2
55	2	0.0

Table continues

Number of Behavior Referrals	n	%
56	6	0.1
57	2	0.0
58	9	0.2
59	4	0.1
60	4	0.1
61	2	0.0
62	6	0.1
63	2	0.0
64	5	0.1
65	5	0.1
66	4	0.1
67	2	0.0
68	5	0.1
69	4	0.1
70	4	0.1
71	1	0.0
72	3	0.1
73	3	0.1
74	8	0.2
75	2	0.0
76	8	0.2
77	2	0.0
78	3	0.1
79	2	0.0
80	5	0.1
82	4	0.1
83	1	0.0
84	6	0.1
85	2	0.0
86	3	0.1
87	3	0.1
88	1	0.0
89	2	0.0
90	2	0.0
91	2	0.0
92	4	0.1

Table continues

Number of Behavior Referrals	n	%
93	1	0.0
94	3	0.1
96	3	0.1
97	1	0.0
98	1	0.0
99	1	0.0
100	2	0.0
101	1	0.0
102	4	0.1
104	1	0.0
105	1	0.0
106	4	0.1
107	3	0.1
108	4	0.1
112	1	0.0
114	2	0.0
115	1	0.0
118	3	0.1
121	1	0.0
122	1	0.0
124	1	0.0
125	1	0.0
126	1	0.0
127	1	0.0
128	1	0.0
132	2	0.0
134	1	0.0
136	2	0.0
138	1	0.0
139	2	0.0
141	1	0.0
142	1	0.0
144	1	0.0
146	2	0.0
147	1	0.0
148	1	0.0

Table continues

Number of Behavior Referrals	n	%
162	1	0.0
168	1	0.0
172	1	0.0
174	1	0.0
176	2	0.0
188	1	0.0
192	1	0.0
210	1	0.0
220	1	0.0
294	1	0.0
326	1	0.0
334	1	0.0

Note: Percentage may not equal 100% due to rounding

Referring to Table 4.1, behavior referrals were categorized into eight groups: 0, 1, 2-3, 4-5, 6-10, 11-20, 21-46, and 47-334. In this population, 1,473, or 36.1%, of the individuals reported 0 behavior referrals. Four hundred and twenty, or 10.3%, of the individuals reported 1 behavior referral. Of the individuals in the study, 425, or 10.4%, recorded 2-3 behavior referrals. Three hundred and nineteen, or 7.8%, of the individuals reported 4-5 behavior referrals. Of the population, 371, or 9.1% of the individuals reported having 6-10 behavior referrals. Subsequently, 420, or 10.3% of the individuals reported 11-20 behavior referrals. Of the individuals in this study, 400, or 9.8%, recorded 21-46 behavior referrals. Lastly, 250, or 6.1%, of the individuals reported 47-334 behavior referrals.

When analyzing the number of youth who participated in school athletics and their number of behavior referrals, 40.8% of the individuals in athletics received 0

behavior referrals; 11.3% of the individuals in athletics received 1 behavior referral; 10.8% received 2-3 behavior referrals; 7.6% of the individuals in athletics received 4-5 behavior referrals; 9.0% of the individuals in athletics received 6-10 behavior referrals; 9.2% of the individuals in athletics received 11-20 behavior referrals; 7.5% of the individuals in athletics received 21-46 behavior referrals; and 3.7% of the individuals in athletics received 47-334 behavior referrals. It can be noted that there is an inverse relationship between the behavior referrals and participation in athletics; as the behavior referral count increased, the individuals who participated in athletics decreased.

Differences Between Participation in Athletics and Age, Grade Level, Academic
Performance and Behavior Referrals

Table 4.3 illustrates the independent t-test results that were conducted to determine whether there was a difference between youth who participated in school athletics and those who did not based on age, grade level, academic performance and behavior referrals.

Table 4.3

Independent t-test Results Between Athletic Involvement and Age, Grade Level, Academic Performance, and Behavior Referrals

Variable	All individuals N=4,078		Participation in Athletics (n=1,792)		No participation in Athletics (n=2,286)		t	df	p
	M	SD	M	SD	M	SD			
Age	16.02	1.82	15.62	1.64	16.14	1.62	-10.12	4,076	0.000*
Grade Level	9.39	1.68	9.13	1.69	9.59	1.65	-8.84	4,076	0.000*
Academic Performance	2.69	0.89	2.97	0.78	2.48	0.91	18.39	4,042.40	0.000*
Behavior Referrals	11.26	23.69	8.13	18.95	13.72	26.58	-7.82	4,040.94	0.000*

*Significant, $p < .05$

Difference Between Athletic Involvement and Age

To determine if there was a statistically significant difference between the youth who participated in school athletics and those who did not based on age, an independent t-test was calculated. Table 4.3 illustrates a statistically significant difference between athletic involvement and age. Individuals who were involved in athletics had a lower mean for age (15.62) than those not involved in athletics (16.14). This implies that youth who participate in athletics at a younger age and quit as they get older.

The scores noted above were found to be statistically significant at the .05 level where $t(4,076) = -10.12$, $p = .000$. Therefore, the null hypothesis can be rejected.

Difference Between Athletic Involvement and Grade Level

To determine if there was a statistically significant difference between youth who participated in school athletics and those who did not based on grade level, an independent t-test was calculated. Table 4.3 indicates a statistically significant difference

between athletic involvement and grade level. Individuals who were involved in athletics had a lower mean grade level (9.13) than those not involved in athletics (9.59). The results noted were found to be statistically significant at the .05 level where $t(4,076) = -8.84$, $p = .000$. Therefore, the null hypothesis can be rejected.

Difference Between Athletic Involvement and Academic Performance

To determine if there was a statistically significant difference between youth who participated in school athletics and those who did not based on academic performance as measured by Grade Point Average (GPA), an independent t-test was calculated.

Table 4.3 illustrates a statistically significant difference between athletic involvement and academic performance (GPA). Students who were involved in school athletics had a higher average GPA (2.97) than those not involved in athletics (2.48). It can be implied that youth who participate in athletics perform better academically than those who do not participate. The results noted in Table 4.3 were found to be statistically significant at the .05 level where $t(4,042.40) = 18.84$, $p = .000$. Therefore, the null hypothesis can be rejected.

Difference Between Athletic Involvement and Behavior Referrals

To determine if there was a statistically significant difference between youth who participated in school athletics and those who did not based on the behavior of youth as measured by behavior referrals, an independent t-test was calculated.

Table 4.3 shows a statistically significant difference between athletic involvement and behavior referrals. Individuals who were involved in athletics had a lower mean of behavior referral (8.13) than those not involved in athletics (13.72). It can be implied that

participating in athletics can have effect on youth behavior. The results noted above were found to be statistically significant at the .05 level where $t(4,040.94) = -7.82, p=.000$.

Therefore, the null hypothesis can be rejected.

Relationships Between Participation in Athletics and Involvement in the Free or Reduced Lunch Program, Gender and Ethnicity

Table 4.4 illustrates the Pearson's chi-square test results that were conducted to determine whether there was a difference between youth who participated in school athletics and those who did not based the involvement in the free or reduced lunch program, gender and ethnicity.

Table 4.4

Pearson Chi-Square Test Results Between Athletic Involvement and the Involvement of the Free or Reduced Lunch Program, Gender, and Ethnicity (N=4,078)

Variable	Value	df	p
Free or Reduced Lunch	98.95 ^a	2	.000*
Gender	.03 ^b	1	0.869**
Ethnicity	78.37 ^c	6	.000*

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 150.29.

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 880.62.

c. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.27.

*Significant, $p < .05$

**Not significant, $p > .05$

Relationship Between Athletic Involvement and Free or Reduced Lunch

To determine if there was a statistically significant relationship between youth who participated in school athletics and those who did not based on youth who receive a

free or reduced lunch, a Pearson's chi-square test was calculated. Table 4.4 illustrates a statistically significant relationship between athletic involvement and the involvement in the school's free or reduced lunch program ($\chi^2(2)=98.95$, $p=.000$). The results noted were found to be statistically significant at the .05 level. Therefore, the null hypothesis can be rejected.

Relationship Between Athletic Involvement and Gender

To determine if there was a statistically significant relationship between the youth who participated in school athletics and those who did not based on gender, a Pearson's chi-square test was calculated. Table 4.4 shows that there was not a statistically significant relationship between athletic involvement and gender ($\chi^2(1)=.03$, $p=.869$). The results noted were not found to be statistically significant at the .05 level. Therefore, the null hypothesis can be accepted.

Relationship Between Athletic Involvement and Ethnicity

To determine if there was a statistically significant relationship between the youth who participated in school athletics and those who did not based on ethnicity, a Pearson's chi-square test was calculated. Table 4.4 shows a statistically significant association between athletic involvement and ethnicity ($\chi^2(6)=78.37$, $p=.000$). The results noted were found to be statistically significant at the .05 level. Therefore, the null hypothesis can be rejected.

Summary of Findings

In summary, this existing dataset consisted of 4,078 individuals. The grade levels were equally distributed: 7th (17.9%), 8th (17.1%), 9th (17.4%), 10th (17.4%), 11th

(16.0%), and 12th (14.1%). Similar to grade level, age was evenly distributed: 13 (8.1%), 14 (16.8%), 15 (17.7%), 16 (15.6%), 17 (16.9%), and 18 and older (24.8%). There was an even number of males to females, 50.9% and 49.1%, respectively. The largest ethnic group was Caucasian (54.3%), followed by African American (24.7%), Hispanic (10.8%), Multiracial (5.1%), Asian (3.3%), Pacific Islander (1.6%), and Indian (.3%). Of the individuals in the study, 43.9% participated in athletics and 56.1% did not participate.

In terms of behavioral referrals, 36.1% of the individuals in this study did not have any behavior referrals; 10.3% had 1 behavior referral; 10.4% having 2-3; 7.8% recorded 4-5; 9.1% reported 6-10; 10.3% had 11-20; 9.8% had 21-46; and finally, 250 recorded 47-334 behavior referrals. Of the individuals in this study, 54.5% were eligible for a free lunch, 8.4% were eligible for a reduced lunch, and 37.1% were ineligible for the program. Finally, 3.8% of individuals reported a GPA between 0 and 1.00; 18.5% reported a GPA between 1.01 and 2.00; 37.2% had a GPA between 2.01 and 3.00; 39.3% had a GPA between 3.01 and 4.00; and 1.3% reported a GPA between 4.01 and 5.00.

Table 4.5 identifies the hypothesis statements of this study and illustrates whether they were accepted or rejected at the .05 level. The null statements that were rejected were the following: There will be no significant difference between the youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA); there will be no significant difference between the youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals; there will be no significant relationship between youth involved in school athletics and those not involved based on youth who receive a free or

reduced lunch; and there will be no significant difference between the youth involved in school athletics and those not involved based on grade level, age, and ethnicity. The only null hypothesis that was accepted was: There will be no significant difference between the youth involved in school athletics and those not involved based on gender.

Table 4.5
Hypothesis Statements

	Accept	Reject
There will be no significant difference between the youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA).		✓
There a will be no significant difference between the youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals.		✓
There will be no significant relationship between youth involved in school athletics and those not involved based on youth who receive a free or reduced lunch.		✓
There will be no significant difference between the youth involved in school athletics and those not involved based on:		
Grade Level		✓
Age		✓
Gender	✓	
Ethnicity		✓

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

The purpose of this study was to explore the differences between youth who participated in school athletics to those who did not participate. Specifically, this study examined youth academic performance and behavior in school, and variables such as grade level, age, gender, and ethnicity. In addition, this study examined whether or not there was a relationship between the involvement in the school's free or reduced lunch program and athletic participation. Moreover, this study reviewed the positive and negative outcomes of participating in athletics. Chapter V offers a discussion of the findings and presents recommendations for future research. In addition, this section presents concluding comments.

Discussion

Four research questions were explored in this study. They were: (1) What are the differences between youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA)?; (2) What are the differences between youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals?; (3) What is the relationship between youth involved in school athletics and those not involved based on youth who receive a free or reduced lunch?; and (4) What are the differences between youth involved in school athletics and those not involved based on grade level, age, gender and ethnicity? The following is a discussion regarding each of these research questions.

Research Question 1- What are the differences between youth involved in school athletics and those not involved based on academic performance as measured by Grade Point Average (GPA)?

The first research question explored youth who participated in school athletics and those who did not based on their academic performance. Independent t-tests were calculated to determine the significant difference between youth who participated in school athletics and those who did not based on academic performance. There was a significant difference between youth who participated in school athletics and those who did not based on academic performance. Therefore, the null hypothesis (there is no statistically significant difference between youth who participate in school athletics and those who do not based on academic performance), was rejected.

The findings of the current study confirm previous studies conducted by Bush and Miller (2011); Coatsworth and Conroy (2007); Dwyer et al. (2001); Mahoney and Cairns (1997); Marsh and Kleitman (2003); and Yeung (2015). These studies support the idea that there is a positive connection between participation in youth athletics and academic performance. For example, the only study found in the literature that does not confirm the difference between school athletics and academic performance was conducted by Hauser and Lueptow (1978). These researchers were not able to establish a linkage between participation in school athletics and academic performance. However, the majority of the research literature, including this study, supports the idea that there is a link between school athletics and academic performance.

A possible explanation for the results may be that students need to balance their activities with their school work, resulting in more effective time management skills. In addition, it may be that student athletes are held to a higher standard. Further, student athletes may be afforded tutors, study hall time, or their grades may be monitored periodically to ensure they are maintaining their study habits so they can participate in athletics. All of these factors may encourage a stronger focus on one's academic performance.

Research Question 2-What are the differences between youth involved in school athletics and those not involved based on the behavior of youth as measured by behavior referrals?

The second research question investigated youth involved in school athletics and their behavior. An independent t-test was calculated to determine the significant difference between youth who participated in school athletics and those who did not based on behavior referrals. There was a significant difference between youth who participated in school athletics and those who did not based on behavior referrals. Therefore, the null hypothesis (there is no statistically significant difference between youth who participate in school athletics and those who do not based on behavior referrals) was rejected.

While the literature suggests that youth who participate in athletics were linked to problem behaviors such as increased rates of consumption of alcohol (McCaul et al., 2004; Eccles & Barber, 1999) and substance abuse (Bartko & Eccles, 2003), that was not the case in this study. Although this study does not determine what behaviors resulted in

a behavior referral, it does indicate that youth who participated in athletics were less likely to have behavior referrals.

A potential explanation for this finding could be the influence of the coaches. Coaches have the ability to hold their athletes to a high academic standard and if the players do not meet the criteria of the coaching staff, they will not be able to participate in the athletic event. It was noted that youth who were involved in athletics had a mean of behavior referrals of only 8.13, compared to the individuals not participating in athletics of 13.72. Another explanation for recording lower behavior referrals is the amount of time youth have to engage in problem behaviors. If an athlete's time is filled with other obligations, in this case athletics, there will be less opportunity to engage in other negative behaviors due to time constraints.

As Table 1.3 illustrates, there are multiple forms of behavior referrals. This study did not differentiate the different types of behavior referrals. The individual who received 40 behavior referrals, could have been tardy 40 times, instead of other forms of deviant behavior (e.g. theft, possession of drugs, etc). Future studies should consider categorizing specific behavior referrals to further assess the impact of this variable.

Research Question 3- What is the relationship between youth involved in school athletics and those not involved based on youth who receive a free or reduced lunch?

The third research question examined youth who participated in school athletics and their socioeconomic status. Pearson's chi-square test was calculated to determine the significant relationship between youth who participated in school athletics and those who did not based on the participation in the school's free or reduced lunch program. There

was a significant relationship between youth who participated in school athletics and those who did not based on their participation in the school's free or reduced lunch program. Therefore, the null hypothesis (there is no statistically significant relationship between youth who participate in school athletics and those who do not based on the school's free or reduced lunch program) was rejected.

The results of the current study supported the findings a previous study conducted by the C.S. Mott Children's Hospital (2012). This study found that roughly 33% of families whose average household income is less than \$60,000 have at least one teen in school athletics; as opposed to, more than 50% of families who make more than \$60,000, where they have at least one teen participating in school athletics. Looking at the data from the current study, 52.8% of individuals who were ineligible for the school's free or reduced lunch program participate in athletics. In opposition, only 38.7% of the youth who participate in the school's free or reduced lunch program participate in athletics. This current study can reflect the research done by C.S. Mott Children's Hospital.

A possible explanation for the lack of participation in athletics from an individual of a lower socioeconomic family, is the monetary cost to participate in athletics. The literature states that 61% of the students had a "pay-to-play" charge to participate in athletics with the average cost of \$93, which does not include travel and equipment costs (C.S. Mott Children's Hospital, 2012). This charge can be burdensome for families of low socioeconomic status because they may not be able to afford the cost of athletics. Another possible explanation for this finding may be that youth of lower socioeconomic status may be required required to work to help generate income for their family.

Research Question 4- What are the differences between youth involved in school athletics and those not involved based on grade level, age, gender and ethnicity?

The final research question explored youth who participated in school athletics and those who did not based on grade level, age, gender and ethnicity. An independent t-test was calculated to determine the significant difference between youth who participated in school athletics and those who did not based on grade level and gender. A Pearson's chi-square test was calculated to determine the significant relationship between youth who participated in school athletics and those who did not based on gender and ethnicity. There was a significant difference between youth who participated in school athletics and those who did not based on grade level and age. Similarly, there was a significant relationship between youth who participated in school athletics and those who did not based on ethnicity. However, there was not a significant relationship between those who participated in school athletics and those who did not based on gender.

A possible explanation for decreased participation in athletics as students get older may be the decrease in the actual playing time on an athletic team. When they were younger, they may have received more playing time, but as they age, and as the competition to compete for a spot on the team becomes more difficult, the individual may not want to continue to participate and be in that competitive environment. For example, junior high schools may have an "A" team, "B" team, and "C" team, but once students matriculate into high school, those opportunities change.

This study contradicts the findings of studies by Green (2011) and Katzmarzyk et al. (2016), that participating in youth athletics has been more prevalent in males than

females. This study shows no relationship between males and females and the participation of athletics. However, in this study, there were more males than females that participated in athletics but not enough to have a statistically significant relationship between the two.

Recommendations

This study confirms that there are statistically significant differences and relationships between youth who participated in school athletics and those who did not based on age, grade level, academic performance, behavior referrals, the involvement in the free or reduced lunch program, and ethnicity. However, it does not confirm a statistically significant relationship between youth who participated in school athletics and those who did not based on gender. The following recommendations are offered, which may influence future research endeavors in regards to youth participation in athletics:

1. Considerations to establishing a mixed methods study should be investigated. Interviews with coaches regarding the ways in which athletics are linked with academic performance may uncover a rich source of information. The same could be said for interviewing student athletes.
2. It is recommended for future studies to collect data by the specific types of behavior referrals and compare them to youth who participate and do not participate in athletics. This may produce results that are conducive to future studies.

3. Considerations to communicating with the school district to determine the costs of participating in school athletics should also be investigated. Interviews with coaches and athletic directors regarding the ways in which school athletics are linked with costs as well as how they handle families that cannot afford to pay the fee.
4. Aggregating data by participation in different athletics (e.g. football, basketball, softball, baseball, track and field, trap shooting, cheerleading, and other athletic activities) may yield interesting results.
5. Conducting a longitudinal study to determine whether participation in athletics declines as one gets older would allow for a rich discussion.
6. Socioeconomic status as reflected in one's participation in school athletics should be further investigated as related to age, gender, grade level, and ethnicity and their link to academic performance.
7. Comparisons of multiple school districts should be considered in a future study design. The current study was limited to a middle-sized Midwestern community.
8. The use of a large dataset is complex and requires data aggregation and reduction techniques that may require consultation with multiple individuals, including, the manager of the database, one's faculty member, and/or other.
9. Sampling strategies must be carefully considered in planning and implementing any future research project. There were other factors in the dataset that could have been analyzed, such as: Participation in afterschool programs, the arts, and performing arts such as band, choir, orchestra, debate and other activities.

10. Alternative statistical measures should be explored to analyze the identified research questions.
11. Student researchers need to be cognizant of the ethical issues of the use of secondary data.
12. If a secondary analysis of data occurs, the file should be cleaned of direct identifiers. This should be done by the agency responsible for the database.
13. Permission should be sought to use the database for the research originally intended. If additional analysis is required, permission should be granted from the owner of the database.

Concluding Comments

Participating in school athletics has a positive effect on academic performance, as well as behavior. This study demonstrated that there is a statistically significant difference between youth participating in school athletics and those who do not based on age, grade level, academic performance, and behavior referrals. Similarly, there was a statistically significant relationship between youth who participated in school athletics and those who did not based on the school's free or reduced lunch program and ethnicity. On the contrary, there was not a statistically significant relationship between youth who participated in school athletics and those who did not based on gender.

It was found that youth who participate in school athletics have higher GPAs and less behavior referrals than those who do not participate. One of the key strengths of this study was that it confirms previous studies conducted by Bush and Miller (2011); Coatsworth and Conroy (2007); Dwyer et al. (2001); Mahoney and Cairns (1997); Marsh

and Kleitman (2003); and Yeung (2015) with regards to academic performance.

Longitudinal research is recommended for future studies to examine youth as they progress throughout their academic career.

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