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Involvement in Interscholastic High School Sports and Juvenile Delinquency

Emily Rene Wheeler
Walden University

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Walden University

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Emily R. Wheeler

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Walden University
2022

Abstract

Involvement in Interscholastic High School Sports and Juvenile Delinquency

by

Emily R. Wheeler

MA, Indiana University of Pennsylvania, 2014

BS, Mansfield University of Pennsylvania, 2012

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Criminal Justice

Walden University

August 2022

Abstract

The primary research problem that prompted this study was to identify if involvement in interscholastic sports could be an option to alleviate financial burdens of delinquency and provoke a level of rehabilitation for youth. To provide context on this aforementioned financial burden, between 2018 and 2019, 5.56% or 696,620 youth in the United States aged 10-17 were arrested, (Puzzanchera, 2021). The cost of these arrests can be up to \$407.58 per day per youth, and taxpayer dollars supplement this price tag. The purpose of this quantitative study was to examine the extent to which a relationship exists between juvenile involvement in interscholastic sports and juvenile delinquency while also looking at the number of sports seasons played. The theoretical foundation of this research was Hirschi's social control theory. The key research question was, to what extent does involvement in interscholastic sports and seasons played have an influence on involvement in delinquency? In this quantitative study, respondents between ages 18 and 22 were asked to respond to questions retrospectively, thinking about their high school experience. The sample population met inclusion criteria of age and participation in high school interscholastic sports. The data responses were collected through an online survey and were analyzed using SPSS software to conduct a binary logistic regression analysis. Results showed no statistically significant relationship between playing high school sports, the number of seasons played, and juvenile delinquent behavior. The findings of this study have potential implications for positive social change by educating families and various other stakeholders about delinquent behavior and the possibility of needing more interventions than sports participation to reduce its occurrence.

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Dedication

This dissertation is dedicated to local communities that do not always have access to interscholastic sports. Having opportunities to participate in positive and prosocial activities should be available to anyone who would like to be involved. I am hopeful to see these opportunities continue to evolve over the next few years and provide an outlet for youth who are looking for something positive to do.

This dissertation is also dedicated to my children. When I began this process, I knew that looking at sports and having opportunities for you was my top priority. I am hopeful that you have access to anything you want to participate in throughout life, and I vow to make these opportunities available to you. You all have helped push me to finally achieve one of the biggest goals I have had in my life, and I cannot wait to do the same for you. I love you!

A final dedication to my husband. Thank you for unintentionally laying the groundwork for this study. The conversations we have had over the last eight years truly gave me insight into what I find important and what I want to provide to our children.

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Thank you to so many of you at Mansfield University. Your continued support from bachelor's degree to PhD was unmatched. I do not believe I would have taken this journey without being reminded of how capable I was to become a scholarly doctor.

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Table of Contents

List of Tables	iv
Chapter 1: Introduction to the Study.....	1
Introduction.....	1
Background.....	2
Problem Statement.....	4
Purpose of the Study.....	5
Research Questions and Hypotheses	5
Theoretical Framework.....	6
Nature of the Study.....	7
Definitions.....	7
Assumptions.....	8
Scope and Delimitations	8
Limitations	9
Significance.....	10
Summary	10
Chapter 2: Literature Review.....	11
Introduction.....	11
Literature Search Strategies	12
Theoretical Foundation.....	12
Literature Review.....	16
Delinquency	16

Delinquency and Geography.....	18
Recidivism of Delinquents.....	19
Delinquency Impacts on Adult Offending.....	21
Risky Adolescent Behaviors and Peer Influence.....	23
Adult Influence on Youth.....	25
Interscholastic Sports.....	27
Mentoring Programs for Youth.....	33
Summary and Conclusions.....	35
Chapter 3: Research Method.....	39
Introduction.....	39
Research Design.....	39
Methodology.....	40
Ethical Procedures.....	42
Summary.....	43
Chapter 4: Results.....	44
Introduction.....	44
Data Collection.....	44
Results.....	48
Summary.....	54
Chapter 5: Discussion, Conclusions, and Recommendations.....	56
Introduction.....	56
Interpretation of the Findings.....	56

Limitations	58
Recommendations.....	59
Implications.....	60
Conclusion	60
References.....	62
Appendix A: Survey Questionnaire	70

List of Tables

Table 1 <i>Participant Age Information</i>	46
Table 2 <i>Statistics</i>	47
Table 3 <i>Descriptive Statistics</i>	47
Table 4 <i>Sports Participation</i>	48
Table 5 <i>Seasons Played</i>	49
Table 6 <i>Descriptive Statistics</i>	49
Table 7 <i>Case Processing Summary</i>	50
Table 8 <i>Classification Table</i>	51
Table 9 <i>Variables in the Equation</i>	51
Table 10 <i>Model Summary</i>	52
Table 11 <i>Hosmer and Lemeshow Test</i>	52
Table 12 <i>Variables in the Equation</i>	53
Table 13 <i>Variables in the Equation</i>	54

Chapter 1: Introduction to the Study

Introduction

In this chapter, I provide information about juveniles and criminal behaviors. I focus on the tendency to identify juveniles as statistics in a grand scheme of delinquency and poor decision making. However, even though background information will identify juveniles as simply a number, it is important to remember these are real people. They are not simply a number; rather, they are a wealth of information that can assist in reducing the number of youth incarcerated every year.

Juvenile delinquency rates, although reducing, continue to be present in the United States. Delinquency rates are not only an urban issue; they impact youth of all residencies. The U.S. Census Bureau defines the term *rural* as a population and territory not in an urbanized location. Further, the Census Bureau defines rural as a population density of less than five hundred people per every square mile (Ratcliff et al., 2016). According to Biggar (2016), rural communities have less crime than urban neighborhoods because of the value systems and the extended families that comprise these communities. Biggar (2016) also discussed that most delinquency studies are centered around urbanization because 50% of the population lives in an urban setting; however, 1 in 4 individuals live in a rural setting. When normalizing behaviors among urban and rural youths, rural youth participate in delinquent behavior similar to urban youth but identify different reasons (Biggar, 2016). As noted by Biggar, rural communities have a sense of policing among the community because of the family systems and farming.

Background

Various researchers have examined delinquency among youth in a variety of populations and demographics. Ryssholm (2017) conducted a quantitative study and identified pro-criminal attitudes after involvement in interscholastic sports. Nicholson and Higgins (2019) completed a study on different types of sports and binge-drinking behaviors among African American youth. The researchers used binary logistic regression to assess how both sports participation and race (previously identified variables) associate with binge drinking. Taylor et al. (2016) conducted a study with rural young women, a significantly underrepresented population, and found that involvement in sports reduced the rate of gang involvement among this population but did not reduce the associations with delinquent peers.

Other researchers have examined behaviors associated with involvement in interscholastic sports and delinquency. Stansfield (2017) found that higher levels of sports involvement can increase involvement in violence. However, Stansfield also found that increased involvement in sports could reduce the risk of alcohol and drug use behavior. Similarly, Khan and Jamil (2017) found that involvement in sports is an effective instrument for reducing antisocial behaviors, including delinquency.

Further researchers have examined the relationship between specific interscholastic sports and delinquent behaviors. For example, Caladas et al. (2018) analyzed football specifically among middle school male students. The researchers found that participation in football did not lead to a sense of belongingness but was associated

with increased delinquent behavior. Also, Caladas et al. noted that among participants, those who felt they belonged were associated with a lower level of delinquency.

Other researchers have looked at both involvement and attachment, both of which are tenets for the theoretical foundation of this study, of student athletes with coaches and other players/peers. For example, Spruit et al. (2018) found that sports itself was not enough to reduce delinquency rates; however, there was success in reducing antisocial behavior based on the coach–athlete relationship and a positive moral atmosphere. Spruit et al. discussed that the success of sports-based interventions falls on non-sport components. O’Donnell and Barber (2018) examined the relationships made during involvement in sports and found that the more time spent in sports where the other participants engaged in risky behaviors, the more often the individual externalized these behaviors. Moreau et al. (2018) conducted a focus group comprised of five coaches and conducted 27 interviews with participants. Moreau et al. found that certain conditions must occur if prosocial relationships and social bonds are going to occur.

Each of these previous studies provides a key component to this study, whether it be a lack of statistical significance, minimal association noted, or limited differentiation between specific interscholastic sports and juvenile delinquency. However, the key component missing among all these previous studies is the correlated relationship between involvement in interscholastic sports and juvenile delinquent behaviors. In this study, I analyzed the two variables to identify if a statistically significant correlated relationship exists and whether the relationship exists at a certain number of sports seasons played.

Problem Statement

This research was conducted to examine the impact of high school interscholastic sports on delinquency. I sought to fill a gap in the research regarding an inconclusive association between high school interscholastic sports and delinquency. Through this research I attempted to provide an outlook on options to provide to youth to reduce the number of youth entering into the juvenile justice system. If fewer youth are entering into the juvenile justice system, the number of adults in prison/jails may also be reduced.

To best understand why I conducted this study, it is necessary to understand the number of youth involved with the juvenile justice system in the United States.

According to the Office of Juvenile Justice and Delinquency Prevention, between the years 2018 and 2019, 696,620 youth between ages 10 and 17 were arrested for criminal offenses (Puzzanchera, 2021). The average cost of incarcerating one juvenile delinquent is \$407.58 per day and \$148,767 per year (Ziedenberg et al., 2014). Implementation of programming can help reduce the financial impact of juvenile delinquency and achieve the goal of rehabilitation for youth involved in delinquency (Spruit, 2017).

Hirschi (1969) began his discussion of social control as an addition to Albert Reiss's theory of social control in 1951, which provided four new tenets. As part of Hirschi's theory and the specific tenet of involvement, Hirschi (1969) discussed that juveniles involved in a positive activity would be less likely to engage in delinquent behaviors. Hirschi authored *Causes of Delinquency* in 1969, which was a review of the hypotheses regarding social control theory and provided empirical data from self-report surveys of delinquency (Costello & Laub, 2020). Since 1969, multiple researchers have

studied the correlation between interscholastic sports involvement and involvement in delinquent behaviors, and the results continue to be inconclusive (Spruit et al., 2015). Spruit et al. (2015) studied 132,366 participants regarding multiple different variables. The results showed no significant association when comparing involvement in interscholastic sports and engagement rates in juvenile delinquency (Spruit et al., 2015). Further research has shown a positive relationship between interscholastic sports involvement and positive youth behavior development; however, research continues to be inconclusive regarding the prevention of juvenile delinquency (Spruit, 2017).

Purpose of the Study

The purpose of this quantitative study was to examine the extent to which a relationship exists between juvenile involvement in interscholastic sports and juvenile delinquency while also looking at the number of sports seasons played. The variables were analyzed using binary logistic regression and included the categorical independent variable of involvement in interscholastic sports during high school, the continuous variable of the number of seasons played and the binary dependent variable of any delinquent behaviors.

Research Questions and Hypotheses

The research was guided by the following research question and hypotheses:

RQ: To what extent does involvement in interscholastic sports and seasons played have an influence on involvement in delinquency?

H_0 : There is no statistically significant relationship between involvement in interscholastic sports and seasons played with involvement in delinquency.

H_1 : There is a statistically significant relationship between involvement in interscholastic sports and seasons played with involvement in delinquency.

Theoretical Framework

The theory that grounded this study was Hirschi's social control theory. Hirschi developed his theory in 1969, focusing primarily on urban men (Hindelang, 1973). Hirschi's social control theory's significant components are based on four specific tenets: (a) attachment, (b) commitment, (c) involvement, and (d) belief. Each of these tenets is specific to certain aspects of a juvenile's life (Hindelang, 1973). According to Hirschi, *attachment* is aimed at the relationship between the youth and their parental figure and the educational system. *Commitment* and *involvement* are concerning conventional activities such as extracurricular activities. Finally, *belief* is related to the values and norms of a youth's social context (Hindelang, 1973). According to Hirschi, if any of these tenets are missing or the belief tenet is negatively charged, pro-criminal mindsets and behaviors will occur, causing juvenile delinquency.

The logical connections between the framework presented and the nature of this study include the topic of involvement in interscholastic sports because each tenet can be reviewed. For example, if an individual is playing interscholastic sports, there is a commitment, involvement, and attachment to the team or the coaches. Belief can impact this research significantly based on what the culture of the athletic team believes. Social control theory is also identified because Hirschi focused primarily on urban young men. There was an opportunity to expand on this theory by studying rural male youth and rural

female youth. However, the framework is most fitting for this research because it is aimed at juveniles only, and Hirschi also focused explicitly on juveniles.

Nature of the Study

To address the research question in this quantitative study, the approach was a correlated research design to statistically analyze the relationship between involvement in interscholastic sports and juvenile delinquent behaviors while also looking at number of seasons played. This approach is based on the work of using two independent variables and one dependent variable. The variables included involvement in interscholastic sports, the number of seasons played, and any self-reported involvement in delinquent behaviors. A binary logistic regression was used to address the research question.

Definitions

The dependent variable for the study was juvenile delinquency. Currently, juvenile delinquency is defined by the U.S. Department of Justice (2020) as criminal acts or offenses committed by a young person under the age of criminal prosecution. A component of juvenile delinquency is the distinction between a criminal offense and a status offense. A status offense is best defined as a noncriminal act only considered to be a violation because of the offender's age (Office of Juvenile Justice and Delinquency Prevention [JJDP], 2015). Status offenses consist of five offenses: (a) truancy, (b) running away from home, (c) curfew violations, (d) consumption of alcohol, and (e) ungovernability.

One of the independent variables for this study was interscholastic sport involvement. Interscholastic sports are not simply playing sports; they are school-based

athletics (Massachusetts Interscholastic Athletic Association [MIAA], 2020). The primary purpose of interscholastic sports is not to prepare a student for the next level of athletics, but rather, to continue to teach the student outside the classroom and assist them in moving into the next phase of life. This definition is necessary for the study to be understood because of the difference between athletic involvement and interscholastic sport involvement.

Assumptions

The primary assumption of the study was that there is both a desire and a need to address delinquency. Defining the need of addressing delinquency comes from the statistics previously presented. Looking at the desire to address delinquency through sports, however, truly comes from the communities where interested readers live. Desire to address delinquency stems from the thought process that youth are not born evil and can be turned down a better path than that of delinquency.

Scope and Delimitations

The scope of the study was individuals ages 18–22 who were involved in interscholastic sports during their high school career. The type of sport was not studied in this research, but the number of seasons played was. This is important when determining if interscholastic sports have a statistically significant relationship with juvenile delinquent behaviors because it can help identify if the length of involvement is important. The intent behind this scope is for both the impact of social change and the inclusion of a broad range of sports that include both male and female students. The impact of this scope includes a broader range of data as well as validity and reliability

impact by including both genders, all socioeconomic statuses, and any length of participation.

Limitations

One issue that might arise when conducting any study can include validity concerns. A validity concern that may have presented itself is the Hawthorne effect or social desirability. Because the survey will begin with a statement about the study and exactly what variables are being addressed, an individual has the opportunity to be untrue with their answers. This can impact the validity of the study and impact the data, which would prevent the results from helping to fill the current gap in research. To address the validity issue, information was provided to each individual at the beginning of the survey regarding anonymity of the information that they share and how their anonymity was maintained. This statement hopefully provided the respondents with a level of security that allowed them to openly share truthful responses.

A secondary limitation of the study was that the study was conducted retrospectively. This construct validity could have presented itself in the question of number of seasons played. This may have been difficult to address because it does require recall of the respondent. However, to best address this issue, the scope of the study and the age range was catered to individuals ages 18–22 to assist with recall of information. The survey began with a question requesting the respondent to identify that they were currently between age 18 and 22; if the respondent stated *no*, the survey ended.

Considering anonymity and the use of this to maintain the safety and protection of those who choose to complete the survey presented another limitation. It is impossible to

note anyone who has taken the survey and whether they provided accurate information for the survey. Maintaining this anonymity can also present concerns for respondents' ability to interpret the questions. The best way to address this issue was to provide definitions of each term to avoid any confusion.

Significance

The results of this study provide insight into whether community involvement by youth can reduce juvenile delinquency rates. Insights from this study, guided by the current theories on delinquency, provide that involvement in interscholastic sports does not have a statistical association with delinquency and thus is not a strong tool to use to reduce delinquent behaviors. However, because a broad range of youth are involved in delinquent behaviors, a mixture of tools should be used and analyzed to best support the youth in each community.

Summary

In Chapter 1, I provided discussed references that helped to shape the development of the problem statement, purpose of the study, and the research question. I provided a theoretical foundation for the study through Hirschi's social control theory and discussed the study assumptions of the study. Further, I provided the scope of the study followed by potential limitations based on the scope. Next, in Chapter 2, I provide a more in-depth assessment of studies that have been conducted, theoretical reviews, and key variables and concepts for this study.

Chapter 2: Literature Review

Introduction

Many theories exist that help to understand the relationship between youth and criminal behaviors. Studies show that some youth commit crimes as a social learning process, whereas others commit crimes to fit in based on the bonds they have developed (Ward et al., 2018). Some theorists use information from trauma-informed care models as well as parenting styles and parental violence as means to better understand which youth are at risk and which youth may never cross the threshold into criminal behavior. The basis of this relationship has longstanding research that has resulted in multiple different concepts and theories surrounding why these phenomena occur. Similarly, because youth are increasingly becoming involved in criminal behavior, prevention techniques have been identified and developed to attempt to address this problem.

Much of the current research is focused on youth in high school and their possibility of delinquency. Most recent data from 2018 show there are 15.2 million youth in high school in the United States (Duffin, 2021). Of these 15.2 million youth currently attending high school, the High School Risk Behavior Survey Data conducted in 2018 indicated that 57% participate in athletics (Riser-Kositsky & Peele, 2021). Also, in 2018, the estimated number of delinquency was 744,500 (Puzzanchera, 2020). However, these delinquent arrest rates do not include status offenses which are estimated as an additional 120,000 youth. Adding this to arrest rates would bring the approximation to 6% of high school students are arrested for either a criminal offense or a status offense. Yet, this does not provide a numeric for the black figure of delinquent crime and status offenses. For

example, when examining the number of crimes reported to recorded versus reported in the school setting, a difference of 32.9% exists (NCES, 2019).

Literature Search Strategies

To gather current literature on the topic of study in this research, I conducted keyword searches in various scholarly databases. The keywords searched were *interscholastic sports and juvenile delinquency*, *sports and delinquency*, and *involvement and delinquent behaviors*. Web-based databases used were Thoreau and Sage journals. To best obtain information for the literature review, search words such as *interscholastic*, *delinquency*, *juvenile development* and *age crime curve* were put into the Walden Library database. Articles were reviewed that provided information published between 2016 and the present in which researchers had assessed these variables.

Theoretical Foundation

As noted previously, the theoretical foundation behind the vast majority of the literature comes from Hirschi's social control theory. Hirschi (2020) identified this theory of social control in *Causes of Delinquency*, published in 1969. Hirschi defined social control as the influence that society holds over an individual and that depicts how the individual should morally act (Ruth, 2020). Part of acting morally, according to Hirschi, is based on the bonds that an individual has to the society they live in and are part of. The strength of these bonds is what dictates the individual's ability to act morally and is defined by four tenets developed by Hirschi (Ruth, 2020).

Social control theory is often the most cited theory regarding crime as well as delinquency. Social control theory has four assumptions necessary to identify with for the

theory to make sense and be believed (Triplett, 2018). The first of these four assumptions is that individuals are ego focused and motivated by maximum self-interest (Triplett, 2018). The second assumption includes that crime often occurs as a means to obtain immediate gratification both economically as well as for other desires, including hunger, thirst, pain, and sexual (Triplett, 2018). The third assumption relates to the second assumption in that it states that crime requires no specific motivation, only to meet the previously identified desires (Triplett, 2018). This assumption far differs from other criminological theories in that most other theories state specific motivations for crime. Lastly, the fourth assumption regarding social control theory is that everyone has these same desires in a relatively similar capacity, which indicates that all individuals have relatively similar motivations for crime (Triplett, 2018). Most other criminological theories state that crime occurs by certain people for very specific reasons.

Hirschi developed this theory to counteract delinquency with the thought that social control does not have to come specifically from the criminal justice system but can also come from informal agencies and individuals (Triplett, 2018). Based on the aforementioned assumptions as well as the articulation that social bonds developed in childhood work to diminish delinquency, Hirschi was able to develop four primary types of bonds that assist in the prevention of juvenile delinquency: (a) attachment, (b) commitment, (c) involvement, and (d) belief (Triplett, 2018).

The first tenet of social control theory is attachment. *Attachment* is defined by Hirschi as the measure of an individual's connection to other people (Ruth, 2020). Attachment is not merely to parents or other biological members of a family but also to

friends, romantic partners, and sometimes, coaches. Social bonds are an important component to social control theory because they depict the importance of how an individual will act in order to avoid disapproval from these individuals (Ruth, 2020). Attachment is identified as the most crucial tenet for Hirschi's social control theory because of the desire to meet the expectations of the individuals around the juvenile and their behavior (Triplett, 2018). These social bonds can be either prosocial or pro-criminal bonds, which also plays a part in social control theory. If an individual is associated with prosocial individuals, as discussed by O'Donnell and Barber (2018), the potential to maintain positive behaviors is higher.

The second tenet of social control theory is commitment. According to Hirschi, commitment relates to social bonds by the investments that an individual desires to make in their community (Ruth, 2020). If an individual has a strong desire to invest in their community, they are less likely to engage in criminal behaviors because it would be both embarrassing and could ruin a reputation, according to Hirschi (Ruth, 2020). Hirschi (1974) stated, "risking one to ten years in prison for a ten-dollar holdup stupidity" (p. 20). The lack of commitment to an identified task or process deemed to improve a community, the greater likelihood of engagement in criminal behaviors. When the risk far outweighs the commitment that an individual has to themselves and their community, the deviant action will not be followed through on (Hirschi, 1974). Dogan (2019) studied regular high school students and sports high school students. Those students in a sports high school had a commitment and a value to the community and to the school. Further, Dogan (2019) noted that those who were actively involved in the sports high school had

lower levels of tendencies for delinquency than those who attended the regular high school.

The third tenet of social control theory is involvement. Involvement is one of the most important tenets to this study and the relationship of those actively involved in interscholastic sports. Involvement is defined by Hirschi as participating in positive social activities (Ruth, 2020). According to Hirschi, this tenet falls in line with simple assumptions that if an individual engages in an activity than they innately have no time to commit deviant acts (Hirschi, 1974). The tenet of involvement is often used when studying the relationship between sports and delinquency because those students who play sports are less likely to engage in delinquent behaviors because they are both involved in a positive activity and feel closer to their community (Ruth, 2020). However, as noted by Spruit et al. (2017) involvement is not always enough to keep juveniles from moving into delinquent behaviors. Stansfield (2017), for example, found that involvement in interscholastic sports increased both violence and drug and alcohol use. So, although this tenet is valuable, it is the least proven tenet regarding true impact on juvenile delinquency rates.

The fourth and final tenet that Hirschi identified as part of his social control theory is belief. Belief is viewed as an individual's social values and morals (Ruth, 2020). This tenet is a bit different from the others because it requires an individual to identify positive moral ethics within themselves to relate to their community. Hirschi also discusses that belief can vary among every individual in a society and that a single set of beliefs is not likely to ever occur (Hirschi, 1974). Regardless, if an individual varies too

much in the belief that they should follow rules and laws, they are more likely to engage in deviant behavior than an individual who does not vary from the belief that laws and rules are important to follow (Hirschi, 1974). A combination of all four tenets propose to lead a youth toward a life of crime-free behaviors that will persist into adulthood.

Currently knowledge regarding keeping juveniles from offending is specific to Hirschi's social control theory. The prevalent thinking is that if youth have these four bonds in their life, they will not engage in delinquent behaviors. Hirschi's body of literature and theory have been cited far more than any other criminological theory because of the different perspectives Hirschi's work has brought to the field of criminology (Triplett, 2018). More recently, this theory has been related to an individual's involvement in sports and using sports as a tool to reduce juvenile delinquency. However, a gap exists in the literature regarding the success, or lack thereof, of this approach. In some studies, researchers have found associations between involvement in sports and reduced delinquency, but others found increased delinquency based on the pro-criminal bonds formed through school sports.

Literature Review

Delinquency

Treatment of juvenile delinquents has made significant changes since the beginning of the 19th century. During this time, delinquents could be sentenced to jails and penitentiaries along with adult offenders (Macallair, 2021). At this time, poverty and neglect were on the rise, which brought juvenile delinquency to the forefront of policy decisions, ultimately being identified as a social problem (Macallair, 2021). The first

attempt to address this social problem and reduce the number of youth spending time in prison and jails with adult criminals was the New York House of Refuge in 1825. This house of refuge was designed specifically to house youth who were neglected, destitute, and inclined toward criminal behaviors as identified by authorities (Macallair, 2021). By 1840, 25 more refugee houses had been built; the vast majority held 200 youth, but the New York house held over 1,000 young people (Macallair, 2021).

A court system placed these youths in the homes, and until the late 20th century, these were the same criminal courts that tried adult offenders. In the 1960s, juvenile delinquent treatment and sentencing were deemed problematic by the Supreme Court. The Supreme Court brought forth a formal and consistent juvenile justice court system, which also provided due process protections (Macallair, 2021). Since 1960, there has been a continual swing of the pendulum between being tough on crime and focusing on restorative justice for youth. With this swing of the pendulum and the very wide spectrum of consequences for juvenile delinquents, the question of prevention has remained relatively consistent. This question has led to different types of programs, different theories, and different legislation about how to most effectively work to address juvenile delinquency. One of the many concepts to address juvenile delinquency has been the use of sports to address many of the issues identified as potential instigators for crossing the threshold of law-abiding citizen to juvenile delinquent.

The work that has been done with juvenile delinquents since the late 19th century has continued to occur due to the relationship between committing crimes as an individual under the age of 18 and adulthood. For example, Shulman et al. (2013)

discussed the *age crime curve* originally developed by Quetelet in 1830. The age crime curve is one of the oldest components to criminological research that reviews the increase of juvenile delinquency into adulthood from the ages of 14, peaking around 25, and declining from there (Shulman et al., 2013). Similar to any other criminological theory, age crime curve has had research conducted using the curve as its basis.

Delinquency does not always occur at the same rate in the same locations. Thus, geographical location seems to indicate there is a distinction between urban delinquency and rural delinquency. As a result, these geographical concepts might play an important role in how sports programming assists in addressing youth delinquency.

Delinquency and Geography

The history of delinquency is extensive and because of this, there is information and risk profiles which can be viewed to better assist youth. However, it is also important to note that the history of studies conducted with youth are often done in urban settings versus rural settings. When reviewing urban vs. rural environments and delinquency, one study conducted by Butcher et al. (2019) noted that youth in urban environments had higher risk of involvement in the juvenile justice system as well as recidivism (Butcher et al., 2019). However, a component of this study had to do with the relationships that are present in urban vs. rural environments. For example, it is noted that youth in the urban setting are often subjected to law enforcement officers who are seeking to only involve themselves in law whereas youth who are in rural environments often know family members or youth (Butcher et al., 2019). This relationship can play a vital role in statistics of youth who are arrested versus those who are not arrested. In an attempt to fill

this void of the black figure of crime regarding statistics, it would be pertinent to conduct self-report studies.

This information becomes important to the study for two primary reasons. The first reason is the study will be utilizing self-report data in an attempt to better understand individuals who were involved in criminal or delinquent behavior while they were under the age of 18. Further, this study will not discriminate between youth who were arrested versus not arrested as well as will not review urban vs rural environments. By doing this, data can be interpreted on the basis of avoiding individuals who may be at higher risk of delinquency based on their geographic location.

As delinquency as continued to develop itself into its own field of research and study, the process of identifying why youth are committing crimes as well as how often they continue to commit crimes is important. In the following section, information will be provided regarding recidivism of youth and concepts regarding improving this issue.

Recidivism of Delinquents

As delinquency has continued to grow, so have intervention programs designed to assist with youth and a reduction in recidivism. Some of these interventions consist of community support coupled with parental guidance and support. According to one research study that analyzed both community support as well as family focused interventions, youth were less likely to recidivate and through cost effective research, were able to reduce taxpayer dollars (Ryon et al., 2017). Beyond identifying other variables to assist with the identified issue of delinquency, is the opportunity to assess formal and informal controls.

A component of the research is to review Hirschi's social control theory. This theory identifies different bonds which can be informal or formal. The study conducted that reviewed community support coupled with family interventions pulls this theory together to bring forward ways to address delinquency and recidivism as a whole. Often times, it is specific interventions analyzed or specific people or relationships. According to the results from the aforementioned study, and the cost benefit analysis, these two variables can both reduce taxpayer dollars while also providing for opportunities toward a better future for youth.

Similarly, as it relates to community and formal bonds, is the education system. School achievement, another variable often looked at in the realm of delinquency, can be easily linked to the current study and requirement to maintain involvement in interscholastic sports. According to a study conducted by Azade and Hau (2020), educational attainment is not only the important component to youth, but those who are already in the system, continued support is a necessity. This continued support from formal bonds will be the key in assisting youth with setting themselves up to be successful given the fact that those who are already involved in the juvenile justice system, on average, have lower grade point averages and lower educational attainment (Azad & Hau, 2020).

Recidivism does not always present as youth committing further crimes as youth. Sometimes, these crimes follow in line with the age crime curve and youth move forward with offending as adults. The next section will review literature regarding this process.

Delinquency Impacts on Adult Offending

Beyond the age crime curve is discussion regarding adult offending and recidivism. This discussion has been part of long-standing struggle within the criminal justice system and the continuation of prison overcrowding. According to literature review conduct by Basto-Pereira and Maia (2017) one of the primary indicators of adult offending is past contact with the juvenile justice system and past offending. It is documented through this literature that past offending is important as a risk factor for adult offending in addition to past contact with juvenile justice systems because of the potential that the individual was never caught or convicted of a crime (Basto-Pereira & Maia, 2017). Knowing that one of the primary indicators of adult offending is delinquent behavior is important, however, it is also important to understand the rate at which offenses occur at the hands of a juvenile-onset offender or adult-onset offender.

van Koppen (2018) conducted a study to review the theory that most adult offenders have early onset criminal activity, which is in line with what the age crime curve has informed research of prior. Through his study, van Koppen (2018) utilized 43,338 individuals who had criminal records. van Koppen found within his longitudinal study that gender was a mediating factor in regard to adult-onset criminal behavior showing that women were more likely than men to have this later onset of criminal behavior (van Koppen, 2018). However, van Koppen also reported findings that both male and female adult-onset offenders commit 1 in 4 crimes that are reported and generally, only commit two crimes throughout his or her criminal career (van Koppen, 2018). The remainder of crimes that are often committed are done so by juvenile-onset

offenders and these offenders, on average, commit six crimes in his or her criminal career (van Koppen, 2018). Further, it was found that individuals who are adult-onset offenders recidivate half as often as juvenile-onset offenders (van Koppen, 2018).

Sivertsson (2018) found similar results to that of van Koppen regarding the higher likelihood of female adult-onset criminal behavior to male adult-onset criminal behavior as well as the greater likelihood of increased criminal offenses and length of criminal history. Sivertsson reports results of 19% of all male offenses occurring by adult-onset offenders and 47% of female offenses occurring at the hands of adult-onset female offenders (Sivertsson, 2018). Simple math informs us that 84% of all male related offenses are conducted by juvenile-onset offenders and 53% by juvenile-onset female offenders.

A recent study conducted by researchers Lussier et al. (2020) posits similar arguments regarding onset of offending and the relationship that leads into adult offending. In their study, they analyzed psychopathy in youth and how this additional variable can impact the youth as he or she moves into adulthood (Lussier et al., 2020). It was concluded based on the study that youth who have psychopathy as defined by scores on the Psychopathy Check List: Youth Version (PCL:YV) are at a high risk of repeated offending into adulthood (Lussier et al., 2020). Although not all youth would receive a score on the clinically administered PCL:YV, it is important to note that risk factors for continued offending into adulthood exist amongst many different factors. Further, this study pushes researchers to continue to identify that offending that begins prior to the age of 18 correlates to adult offending and reoffending.

Based on the previous literature and risk factors, as well as the age crime curve that has been in existence since 1830, it would deem that delinquency has continued to be problematic and the necessity for crime prevention techniques is pertinent.

Risky Adolescent Behaviors and Peer Influence

Multiple theories exist that depict why a youth might involve themselves in delinquent behaviors. Similarly, science has opened up discussion regarding the development of the average youth's brain and the inability for the youth to self-regulate. To best understand this is to look at the trajectory of youth risk taking behaviors. According to Graham and Kahn, risk taking behavior in adolescent has a relatively typical path. In the earliest parts of childhood, the risk-taking behavior is low, increases during adolescent years into early adulthood and then decreases as the individual enters into adulthood (Graham & Kahn, 2020). This trajectory mimics that of the age crime curve. Graham and Kahn discuss four primary reasons for the risk-taking behaviors which include a lack of maturity, inability to weigh the risks of their actions, and respond to situations based on intuition rather than education or experiences (Graham & Kahn, 2020). A component of risk-taking behavior is the forethought to the risk behavior that Graham and Kahn discuss regarding the inability to see the potential consequences. These potential consequences are identified to occur later in life; however, some researchers believe that some youth have the ability to identify their risk-taking behavior prior to engaging in the behavior.

In one study conducted by Maslowsky et al. it was reviewed the difference between reactive risk behavior and reasoned risk behavior with a population of youth

whose average age was 16 (Maslowsky et al., 2019). The researchers discuss the differences between reactive behavior and reasoned behavior related to future orientation. Through their study, Maslowsky et al. found that youth who engaged in risky behaviors using reasoned behavior had a more positive future orientation (Maslowsky et al., 2019). Components related to this future orientation also fell in line with the peers the youth chose to spend time with as well as the spectrum of risky behaviors. For example, those using reasoned risky behaviors were bonded to those who had similar risky behaviors but the likelihood of the peer moving into more violent risky behaviors was limited (Maslowsky et al., 2019). It was also found through this study that those who had reasoned risky behaviors with positive future orientation reported less alcohol use, physical fighting and behaviors associated with a severe consequence (Maslowsky et al., 2019). The likelihood of a severe consequence appears to weigh heavier for an individual who is utilizing reasoned risk versus reactive risk, however, the peers associated with these risky behaviors has a strong response as well.

Empirical research exists regarding peer relationships and delinquency. In fact, it is often an undisputed topic that when youth form bonds with deviant youth, the likelihood of delinquency increases (Weerman et al., 2017). More recent research discusses that there needs to be a period of time for youth interaction before a change occurs in the youth's definitions toward delinquency (Weerman et al., 2017). Although this has been found to be true, it is not a situation that occurs 100% of the time and other situational factors can come into play such as the use of drugs and alcohol. It has been found that when drugs and alcohol are involved, youth tend to engage in the deviant

behaviors of the deviant peers more quickly than they would have if the substances were never introduced (Weerman et al., 2017). However, Weerman et al. also studied the process that was taken for youth to pick peers to spend time with when separated into different groups. As part of their study, they found that youth were more likely to speak with someone who they knew had a similar peer contact as well as someone of the same gender. What youth did not do, as previously thought, was pick peers based on the delinquent history of the peer (Weerman et al., 2017). So, although empirical data exists regarding the relationship between peers who commit delinquent offenses and the increased likelihood, this is not one of the ways that youth picked their peer groups.

Adult Influence on Youth

Youth relationships with peers have been deemed important when analyzing those who are part of the juvenile justice system. Similarly, is the relationship between an adult and a youth. Baetz and Widom (2019) analyzed this closely when they sought to find the extent to which a relationship exists between positive adult role model and youth offending when maltreatment was previously present. The researchers conducted a quantitative study and received surprising findings. For example, it was found that a close relationship with an adult did not decrease the risk for offending unless that adult was a parent (Baetz & Widom, 2019). Other findings of this study discussed that adults who had no history of maltreatment and reported having a close relationship with a peer or sibling had a higher prevalence of violent behavior (Baetz & Widom, 2019). Because of these findings it was identified that although adults do provide a protective factor for

youth, the level of the relationship with the youth is more important than just a relationship at all.

Brown and Shillington incorporated the type of relationship and conducted a study between protective adults and youth as it related to substance abuse and delinquency. What can be found from this study is that protective adults had the ability to moderate the relationship between adverse childhood experiences and substance abuse, however, there was no moderation to delinquency (Brown & Shillington, 2017). The details of this study become important when trying to review how bonds can impact youth and the risk of delinquent behaviors. It has previously been noted that positive relationships with adults reduce this risk, however, there becomes a point where defining positive becomes important. As it relates to this study, protective parents would not be identified as positive parents to assist with the reduction in risk of delinquency.

The adult bond that youth can experience can also be present through school. A research study was conducted between youth with maltreatment, violence and school bonds. The important component of this study was that bonds at school with adults assisted youth with school achievement (Barboza & Siller, 2018). The achievement that is discussed often comes with a trajectory which begins with school activity such as sports. As the youth begins to find success and achievement in these activities, the researchers were able to note that academic performance also began to improve (Barboza & Siller, 2018). This becomes important when reviewing literature that relates to student success and violence in the future as a positive relationship. Barboza and Siller discuss actively through their study and within their own literature review that youth who have

poor academic performance are often subject to creating violence and delinquency within their own futures (Barboza & Siller, 2018).

Interscholastic Sports

Literature regarding the relationship between sport involvement and juvenile delinquency is abundant. However, what is often not studied is the relationship between interscholastic sports and juvenile delinquency. When conducting literature reviews, the common theme that is identified discusses the either limited relationship in qualitative studies or the inconclusive relationship between the two variables of sports and delinquency in quantitative studies. A key researcher that is often noted in literature regarding the topic of sports and delinquency is Spruit. In 2018 Spruit et al. conducted a study based on at risk youth. The study was a quasi-experimental study where the experimental group received a stimulus of a Dutch Sports Based Intervention called AJB which includes providing team sports trainings at local sports clubs (Spruit et al., 2018). The primary purpose of AJB is to reduce risk factors while simultaneously increasing protective factors for juvenile delinquency. This study's findings included that the individuals in the control group were 1.845 times more likely to be identified as a suspect than those in the intervention group (Spruit et al., 2018).

A similar study conducted by Spruit et al. in 2017 analyzed at risk youth and predictive factors. The factors that are analyzed through this study include coach, youth and predictive factors in risk as well as protective factors in sports-based crime prevention programs (Spruit et al., 2017). To conduct this study, Spruit and his colleagues utilized survey questionnaires of the aforementioned AJB intervention and

conducted t-tests for outcome variables before moving into bivariate linear regression to examine the predictive effects (Spruit et al., 2017). The results of the study include improvement of the intervention group on all outcome variables with the exception of aggression, relative to the t tests. Other results of the study include the success of AJB can be seen by coach, youth and context factors through a reduction of risk factors and an increase in protective factors (Spruit et al., 2017). Although there is an increase in protective factors and a reduction of risk factors, there is not conclusive results stating that involvement in sports, or AJB, leads to a reduction in juvenile delinquency.

Although Spruit et al. often analyze risk and protective factors and at-risk youth, a study was also conducted by the researchers where the research question was aligned with the relationship between juvenile delinquency and interscholastic sports with moderators (Spruit et al., 2016). This study is the closest to the current research question. The study included N= 132,366 which was obtained from a combination of 51 published and unpublished studies as well as 48 independent samplings (Spruit et al.,2016). Results of the study included no significant relationship between sports participation identifying that athletes are neither more nor less likely to engage in delinquent behaviors than non-athletes. However, the moderator of gender did provide a significant moderator between male and female, yet the result did not change showing any further of a statistical significance (Spruit et al., 2016). This study is important for the current research because it looks at similar variables with a similar question, however, a different moderator.

Similar to Spruit and his interest in this matter is Khoury-Kassabri and Schneider. These researchers were interested in the relationship that potentially exists between at

risk youth and involvement in sports and physical activity programs. Khoury-Kassabri and Schneider (2018) completed a study on Israeli youth aged 13-18 with a sample of 126 youth. The study was a longitudinal study that identified current involvement in delinquent behaviors and involvement six months after the first survey was taken. Results of the study concluded a significant decrease in all delinquent behaviors studied which included crimes against a person, crimes against property, and public disorder crimes (Khoury-Kassabri & Schneider, 2018). However, this study was unable to identify any moderating factors including sport type, program intensity, training and supervision and interaction with community services (Khoury-Kassabri & Schneider, 2018). The importance of this study is significant because a relationship was found for this set of youth, however, it is not known why this relationship exists. It is also important to mention that culture plays a role in this study and is discussed that at 30% of youth in Israel are considered at risk due simply to their socioeconomic status (Khoury-Kassabri & Schneider, 2018).

Dogan found similar results to the study conducted by Khoury-Kassabri and Schneider of the concluded a relationship between interscholastic sports and reduced levels of juvenile delinquency. Dogan (2019) conducted this study on two separate schools, one school that was identified as a sports high school and another identified as a general high school. The tendency for delinquency was significantly different between the two schools where the sports high school had significantly lower tendencies for delinquency than its counterpart (Dogan, 2019). Results of this study concluded that having sports in school and as part of the school system are beneficial by also providing a

sense of belonging to the student (Dogan, 2019). This sense of belonging and attachment is consistent with the theoretical framework of this study which was identified by Hirschi. However, as related to the current study, the students in the sports high school were less delinquent than those in the general high school. Unfortunately, sports high schools do not exist at the rate of general high schools and the need to reduce juvenile delinquency still is present.

In spite of the few studies that have been conducted and have found associations between involvement in sports and a reduction in juvenile delinquency, other studies have shown complete opposite results. For example, as identified earlier, Spruit was able to recognize risk and protective factors but also was not able to identify a strong relationship either way for involvement in interscholastic sports and juvenile delinquency. Stansfield identified concerns with involvement in interscholastic sports and juvenile delinquency. Stansfield (2017) conducted a study related to involvement of interscholastic sports and specific delinquent behaviors of drug and alcohol use and violence. Results of Stansfield study showed that higher levels of involvement in interscholastic sports increased violence and mid-level involvement of interscholastic sports increase alcohol and drug use (Stansfield, 2017). However, as time spent playing sports increase, use of alcohol and drugs decreased (Stansfield, 2017). As identified by Stansfield, this information is nuanced and more in-depth than originally thought based on moderators added such as age and country. For example, Northern European countries were of the highest violence risk when involved in interscholastic sports and those at highest risk of alcohol consumption were from Anglo Saxon countries (Stansfield, 2017).

Similar to Stansfield, Nicholson and Higgins found interest in the rates of alcohol consumption specifically as it related to involvement in sports. The primary theoretical foundation behind this study included bonds and how some bonds are far more negative than others when participating in sports. In fact, multiple researchers who are interested in the relationship that potentially exists between involvement in sports or interscholastic sports and juvenile delinquency are focused on the bond's component. Nicholson and Higgins (2019) conducted a study based on the annual survey, Monitoring the Future, which provided the key variables to their study of race, binge drinking and involvement in sports. Subsequently, Nicholson and Higgins completed binary regression based on 13,850 participants to test their theory regarding sports and binge drinking (Nicholson & Higgins, 2019). The key information that can be pulled from this study is that certain sports have a higher rate of binge drinking associated with them than other sports. For example, wrestling, which is identified as a power sport, had the highest rate of binge drinking associated with it (Higgins & Nicholson, 2019). Wrestling also falls in line with aggressive behaviors and being less of a team sport than other sports which is important when seeking bonds and trust within these bonds. The primary identification for predictive factors that are associated with binge drinking included GPA and being suspended from school (Higgins & Nicholson, 2019). These associations were more significant than specific sports tested in this study.

O'Donnell and Barber also considered prosocial bonds and risky bonds.

O'Donnell and Barber (2018) conducted a study utilizing the Youth Activity Participation Study (YAPS) which is conducted in Western Australia. The participants

were made up of 1,816 participants which included 54.7% female and 45.3% male (O'Donnell & Barber, 2018). Behaviors that were used for this study included truancy, damaging public property, dangerous behaviors, physical fights and trouble with the police (O'Donnell & Barber, 2018). Sport intensity was also used as well as prosocial and risky peers which was identified based on the juvenile's description of the individuals who are also involved in the sport that the youth played the most. Hierarchical regression analysis through cross sectional data was used, and it was found that co-participants are an incredibly important link between sport involvement and behaviors associated with delinquency (O'Donnell & Barber, 2018). It was also found that those who had more prosocial individuals on a team than risky individuals leaned more towards prosocial behaviors and the good was able to outweigh the bad (O'Donnell & Barber, 2018). This is important when considered to the theoretical foundation of Hirschi. Hirschi has four tenets, one of which is attachment, while the other three include involvement, belief system and commitment (Hirschi, 1969).

Moreau et al. were also interested in the social bonds of at-risk youth and utilizing sports as an intervention technique. Although the current study is not looking to utilize sports for intervention specifically, it is important to understand if sport involvement is able to be considered for an intervention technique. Three separate cohorts were used for this study with an interview style research method. Six separate elements were found from this sports-based intervention program to identify prosocial bonds (Moreau et al., 2018). These six elements include supportive climate, collaborative strategies, balance between outside rules and self-initiated actions, competitiveness, interconnectedness of

pleasure and effort as well as explore beyond a comfort zone (Moreau et al., 2018). This study identifies that sport involvement is utilized often for life skills development; however, part of these life skills developments includes prosocial bonds. Results of this study concluded that sports intervention programs can be helpful for prosocial bonds, however, an analysis of each of these programs and what participants view as the goals of the program would be pertinent (Moreau et al., 2018).

Moving away from bonds is a study by Caldas et al. which viewed the sport of football with the knowledge that mixed benefits exist on the benefits of participating in interscholastic sports (Caldas et al., 2018). The researchers utilized a research question of involvement in interscholastic football will assist with student belongingness and juvenile delinquency. The study was conducted with 292 middle school students from diverse New York State locations (Caldas et al., 2018). What was found, relative to only interscholastic football, was that there was not an increase in school belongingness, however, an increase in delinquency was present (Caldas et al., 2018). This goes against Hirschi's social control theory, which is the basis for the current study as well as the study that will be conducted, in the sense that involvement and attachment did not increase prosocial behaviors but rather, increased juvenile delinquency behaviors. This study, similar to others, although only looking at interscholastic football brings to light the mixed results of involvement in sports and juvenile delinquency.

Mentoring Programs for Youth

Aside from the development of peer relationships through the involvement in interscholastic sports is the relationship with a coach. A coach can be looked at as a

mentor to the youth that are involved with the interscholastic sport team. According to Judge Edwards, every youth should have at least one adult in their life that can act as a guide or mentor to lead them away from delinquency and into a successful life (Edwards, 2017). Currently, there are more than 5,000 active mentorship programs that serve over 3 million at risk youth in the United States (Edwards, 2017). Some of the heads to these organizations include schools, churches, athletic centers as well as community-based organizations. Some of these mentorship programs include the national program of Big Brother's Big Sisters as well as CASA (Edwards, 2017).

The reason behind the extensive number of programs within the United States stems from the fact that data has shown mentorship to be a solid path to reduction of juvenile delinquency (Edwards, 2017). But what is it about mentorship that makes it work the best? According to Kelley and Lee, the one thing that a mentor needs to accomplish is to show a youth that they are cared for (Kelley & Lee, 2018). In fact, Kelley and Lee were able to find through a qualitative study that youth who felt that they were useful and mattered to others were less likely to engage in delinquency or other dangerous behaviors (Kelley & Lee, 2018). Kelley and Lee discuss the importance of these non-kin relationships and relate them specifically to coaches and educators that are within the youth's life. According to Kelley and Lee, the natural mentors in a youth's life, such as the aforementioned individuals, have a greater impact on the reduction in delinquency (Kelley & Lee, 2018). Further, the study identifies that when youth find non-kin mentorships earlier in life, they tend to have a less likelihood of delinquency because the duration and frequency of these relationships is important.

For youth who have entered the juvenile justice system, diversion exists to assist with recidivism as youth or adult offender. The success of the diversion program can be found in those who successfully completed versus those who did not. In one study conducted, it was found that youth who successfully complete a juvenile diversion program are less likely than their peers who did not complete the diversion program to recidivate (Kretschmar et al., 2018). Other successes that were able to be drawn out of the study included those who did recidivate often took longer to do so than those who did not complete the diversion program (Kretschmar et al., 2018). What was not studied as part of this was those who received traditional probation services against those who successfully versus unsuccessfully completed diversion. This information could better help researchers understand other techniques to reduce continued criminal activity whether at the delinquent level or the adult level. However, as it relates to this study, what is important to note is the youth have already entered into the criminal justice system and diversion is a reactionary method versus a preventative technique.

The theoretical foundation to this study will assist with pulling together all of these concepts in an effort to further review the importance of bonding with mentors, involving oneself in positive activities, utilizing sports as a way to be involved and identifying belief in a system.

Summary and Conclusions

The gap that was attempted to be filled with this research was focused on interscholastic sports rather than sports in general or sports involvement in controlled environments which has been noted in the literature review. Involvement in sports simply

means that a juvenile is participating in some sort of sporting event. This involvement in sports in general is what is seen in the literature review. Other studies as previously reviewed that did view interscholastic sports were based on comparing sports high schools with general high schools, such as completed by Dogan. However, in all the studies of delinquency and involvement in interscholastic sports, a clear correlated relationship has not yet been presented. Further, this study will seek to find relationship between the involvement in interscholastic sports and the number of seasons played to assist with the strength of a correlated relationship.

Positive social change is possible and likely with this study. This utilized a correlated research design to look at the relationship between the two variables, interscholastic sport, and juvenile delinquency. The social change that can come from this study is an opportunity for the juvenile justice system to be brought to light and to be possibly understood more in depth. By looking more in depth at the juvenile justice system, the opportunities do become endless to find opportunities to address the number of youth who do enter into the juvenile justice system. Based on the literature review, peer relationships and mentorship are a large component of the success of interscholastic sports beyond just being involved in the sports. Hirschi also discussed these concepts through the tenets that he identifies as part of his social control theory. By taking these concepts, binding them together, and possibly finding a relationship, the concept of adding school sports to school can increase. Further, if youth can actively participate in interscholastic sports, pending a relationship, the excessive rate of delinquency can be reduced. Again, the cost of incarcerating one youth per day is year \$407.58 (Ziedenberg

et al., 2014). Simply adding and making available a positive activity to a youth's life, such as interscholastic sports, can bring together the idea of mentorship and positive peer relationships to reduce this number.

The use of a correlated research design provided the opportunity to look at a specific policy. A large component of policy making is the funding of specific policies. For example, Pennsylvania operates under a commonwealth and has part of the commonwealth has developed the Pennsylvania Interscholastic Athletic Association (PIAA). According to the PIAA website, all high school and junior high school interscholastic sports are funded by ticket sales, and this makes up approximately 10% of the revenue for PIAA (PIAA, 2021). The relationship between this revenue, or dues, that are paid to PIAA and the junior or senior high schools is prominent because these schools are required to budget PIAA into their already limited budgets. According to the PIAA website, these dues are paid in part to purchase insurance for the student athletes in case of catastrophic events (PIAA, 2021). These dues are broken down by the size of the school with the minimum dues being \$525.00 and the maximum dues being \$675.00.

Based on the concept that the idea for interscholastic sports is to build character for the student athlete, provide a positive activity while also bringing educational requirements into the athletic sphere (PIAA, 2021), it would be positive to fund these interscholastic activities in a way that provides opportunity to all that are seeking to become involved. The process that this study was developed in a way to attempt to fill the gap in research while simultaneously seeking positive social change is the utilization of survey data which will then be processed through SPSS software using the variables

identified in the research question. Further discussion of the methodology can be found in the following chapter.

Chapter 3: Research Method

Introduction

The purpose of this study was to examine to what extent a relationship exists between involvement in interscholastic sports and involvement in juvenile delinquency among youth. I specifically was looking at the number of seasons played to identify if the relationship would be strengthened or weakened based on this variable. In this chapter, I present the research design, the methodology behind the study, and possible threats to validity.

Research Design

The dependent variable of this study was juvenile delinquency. I looked at any impact on juvenile delinquency from the independent variables of involvement in interscholastic sports and the number of seasons in these sports. These variables were tested using a correlational research design. This design was the best for this study because I was seeking an explicit relationship between the binary variable of juvenile delinquency and the two independent variables. However, although the correlational study was the most appropriate for this study, limitations exist. The correlated relationship can provide information if the relationship does exist between the variables; however, the study will not provide why this relationship exists. Similarly, because the correlated research design does not explain why a relationship exists, it will not inform on which variable has the most influence on the other variable. Finally, the correlational research design will not rule out the potential that other variables not being studied are causing the result.

Regardless of these identified limitations to the correlated research design, within the field of criminal justice, it is important to understand how to assist with reducing juvenile delinquency rates. As previously discussed, most individuals who enter the criminal justice system as adults were prior juvenile delinquents. With this information, it would deem important to attempt to reduce this statistic and avoid an even higher rate of criminality for both youth and adult offenders who started their criminal careers as delinquents.

Methodology

The approval number provided by IRB for this study was 03-11-22-1023945. To begin the process of this study, sampling had to occur. The sampling method I used for this study was convenience sampling. Convenience sampling worked well for this study because it is a simpler method of sampling that requires only a willingness from anyone in the population. However, because it is a simpler method, the likelihood of bias is increased. The increase in bias is because only a certain population will participate in the study versus another population. The sample was based specifically on individuals who identify that they were involved in interscholastic sports. Further, the sample will be broken down to include only those who identified as being 18–22 years of age.

The sample size goal for the study was 329 participants; however, the number of participants analyzed was 350. The 329 participants were derived from the GPower 3.1 tool. GPower is a tool used to identify the sample size for a study based on availability. GPower is a tool widely used to provide power and sample sizes for research and grants (Kent State, 2021). Further, this tool is a free tool provided by Walden University as an

adequate option for sample size and also includes a guidebook for how to understand and use the tool correctly. This tool denotes binary logistic regression as a z test with an error of probability of 0.05. The error of probability being identified as 0.05 will assist with validity concerns in the study. Similarly, the power level was set at 0.8 to identify a moderate effect size. Because the effect size is based on a moderate effect size, the odds ratio will be 2.477. Other determinations of the sample size include the $\Pr(Y=1 | X=1)$ H_0 , which is identified as 0.1. The 0.1 is in relation to the 10% of estimated high school youth who committed either a status offense or a criminal offense (Puzzanchera, 2020). X parm Π for the sample size will be listed as 0.57, which correlates to the current number of high school students participating in high school athletics (Riser-Kositsky, & Peele, 2021). Lastly, the X distribution is identified as a binomial distribution based on a binary predictor variable.

The original 329 participants sought were individuals ages 18–22. The thought process behind this age requirement is that the population would no longer be identified as a special population based on their age. Further, if the age range were to be higher, the likelihood of recall and ensuring reliability could be questioned. The survey was distributed via social media. Distributing the survey via social media provided an opportunity for individuals to share the survey in an attempt to both obtain the sample size and obtain information from individuals on a broader spectrum.

The survey was created online through SurveyMonkey, which allowed for anonymity of the individual taking the survey. The survey was brief, simply focusing on the individual's involvement in interscholastic sports, involvement in juvenile

delinquency behavior, and the number of seasons they played sports. Demographic information collected within the survey was the individual's age and nothing else. Demographically, age was the most important to collect because of memory recall and the ability to maintain a higher level of validity.

Because the research was focused on providing anonymity and a survey tool, it was pertinent for the beginning of the survey to provide information regarding the study, the level of anonymity, and how the information would be used. The survey specifically defined the term *anonymity* in an attempt to avoid bias and uphold the highest level of validity. After the survey was completed, an ending paragraph was provided that thanked the respondent for the time provided to the study. There was no responsibility of the respondent to provide any name or contact information.

Ethical Procedures

To ensure that ethical standards were followed, the survey started with a consent form. As part of the consent form, the individual was informed of the study, what the data from the survey would be used for, how the data would be saved, and the opportunity to stop the survey at any time. The survey was provided through SurveyMonkey, which provided the ability to remove all IP addresses from those who agreed to participate in the study. The data were saved on a private laptop computer with password protection. Nonetheless, the data were anonymous and did not have the opportunity to be traced back to anyone who participated in the survey.

The consent form stated that if the respondent had a desire to end the survey at any time, they could do so. The responses the respondent had identified were not

provided to the researcher without the respondent clicking submit at the end of the survey. After the survey was submitted, the respondent was met with a page indicating that their responses were provided for the research. Respondents were also notified that there was no further information that needed to be added and they could close out the webpage.

Summary

In summary, this study was conducted through survey data collected through SurveyMonkey and exported to SPSS for data analysis. The analysis that was conducted was binary regression based on the dependent variable being binary with two independent variables. The survey requested respondents to identify involvement in interscholastic sports and any involvement in delinquency or criminal offenses while also in high school. The study was retrospective in nature to assist with not surveying a protected population. The number of individuals required to be surveyed to best identify a correlated relationship was a minimum of 329; however, 350 responses were analyzed.

Chapter 4: Results

Introduction

The purpose of this study was to assess if a statistically significant relationship exists between playing high school interscholastic sports, number of seasons played, and being involved in delinquent behavior among youth. The research question analyzed for this study was:

RQ: To what extent does involvement in interscholastic sports and seasons played have an influence on involvement in delinquency?

H_0 : There is no statistically significant relationship between involvement in interscholastic sports and seasons played with involvement in delinquency.

H_1 : There is a statistically significant relationship between involvement in interscholastic sports and seasons played with involvement in delinquency.

In this chapter, I present information regarding data collection. I review the planned data collection and the data collection that occurred. I provide background of the sample population, timeframes of collection, and representation of the population in full. Following discussion of data collection, I present results of the study and acceptance of the appropriate hypothesis. The presentation of results also includes tables and figures to assist in illustrating the results.

Data Collection

Data collection for this study began on March 12, 2022. The start of data collection included uploading the survey into SurveyMonkey and then posting to social media platforms Facebook and Instagram with a previously approved description of the

study. The survey was shared on Facebook approximately 50 times and on Instagram approximately 10 times. The sharing of the survey was effective, however, the greatest impact of gaining respondents was through a two-phase development process. The survey link was translated into a QR code, which made sharing significantly easier and was subsequently posted to social media. The second part of this process was the QR code was shared to Snapchat by individuals who saw it on both Facebook and Instagram. Upon the development of the QR code and the sharing to Snapchat, which included posting to multiple individual's stories, responses came in significantly quicker.

I anticipated that sharing via Facebook and Instagram would provide the responses needed to begin analysis, however, this proved to not be true. When discussing the slow start for data collection, individuals who were within the respondents' age group noted that Snapchat was the primary form of communication for individuals that age. This constitutes the primary discrepancy between the plan presented for data collection in Chapter 3 and what actually occurred for data collection. Data collection ended on March 31, 2022, with about 60% of responses occurring between March 27, 2022 and March 31, 2022.

At conclusion of the sample, descriptive statistics showed that 454 individuals ages 18–22 completed the survey. Information was then exported from SurveyMonkey into SPSS software for analysis. The data were reviewed and some cases were coded as missing based on responses. For example, if someone selected *prefer not to answer*, this was coded as a 3 and removed from analysis.

Table 1*Participant Age Information*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	18	38	8.4	10.1	10.1
	19	95	20.9	25.3	35.4
	20	104	22.9	27.7	63.0
	21	79	17.4	21.0	84.0
	22	60	13.2	16.0	100.0
	Total	376	82.8	100.0	
Missing	System	78	17.2		
Total		454	100.0		

Table 1 shows that 38 respondents were 18, 95 respondents were 19, 104 were 20, 79 were 21, and 60 were 22, which makes up the *n* for the study. The *n* is based on these ages but also those who responded to the remaining questions with a response of either *yes* or *no*. The first question of the survey requested for the respondent to acknowledge that they were between ages 18 and 22; if their response was *no*, the survey concluded. There were three responses in which individuals stated *yes* for Question 1 and then typed in an age above 22. These responses were subsequently deleted prior to analysis. Aside from age, no further demographics of respondents were collected.

Table 2 provides the descriptive statistics of the study participants. The minimum age was 18 and the maximum age was 22; the age seen the most was a 20. The table identifies there were 74 missing responses, which aligns with those who did not indicate in Question 1 that they were between the ages 18 and 22 and those who did indicate an age of 18–22 on Question 2.

Table 2*Statistics*

Age		
N	Valid	376
	Missing	78
Mode		20
Range		4
Minimum		18
Maximum		22

Table 3 provides the $n = 376$ again as well as the minimum and maximum age, which has already been reviewed. However, Table 3 provides the mean age of individuals who completed the survey, which was 20.07 years.

Table 3*Descriptive Statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
Age	376	18	22	20.07	1.226
Valid N (listwise)	376				

Table 4 provides further information about respondents of the study who make up the target population. As shown, 350 respondents indicated they participated in high school interscholastic sports; 25 said they did not. In addition, four respondents declined

to answer this question. This response was coded as a 3, while *yes* was coded as 1 and *no* was coded as 0. Individuals coded as 3 were removed from the data set.

Table 4

Sports Participation

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Yes	350	77.1	93.3	93.3
	No	25	5.5	6.7	100.0
	Total	375	82.6	100.0	
Missing	System	79	17.4		
Total		454	100.0		

According to previous data reported in Chapter 3, 57% of the youth population in 2018 participated in high school sports (Riser-Kositsky & Peele, 2021). This works out to approximately 7.2 million youth who played high school sports. The 350 youth who were surveyed for this research is only representative, statistically, of about 1/20,000 of this population. That being said, it is hard to decipher, aside from age and high school sports participation, if this population could be narrowed down any further because the survey did not request any other demographic information. However, this helped to maintain respondent anonymity.

Results

Further descriptive statistics of the data set include the reported number of seasons played by respondents. Tables 5 and 6 provide descriptive statistics for the

number of reported seasons played. For this data set, the average number of seasons played was reported as 5.96. Further, the minimum number was 0, which would indicate those who denied participation, and a maximum of 18 seasons. The mode is identified as four seasons.

Table 5

Seasons Played

N	Valid	370
	Missing	84
Mode		4
Range		18
Minimum		0
Maximum		18

Table 6

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. deviation
Seasons played	370	0	18	5.96	3.787
Valid N (listwise)	370				

The binary logistic regression utilized two covariates, seasons played and involvement in interscholastic sports as well as a binary dependent variable which will be reviewed next.

Table 7 is the case processing summary. The case processing summary reviews that there were 454 total individuals who at a minimum, started the survey. Of these 454, 370 were included in the analysis. The 84 individuals who were not included in the analysis were removed either because of age or because he or she did not indicate participation in high school interscholastic sports or a response to delinquent behavior.

Table 7

Case Processing Summary

Unweighted cases ^a		N	Percent
Selected cases	Included in analysis	370	81.5
	Missing cases	84	18.5
	Total	454	100.0
Unselected cases		0	.0
Total		454	100.0

a. If weight is in effect, see classification table for the total number of cases

Table 8, entitled classification table, is an intercept model which provides some information regarding the dependent variable of delinquency. According to table 8, 75.4% of those who participated in the survey did not engage in delinquent acts. This table is important to the analysis because this is the percentage prior to adding either of the covariates for the regression.

Table 8*Classification Table*

	Observed		Predicted		Percentage correct
			delinquency		
			Yes	No	
Step 0	Delinquency	Yes	0	91	.0
		No	0	279	100.0
Overall Percentage					75.4

a. Constant is included in the model. b. The cut value is .500

Table 9, titled variables in the equation, provides and exp(B) of 3.066 which would indicate that those who were surveyed were 3.066x more likely to respond with “no” to the survey question about delinquent behavior during high school. Again, this information is related only to the dependent variable and the two covariates have yet to be added.

Table 9*Variables in the Equation*

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	1.120	.121	86.130	1	.000	3.066

Table 10 is the model summary. The model summary for logistic regression is important because it helps to distinguish the fit of the study for this model. For this data set, the pseudo R^2 of Nagelkerke is utilized and identified as .012 which informs us that

12% of the predictor variable accounts for what is being observed in the outcome variable.

Table 10

Model Summary

Step	-2 Log likelihood	Cox & Snell R square	Nagelkerke R square
1	409.849a	.008	.012

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Table 11, the Hosmer and Lemeshow test is another goodness of fit model test. This test is used specifically for binary regression because it helps to assist with risk prediction models. This goodness of fit model will look at how well the observed events align with the expected outcome. For this data set, the significance is .103 which would indicate a good fit and would inform us that we can reject the alternative hypothesis and that the fit cannot be improved upon.

Table 11

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	11.918	7	.103

Table 12 is the addition of the covariates against the dependent variable. This table will provide extensive information including β and log odds. The significance value for involvement in interscholastic sports is .118 and the significance value for seasons

played is .193. Because both of these significance values fall outside of the .05 confidence interval, it would be concluded that there is no statistical significance between playing interscholastic sports and seasons played with delinquent behaviors. Other information that is present in this table does not inform too much about the variables because the relationship is not statistically significant.

Table 12

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Sports_partic.	-.773	.495	2.442	1	.118	.461	.175	1.217
	Seasons_play	-.044	.034	1.694	1	.193	.957	.896	1.022
	Constant	2.212	.653	11.466	1	.001	9.137		

a. Variable(s) entered on step 1: Sports_partic., Seasons_play

Although there is no significant association between the independent variables and the dependent variables, the upper and lower bounds for the scale are small. For sports participation, the lower bound is .175 and the upper is 1.217 so the exp(B) falls close to the center of this scale and similar results are presented for seasons played. This narrower scale is beneficial because it provides more confidence with the results that have been presented.

Based on the information presented above, the alternative hypothesis will be rejected. The hypothesis stated that there would be a statistically significant relation between the independent and dependent variables. However, the survey had a separate

question that looked at criminal behavior outside of delinquent behavior. Because of this, further analysis was conducted with the dependent variable moving from delinquent behavior to criminal behavior.

Table 13 is the results of moving the dependent variable from delinquent behavior to criminal behavior. When conducting this analysis, there continues to be no statistical significance between criminal behavior and the independent variables still listed as sports participation and seasons played. The significance value for sports participation is identified as .684 and for seasons played is .465 which are both well above the .05 confidence interval.

Table 13

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1a	Sports_partic.	-.335	.823	.166	1	.684	.715	.143	3.589
	Seasons_play	-.038	.052	.534	1	.465	.963	.870	1.066
	Constant	3.008	1.059	8.068	1	.005	20.247		

a. Variable(s) entered on step 1: Sports_partic., Seasons_play.

Summary

As the results noted above, the answer to the research question is that there is no statistically significant relationship between involvement in interscholastic sports, seasons played and delinquent behavior. Similarly, although it was not an identified research question, there is also no statistically significant relationship between

involvement in interscholastic sports, seasons played and criminal behavior. A further discussion of the results of the study and the implications of these results will be reviewed in chapter five.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This study was conducted in an attempt to learn if a statistically significant relationship exists between playing interscholastic sports and the number of seasons played with a dependent variable of juvenile delinquency. The study was quantitative in nature and after data collection, I conducted a binary logistic regression analysis. The analysis included two independent variables, one of which was continuous while the other was binary, and a dependent variable which was also binary. The quantitative study would also be classified as a correlated research design as it was conducted to learn of any correlation between the independent and dependent variables. The study was conducted to fill a gap in the existing research regarding interscholastic sports and juvenile delinquency. The findings indicate that a statistically significant relationship does not exist between playing high school interscholastic sports, the number of seasons played, and delinquent behaviors.

Interpretation of the Findings

The lack of a statistical significance assists with extending the findings discussed in Chapter 2. Multiple research studies have been conducted regarding sports and juvenile delinquency. Spruit (2016) analyzed multiple different components within this topic, including predictive factors, protective factors, and a research question similar to the question in this study. Spruit (2016) conducted a secondary analysis of records to review if a relationship existed between sports and delinquency, and the results were similar to that of this study where a statistically significant relationship did not exist. The

primary difference between the two studies is that in this study, I focused specifically on interscholastic sports. Interscholastic sports differ from club or intramural sports because of the requirements to participate.

This study is also an extension of O'Donnell and Barber's (2018) study in which sports intensity was included in the study of some delinquent behaviors. O'Donnell and Barber looked at truancy and use of alcohol and did not include other delinquent behaviors. The findings in this study both confirm and extend O'Donnell and Barber's work, in which they noted that the primary success of sports was the relationships that develop as a result of the young person's involvement (O'Donnell & Barber, 2018). The current study can extend this by confirming that participating in interscholastic sports and the frequency of these sports is not a statistically significant factor and that the addition of other variables could be important.

At a basic level, this study confirmed that youth committing delinquent and criminal offenses remains a phenomenon occurring in society. I found that 91 of 370 respondents reported engaging in some sort of delinquent behavior. In regard to criminal behavior, 30 respondents reported being involved in some sort of illegal activity outside status offenses discussed in delinquency questioning.

The theoretical framework of the study was based on Hirschi's social control theory. This theory was originally developed based on male youth delinquents. According to Hirschi (1969), youth will not engage in delinquent behaviors if four tenets are being met: attachment, belief, involvement, and commitment. In this study, I took the tenets of involvement and commitment into consideration when developing the research.

Involvement and commitment were the two components that could be analyzed with interscholastic sports; belief and attachment are difficult to analyze without a qualitative or mixed-method study. The findings in this study to some degree diverge from the basis of social control theory. However, because all four tenets were not considered throughout this study, it would be unfair to make statements regarding the entire theory.

Limitations

Limitations of the study exist in the nature of the variable delinquent behavior. This limitation is presented as a generalizability. The term *delinquent behavior* included all status offenses in total rather than separating them into different categories. This overgeneralization could provide a different analysis as far as each status offense is concerned. For example, in other studies researchers have looked at specific components of delinquency and found statistically significant results.

Another limitation in this study is the Hawthorne effect as discussed in Chapter 1. The Hawthorne effect relates to social desirability. Although the survey was anonymous, the potential for respondents to alter responses based on a desire to convey a certain image may have affected the data. The potential for altered responses could impact the validity of the study.

A third limitation of the study is that it was anonymous and conducted via online survey distribution. When surveys are anonymous and distributed via the internet, there is no way to track responses, questions that may have arisen while taking the survey, and any other factors present during data collection. That being said, similar to social desirability, responses can be changed or altered to fit the context of the survey taker.

Further, should a respondent be unclear on any question, the ability to review and maintain anonymity was impossible. All these limitations combined have the opportunity impact the reliability of the study.

A final limitation of the study discussed in Chapter 1 is the use of information recall. The respondents were asked to reflect upon their high school career at the ages of 18–22. The age range for the study was close to that of high school age; however, there is the possibility of respondents forgetting delinquent or criminal behaviors. Because of this, validity could be impacted based on inaccurate or untrue responses.

Recommendations

The first of two recommendations for future studies would be to distinguish each status offense separately to identify any statistically significant relationship with interscholastic sports and the number of seasons played. This would allow an opportunity to expand on current research. Again, the research does not distinguish between all sports and just interscholastic sports. The identity of interscholastic sports becomes important for research due in part to the identified definition of interscholastic sports.

A second recommendation for future research would be to do either a mixed method research design or a qualitative research design. The benefit of utilizing one of these two research designs would be to obtain a better understanding of why an individual either engaged or disengaged in delinquent behavior while also playing interscholastic sports. Further, this type of research would allow for an individual to discuss if the delinquent behavior was occurring at the same time as the act of participating in sports. These concept would align with the theoretical framework to

assess each of the four tenets that Hirschi has defined for reduction of juvenile delinquency.

Implications

Positive social change is a large component of this study due in part to the phenomena that juvenile delinquency and youth committing criminal acts still occurs. A statistically significant result was not identified during analysis, however, based on research and the number of individuals who do participate in high school interscholastic sports, a positive social change can still exist. The positive social change for this study would be at a micro level and in regard to family. At a minimum the positive social change for family can include education to parents and youth that delinquency is still a factor in the world and regardless of positive activity, it still occurs.

The lack of a statistically significant association between playing sports, the number of seasons played with both delinquent behavior and criminal behavior is important for families of youth to understand. Making the basic assumption that families have a desire to engage their youth in positive activities to avoid delinquent and criminal offenses, this study provides the education that just involving them is not enough. Further research would deem necessary to provide information to families on behaviors and activities that could assist with this phenomena and provide further education.

Conclusion

This study was conducted under two primary premises. The first, there is a lack of interscholastic sports in multiple schools, specifically in local jurisdictions. Second, delinquency is prevalent in communities and providing education to help this

phenomenon could be key. In essence, the goal of this study was to view one of many options that can be provided to youth in an attempt to simply help. Help youth, help families, and help the overcrowded criminal justice system. Although the relationship between the variables was not statistically significant, other take home messages were presented. Simply posting the survey on social media sparked conversations about youth and the desire to add to pro-social activities within this community. In and of itself, these conversations were a positive social impact.

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Appendix A: Survey Questionnaire

1. Are you between the ages of 18-22?
 - a. Yes
 - b. No
2. What is your age: _____

Interscholastic sports is defined as a sport that occurs at your school and is not considered intramural or club sports.

3. During your high school education, did you participate in any interscholastic sports?
 - a. Yes
 - b. No
 - c. Prefer not to answer
4. During your high school education, how many seasons did you participate in interscholastic sports? Please note, if you played more than one sport, include each sport season participated.

Delinquent behaviors include the following: Skipping School, underage use of drugs (including tobacco) and alcohol, running away from home, violating curfew and ungovernability (your parents were unable to control you so legal services needed to become involved).

5. During your high school education, were you ever involved in delinquent behaviors, regardless of arrest?
 - a. Yes
 - b. No
 - c. Prefer not to answer

Criminal activity is best defined as any act of offense that can be prosecuted by the state and is punishable by law.

6. During your high school education, were you ever involved in any criminal activity that is not considered a delinquent behavior?
 - a. Yes
 - b. No
 - c. Prefer not to answer