

School Shooting and Individual and Contextual Correlates

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ABSTRACT

The nature and distribution of school shootings and the variables that correlate to the actions of school shootings are presented in this study. Results of prior studies were gathered to represent an idea of what type of academic research had already been conducted. Many researchers sought out similar features in their reports which produced stereotypical offender characteristics. The findings of previous researchers were used as a comparison to findings of the current study, and were used as the rationale to further research the subject. The theoretical backing of routine activities theory allows the research to have a sound base to project offender actions and their consequences. The research questions underlying this study include: 1) are there typical offender/victim patterns of characteristics and do they overlap, 2) do environmental characteristics instigate and escalate school violence, and 3) do these types of events correlate to certain geographical areas?

School shootings data were gathered from LexisNexis news reports and the website stoptheshootings.org. A total of 200 cases of school shootings were collected for the 14-year study period from May 2000 to May 2014. Offender and victim attributes along with their environmental and time-related factors were entered into SPSS files and analyzed by descriptive and bivariate statistics. Results shows that most offenders were males, aged 18 years or younger, whites, no gang affiliation or prior criminal records, and not mentally ill. Similarly, primary victims were males, whites, aged 18 years or younger, and had no known crime records. November accounted for about 25% or a quarter of the cases, Monday is more likely to occur than other days of a week; high schools had a higher percentage than do middle and elementary schools or colleges; and schools located

in cities are also more likely to have incidents than those in rural or suburban areas.

Bivariate analyses further discovered that random violence is more likely to occur in morning hours.

To summarize, environmental and situational factors do play a role in determining the likelihoods of school violence, as well as certain individual characteristics such as age, race, and interpersonal conflicts.

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Chapter I

INTRODUCTION

School shootings have been an example of reoccurring violence in the United States for several decades. School shootings are plaguing the school system our children use on a daily basis and are beginning to make parents wary of sending their children to school. A school is a place where a parent should feel safe sending their child. The issue seems to be growing within American culture, and this study aims to investigate what is perpetuating that growth. In the 18 months since the attacks on Newtown Elementary School there have been 41 shooting related deaths in 62 documented incidents in or near schools in the United States; the 18 months prior to Newtown only account for 17 deaths in 17 incidents (Vartabedian, 2014).

The problem itself may or may not lie within variables created by the school system. Problems might arise from the general culture and its desensitization to violence; however, it is important to ensure that the variables the school system can control are controlled. Identifying key characteristics about victims, offenders, and the environment in which school shootings typically occur can help narrow down the possible instigators of violence. The examination can help answer important questions regarding possible correlations between the offender's mental health status, criminal history, or gang affiliation and violent school shootings as well as questions related to if the number of students that attend the school affects the likelihood of a shooting to occur or if the location of the school plays a role in instigating violence.

This paper will discuss the environmental factors that influence school shooters across the country from elementary school, high school, and college. Data are gathered to identify specific variables that are propagating causes of school shootings in order to provide additional knowledge to the field of criminal justice.

Nature of the Problem

The prevalence of school shootings is a serious threat to our children's safety throughout the day. It is all too common to hear about a shooting that occurred at a school, near a school, or that a student brought a weapon to school intending to do harm. Contrary to what media outlets lead the public to believe, the large majority of school shootings are not mass shootings. The average school shooting stems from an interpersonal dispute between two students that ends in gunfire or a suicide. However, this does not discredit the fact that gunfire inside of schools is occurring with increasing numbers of frequency; high schools in the United States in the 1970s experienced four incidents of targeted school shootings, five in the 1980s, 28 in the 1990s, and finally 25 from 2000 to 2010 (Hann & Mays, 2013). As these statistics suggest, the number of shootings has been on a steady rise for several decades. It is imperative to make efforts to prevent school shootings instead of simply reacting.

The National Center for Education Statistics (2013) reported 31 school associated violent deaths in elementary and secondary schools from July 1, 2010 to June 30, 2011, which included six suicides and 25 homicides. The number of homicides in this statistic show how frequent a deadly shooting can occur, and that it does not have to be a mass shooting to inspire fear in the school. Six suicides is a disturbingly large number that increases violence in schools. When students take their own life, it requires a weapon

being brought onto school grounds, and used, causing panic and trauma among the student population. The student population should not have to experience these types of emotions within an educational environment.

A study conducted by the Secret Service (2002) examining targeted shootings from 1974 to 2000 found interesting and reoccurring statistics about the shooters' profiles. It found that all of the attackers in this time period were male, used guns, and that a large majority of the attacks were planned. The attackers ranged from ages 11 to 21; the overwhelming majority had experienced a loss (job, status, relationship, health of a loved one) of some sort that ultimately led to retaliation or suicide. Interestingly, they also found that most attackers had access to weapons at home, and multiple motivations for attack (Secret Service, 2002).

The above study found many similar traits among shooters that several other studies of this kind have also found. These are not uncommon and have been replicated by other researchers. The main point to glean from these studies is that many male children/teenagers who are suffering from something on the inside feel there is no other way to resolve their anguish aside from opening fire against another human being. When an individual spends 8 hours a day or more at school, it increases the probability that the attack will occur at school or that the issue has originated from the school.

This is one of the main reasons school violence needs to continue to be researched along with the offender's reasoning behind the attack. There has been continued research over school violence; however, each report seems to focus on a different theme of the violence which produces different results. For example, separate studies have focused mainly on the offender or the victim type while another would highlight the individual

offender's background to provide an explanation for the shooting. One limitation of this method is that shootings occur all across the country, allowing scores of possible variables within each offender's background. Meanwhile, each month of the year 6% of high school students stay home because they feel unsafe at school (Dosomething, 2014). Additionally, 7% of high school students report receiving threats or injuries with a weapon on school property at least once in the last year (Dosomething, 2014). Statistics such as these help provide insight into the situation being researched, and why it is important for research to continue.

The main focus of this current study will be the reoccurring variables which are represented across the United States school system. Variables that are considered universal include type of school, number of students at the school, age, race, gender, the offender's reason, and location of the school within the state. Examining the aforementioned variables will help provide insight into the problem as a whole. The collection of these related variables offers a broad understanding of the issue of school violence.

Chapter II

LITERATURE REVIEW

Previous studies have targeted similar yet somewhat different issues in their research, but did not address the specific questions that are proposed in the present study. Johnson, Burke, and Gielen (2011) used concept mapping sessions to produce interpretable maps of the school environment's contribution to the causes of school violence. In order for the maps to be produced, the researchers conducted a survey with the student population regarding the level of importance they place on certain variables such as: initiation, cessation, and severity of the violence that occurred at their school (Johnson, Burke, & Gielen, 2011). The researchers reported poll showing that 50% of students believed environment to be a major contributing factor to the initiation, cessation, and severity of violence. This result supplements the notion that the school environment needs to be investigated thoroughly. Fifty percent of the polled student sample believes the school environment is an important indicator of how much violence is going to occur at their school. This result shows that students are aware of what is happening around them and believe the circumstances in which they learn and live are of vast importance to their safety. If a student cannot enjoy something as simple as a feeling of safety when at school, then it is impossible to receive educational benefits from the institution.

Another study that conducted an in-depth analysis of school shooters characteristics and the school itself was analyzed from 1966 to 2008. De Apodaca,

Brighton, Perkins, Jackson & Steege (2012) found the typical shooter was male, 16 years old, abused drugs and alcohol, were involved with interpersonal disputes, and commonly affiliated with gangs. These variables are very common throughout many different studies, and they will hopefully be expanded upon. The consistent findings of contributing factors such as these suggest that male adolescents do not know how to negotiate social issues that arise in their lives. It could be possible that societal norms are conjuring this behavior by making the male a hardened figure in society; therefore, he cannot express negative or sad emotions in a safe manner. In addition, the environment in which each male attends school can play a major role in the way they discharge negative emotions (Johnson, Burke, & Gielen, 2011). A school environment that is preventative to violence might offer free counseling and a less intense, less cluttered environment for students to learn within each day (Johnson, Burke, & Gielen, 2011). A male student trying to learn in a threatening environment may feel that he cannot openly express sad or negative emotions for the fear of how it will affect their image.

De Apodaca et al. (2012) revealed that romantic disputes (11.4%), interpersonal disputes (33%), gangs (31.4%), and suicide (18.1%) accounted for the highest percentage of all shootings. These motives can also be found in a school environment. Gangs at the school and high amounts of interpersonal disputes indicate a violent environment in which students are learning. Romantic disputes exist in all forms and with all ages across the country, and are impossible to remove from society. It is possible to take measures to reduce these threats and perceptions of violence such as installing security cameras, metal detectors, security guards, faculty involvement with students, extracurricular activities, and strong school policies. A limitation to this study is the date range in which it was

conducted. The year 1966 was internally different from the year 2008. The expanse of years covered in this study could produce time specific results.

Perumean-Chaney and Sutton (2013) produced a study that examined almost these exact variables. They surveyed over 13,000 students in 130 different schools and analyzed their data using ANOVA and hierarchal linear modeling. The authors controlled certain variables such as: gender, age, GPA, race, and previous victimizations. Perumean-Chaney and Sutton (2013) found metal detectors led to a significant decrease in the perceptions of school safety whereas other non-physical safety measures taken by the school such as hall passes and visitor sign-in had no effect on the students. Furthermore, cameras, bars, locked doors, and guards had no effect on student perceptions of safety (Perumean-Chaney & Sutton, 2013). Johnson, Burke, and Gielen's (2011) results overlap with these findings showing that the student finds their environment important to perceptions of safety.

It is theorized that the results obtained by Perumean-Chaney and Sutton (2013) exist because the students do not interact with such things on a consistent daily basis. Security measures like metal detectors, are something students must physically walk through and interact with every time they enter or exit the building which leads them to perceive that the school feels unsure about their safety and must implement drastic measures to provide a stable environment. The results indicate that non-interactive measures of security can reduce threat levels at the school while having no effect on the student's perception of safety.

However, over 40% of shootings that occurred from 1966 to 2008 were because of personal conflicts that led to gunfire (De Apodaca et al., 2012). This seemingly

counteracts the actual safety that physical and non-physical security measures can provide. If almost half of all shootings originate from personal conflict then student on student violence will continue to occur no matter how many steps are taken to prevent violence. Similar results were found in the Secret Services (2000) study of school offenders. A certain mentality exists which promotes violence of this magnitude towards one another. De Apodaca et al. (2012) found schools with higher student populations had an 8:1 higher violence rate. A student in a higher density student population could feel overlooked by the system and insignificant in the scheme of the institution making it easier for them to commit acts of extreme violence. These schools also portrayed a weak school policy towards violence, displayed vandalism, exhibited poor faculty and staff behavior, and provided a lack of extracurricular activities for students (De Apodaca et al., 2012). Larger schools can also be more prone to mentally ill students and victims of bullying.

These results correlate with the findings by Johnson, Burke, and Gielen (2011) that when the students felt themselves to be in a safe, secure, learning environment, they felt violence was less likely to happen. However, if they felt the school's environment was unsecure, then the chances of violence were perceived to be higher. A school that is encouraging poor behavior by faculty, shows signs of vandalism, and has a weak policy towards violence will lead to unsafe feelings among students which undermines the institution's goal of providing education. Interestingly, it was found that shootings were six times more likely to occur at non-white schools with higher enrollments (De Apodaca et al., 2012). These findings coincide with a study done by the Department of Education's Office of Civil Rights that found minorities are disciplined more frequently and severely

than white students (Nance, 2013). This compels further research to be conducted towards the issue, and correlates with the notion that environmental factors play a major role in the occurrence of violence at school.

The impact school shootings can have on policy and crisis management procedure is another major factor that is derived from shooting situations. For example, many states have repealed or amended gun laws to make them easier to obtain or carry in public places (Follman, 2012). Eight states allow firearms to be carried into bars: Kansas allows concealed firearms in K-12 schools, Louisiana allows concealed firearms in churches, and Virginia repealed a law requiring gun shop owners to keep record of sales while also having previous records destroyed (Follman, 2012).

In turn, the Newtown shootings in Connecticut brought federal attention to school safety and the mental health care available to students and staff alike. It made access to mental health care a front row issue in several communities across the nation (Cowan & Rossen, 2013). The mental health effects a shooting can have on a student population can be devastating, and may even trigger more violent events to occur at the school. Cowan and Rossen (2013) stated “while some students and staff may experience more apparent and sudden mental health problems, such as difficulties concentrating, aggression, or isolation and withdrawal, others may experience more covert difficulties such as anxiety, fear, guilt, or depression” (p. 9).

All of these negative emotions can be alleviated through a secure environment provided by the school (Perumean-Chaney & Sutton, 2013). This is echoed in previous studies and the environmental factors that have shown to promote or reduce violent situations. It is important to remember the effects of post-shooting on student and staff

health to avoid future shootings or violent attacks from occurring. Examining environmental variables helps determine what can be done to reduce these types of threats. When Perumean-Chaney and Sutton (2013) studied the perceptions of safety induced by physical and non-physical security measures, it allowed academic researchers to determine what type of safety and preventative measures are justified. It is just as important for a student to feel safe as it is for them to actually be safe (Johnson, Burke, & Gielen, 2011). While some physical measures of security might make students uncomfortable, it could ultimately save their lives. By having mental health services or counseling available to students all year long, a sense of safety will be fostered along with providing a means to discharge negative emotions brought on by adolescence.

One simple and effective way to provide additional safety during the act of a school shooting comes from a group of high school students in Washington, D.C. Gray (2013) describes how students invented a “deadstop” lock mechanism that is attached to classroom doors and is completely removable when it is not needed. When an active shooter announcement commences, a teacher can place the “deadstop” on the door which will prevent it from being able to open (Gray, 2013). This type of innovation can provide security and sound minds to students if something of this horrible nature were to occur at their school. Gray (2013) explains the students are perfecting the product, and it will be available to purchase when completed for around 10 to 15 dollars. This type of security measure is discreet yet effective in providing safety for students at school. This small locking mechanism does not create a feeling of unrest with students because it is only in use if needed.

One author seeks to find a viable answer to preventing school shootings and suggests that stricter gun laws are not the answer. Weldon (2013) claims that stricter gun laws will only prevent law-abiding citizens from obtaining guns and that restricting the amount of shots a gun can fire before having to reload will not stop violence either. One pro-gun organization, the NRA (National Rifle Association), took a different form of legislative action. The NRA proposed that a number of authorized school personnel should be allowed to carry guns to deter shootings (Roston, 2014). While the proposal failed at the federal level of government, it was passed by several state level governments throughout the country. In opposition several states passed laws tightening already strict gun laws in hopes to reduce school shootings; these states include: Colorado, Connecticut, Delaware, Maryland, and New York (Roston, 2014).

Many schools use metal detectors, but they are not used on a daily basis, and are generally placed by the main entrance leaving the rest of the school vulnerable (Weldon, 2013). Anti-gun lobbyists project that if only police and military had access to guns then school shooting disasters would not occur. However, some cases have already proven that to be inaccurate. In 2005, the Red Lake Senior High massacre was carried out by a young male who stole his grandfather's (police officer) guns to shoot seven people at the school. Gun violence will continue to find a way to occur no matter how strict gun laws are. Black market gun sales are estimated to be in the millions, and criminals want to receive quality firearms, often preferring semi-automatic or fully automatic machine guns (Weldon, 2013).

However, the debate continues to thrive over the fact that more Americans own guns now than ever before. It is hard to determine if the increase in gun ownership

correlates to shooting related deaths by legally obtained firearms for no clear motive by which it is assumed the shooting was not done to protect themselves or their property.

Follman (2012) says it is easier to carry guns in public places now than years past; there are more guns owned by private citizens now with an increase from 200 million in 1995 to 300 million in 2012.

The question remains as to how to reduce the frequency of school shootings and minimize the damage. Typically when a shooting occurs a school will go into lockdown, placing all students and staff in locked classrooms which is supposed to provide protection for those inside. Nevertheless, classroom doors, walls, and windows are not bulletproof, and if an assailant wanted to breach the room, they could (Weldon, 2013). The main factor in stopping school shootings is to examine the variables that are present in the school environment through an academic study and provide legitimate solutions on how to reduce the likelihood of one occurring.

Many academics become entangled with the idea that stricter gun laws are going to prevent tragedies such as these from occurring. The same historical pattern can be followed after each mass school shooting occurs, but nothing is really done about the problem. American school shootings spark debate and minimal action. In 1999, 12 students and a teacher were murdered in the Columbine High School shootings; in 2007, 27 students and five faculty were murdered at Virginia Tech University; in 2012, 20 first graders and six adult staff were murdered during the Newtown Elementary School shootings (Roston, 2014). After the most recent mass shooting in Newtown, President Obama made a statement that gun violence would be a key issue during his second term of presidency (Roston, 2014). President Obama appointed Vice President Joe Biden to

enact different gun control measures and societal changes to help resolve the situation. A massive number of school security guards were hired, and the availability of mental health treatment was expanded (Roston, 2014). Roston (2014) stated, “the Obama administration’s gun control proposals failed to win approval when they came up for votes in the U.S. Senate” (p. 440).

Despite the deaths of hundreds of students throughout America’s history, lawmakers do not believe stricter gun control is a viable solution to the problem, leaving the public to wonder why it is the only solution that emerges after school shooting tragedies.

Given that some states loosened laws and others tightened them, it remains clear that nobody believes there is one single solution. The concept mapping sessions that were used by Johnson, Burke, and Gielen (2011) found that students believe environment is a major factor of safety at school. Passing laws that give school staff visible guns would almost certainly create unsafe feelings in a school environment. Some states, like Texas and Utah, have permitted teachers to carry firearms into school for years, but this does not draw media attention (Roston, 2014). Other states, such as South Dakota, Tennessee, Kansas, and Alabama, passed new laws of different natures allowing teachers to bring firearms to school almost immediately following the Sandy Hook massacre (Roston, 2014). The bill that passed in South Dakota was hard-pressed through the government and put into effect a meager 50 days after the Sandy Hook shootings (Roston, 2014). This is part of a continued trend that is shown by the United States government of haste in passing laws during the wake of a tragedy. For example, the Patriot Act was passed

swiftly after the September 11 attacks; and was supported strongly by Congress and the President.

The federal and state governments various schools and communities continue to be reactive instead of proactive in addressing issues of school violence. Prior research has not taken a comprehensive approach to examine influences of individual and contextual factors on school shooting. The mindset of arming or not arming staff or implementing stricter gun laws needs to dissipate in society. There are other central issues that are being missed causing the same results to occur. The integration of theory and research towards solving the problem is key in finding an answer. Routine activities theory could play a major role in determining the frequency and likelihood of a school shooting.

Routine activities theory would suggest that a student's chances of being victims of crime are increased due to the lack of a capable guardian within the school (Miller, 2013). Building on this statement, it would suggest that students are "easy targets" for shooters. The implementation of armed security guards at schools would fulfill the currently empty role of capable guardians at the school. The security guard would act as a deterrent for the shooter, and might save many lives. On the contrary, it is not wise for society to overreact to situations and implement laws that sacrifice our freedom because of fear, as was seen after the September 11, 2001, terrorist attacks.

In order to fully understand the causes of school shootings we must know the factors that are present when school shootings occur. Examining if the school is overpopulated, comprised of one majority race, located near a major city can all be useful in understanding the pressures on the shooter and why the shooting took place. Nance (2013) believes that shootings stem mainly from a lack of equity in terms of race. As

stated by the U.S. Secretary of Education Arne Duncan, “the undeniable truth is that the everyday educational experience for many students of color violates the principle of equity at the heart of the American promise” (Nance, 2013, p. 5).

This quote derives largely from the belief that schools are enabling an unfair practice for many minority students which is commonly referred to as the “school-to-prison pipeline.” The interpretation of this notion posits that schools who suspend students as a form of punishment greatly increase their students’ chances of going to prison (Nance, 2013). This form of discrimination and minority bias could also be a contributing factor that increases the likelihood of a shooting. The minority student could feel anger towards the school, blaming the school for their mistakes, and then take action against the school in a violent manner (Nance, 2013).

An important aspect of school shootings is the way in which these incidents are reported by the American mass media. The manner in which school shootings have been reported and sensationalized in years past has changed with time. In 1999 when the Columbine High School shootings took place it was considered one of the biggest events in American history, and often overshadows much larger events of its time such as the impeachment of President Bill Clinton (Schildkraut & Muschert, 2013). According to the Pew Research Center for the People and the Press (1999), Columbine remains in high regard when taking note of historical events of the 1990s. Since then, many shootings have taken place at schools, but none have had the same amount of media attention as Columbine until the Newtown shootings (Schildkraut & Muschert, 2013). It is interesting to note why the media chooses to sensationalize one shooting over another, and what

warrants them to do so. It seems the shooter must take a plethora of lives for the attack to gain serious national attention.

The increase in gun ownership has led to an increase in mass shootings not only in schools but public places. In 2012, there were seven mass shootings totaling over 140 citizens injured or killed (Follman, 2012). While it remains simple to analyze statistics from afar it is difficult to foresee if restricting gun rights is going to slow the pace of gun violence. Stricter laws would increase difficulties for law-abiding citizens to fulfill their right to gun ownership in the United States. On the contrary, there is nothing stopping a criminal from going through a legal process to obtain a gun, and then using it for illegal purposes. Since a state like Virginia does not require gun shop owners to keep records of their sales, it would be near impossible to link a murder to a gun purchase (Follman, 2012). For example, the media outlet Mother Jones analyzed 62 mass shootings in the United States over the past 30 years and found that 49 of the shooters obtained their firearm legally (Follman, 2012). The study has adopted the Federal Bureau of Investigation definition to examine those mass shootings where four or more individuals are killed at one location.

The bulk of the negative argument emerging from anti-gun activists is an assertion that legally armed bystanders do not play a role in intervening to stop crime. In 1982, a man killed eight people at a welding shop in Miami then he quickly fled the scene; a bystander saw the shootings and followed the man in his car, shooting and killing him (Follman, 2012). The case was discovered during Mother Jones' analysis of mass shootings over the past years, and accounts for over 1% of all cases studied (Follman, 2012).

Chapter III

RESEARCH RATIONALE

Prior research argues the point that school size and other environmental factors influence the offender and are the main precipitants leading to violent incidents. This is being tested because of the strong notion that students are subject to many different variables throughout their time at school. A student spends the majority of their day on school grounds, interacting with students and faculty, and the rationale is that what happens while at school is what would drive an offender to cause a violent incident at the school. It is perceived that the problem that is causing the offender to attack the school would likely stem from the school itself, and less likely to come from other social institutions such as family or neighboring friends. This is important for the foundations of the research so it is possible to identify which major variables are going to be tested. Studying what each individual student does outside of school is beyond the scope of the present research. Their time at the school is monitored, and all students are subject to similar environmental factors at school leading the way for more testable variables.

This is why it should be argued that if similar major environmental factors are present during violent attacks in different schools across the country, then it is possible to find a solution to the factors that are deemed responsible for contributing to violent incidents. The idea of this research was brought to the forefront after a literature review of what has been occurring around the country with violence at schools. A study of 17 school shootings of various educational levels found that in 11 of 13 multiple injury

shootings, the school had the following features: a population size of more than 1,000 students, lacked extracurricular activities, and bullying largely ignored by the faculty (De Apodaca, Brighton, Perkins, Jackson, & Steege, 2012). This type of statistic is why research needs to be continued on this topic on a larger scale. The current study will help further this type of research on a more in-depth scale by incorporating a variety of individual, school, and situational factors related to school shootings such as: age, gender, race, offender reasoning, mental health condition, time of day, day of week, and school population.

It is important that the current research is continued for the criminal justice field to add to the sparse amount of research available. The addition of the study aims to expand our understanding of the roots of school violence, and possibly provide answers on how to slow its continuance. Following through with this study will aid in determining whether or not environmental factors are truly a cause of what is leading to school violence. For example, it may help discover if there are heretofore unseen factors such as a bullied experience leading to these incidents. The findings of this research will provide further understanding of factors that are linked to school shootings and possible solutions.

Routine Activities Theory

Criminal justice theory is always of utmost importance when researching a topic within the field. The theory being proposed as a base of the research is routine activities theory. Routine activities theory deals with the patterns of people's daily life and the routine activities they engage in, which can affect the chances of variables converging in time to produce crime (Miller, 2013). Based on this theory the assumptions that are being brought into the research are that environmental factors that are present and interactive in

the daily lives of students are causing violence in schools to increase. Since a previous study (Perumean-Chaney & Sutton, 2013) found that metal detectors, which are very interactive, decrease perceptions of safety, then it is possible that other interactive variables are causing students to feel violent towards one another.

Miller (2013) stated:

theories see crime as rooted in the daily activities of actors, their intersection with one another, and their interactions with the social and physical structures around them...together, these elements create opportunities for crime and, in turn, patterns of crime that are distributed unevenly through space and time. (p. 391)

This quote describes the logic behind the main points of routine activities theory.

The concept of the social and physical interaction with structures present in each individual's daily life is the main scope of the research being conducted. The routine activities that students are subjected to throughout each day of school is being tested as a possible root of violence that may eventually lead to horrific events such as a shooting.

The creators of routine activities theory, Lawrence Cohen and Marcus Felson (1979), originally defined the theory as applicable to direct contact, predatory crime occurring when a motivated offender meets a suitable target in the absence of a capable guardian (Miller, 2013). The theory was first created when Cohen and Felson published an article titled "Social Change and Crime Rate Trends: A Routine Activity Approach" in 1979 (Cohen & Felson, 2010). The research set forth in the article studied crime rates from 1947 to 1974 and found a dramatic upsurge in predatory crime during this time period, and even more so during the 1960s (Cohen & Felson, 2010). During this time many scholars credited the rise in crime to individuals who were more inclined to break

the law (motivated offenders); Cohen and Felson (2010) suggested crime rose due to an increased opportunity to commit crime. Cohen and Felson (2010) said, “crime rates can increase not only if society produces more motivated offenders but also if it produces more attractive targets and less guardianship” (p. 2). The increased opportunity to commit crime stems from a societal viewpoint on daily life, and a lack of concern towards crime. When crime became escalated in the 1960s, it subsequently led to changes in societal viewpoints. Cohen and Felson, in the previous statement, capture the entire essence of the theory proposed to criminal justice. Crime rates are variable dependent upon on what society has to offer crime. When we see an upturn in guardianship of physical and non-physical measures, we then see a decrease in crime rates (Cohen & Felson, 2010).

In 1995, Felson expanded the definition of the theory to include “handlers” which are considered supervisors of potential offenders (parents or school principals) and “place managers” such as a restaurant owner or landlord who oversee a specific location (Miller, 2013). Routine activities theory would suggest that because of these individuals’ occupational and social status they are more apt to encounter crime while handling their daily routines as opposed to their counterparts (office worker, etc.) who are not. The daily life patterns of individuals greatly affect the chances of an individual experiencing a criminal act.

The target suitability appeal to shootings that occur in schools correlates with the ideas of routine activities theory. Students and faculty at a school, unfortunately, make easy targets for a shooter because they are all going to be in the same places at the same times on the same days. A study found the majority of school shootings that occur have been planned out by the offender, and were not random acts of violence (Secret Service,

2002). Relating this to routine activities theory, the target suitability of students and teachers is ideal for a shooter who is trying to carry out a preconceived plan of violence due to patterned behavior initiated by the school. The targets are going to be in the exact place a shooter wants them to be. Patterned behavior increases the likelihood that the target's activities could result in a crime. The Secret Service (2002) stated, "most cases adults noticed behavior prior to the attacks that worried them." When an adult notices that a child is behaving differently from their normal life then initiative should be taken to find out why, which could prevent violence in the school. A high percentage of cases will not lead to the prevention of a shooting, but even if one does then the effort is worthwhile.

Cohen and Felson (1979) originally created routine activities theory to help explain victimization patterns across different places and over time (Drawve, Thomas, & Walker, 2013). Accordingly, Felson and Boba (2010) explain how violence is seldom considered 'senseless' in the mind of the offender (Drawve et. al, 2013). Offenders typically display some sort of rationality with their crime. If a student finds it rational to shoot another student or teacher it is because in their mind an action has been committed towards them that has justified their actions. This notion exists in most cases of violence, but does not make it any easier to understand how an offender can commit a violent attack.

Offender motivation is an important element of routine activities theory that has largely been overlooked by many researchers and should be factored in when attempting to explain victimizations. Offender motivation can stem from several points of interest throughout an offenders' daily routine. For example, a student attends school every day

without question, but is continually, intentionally (through bullying) or unintentionally (bad grades), discouraged and demotivated by a particular student, teacher, or situation. Over periods of time this annoyance can build into rage within the student's mind, and eventually cause the individual to want to act on this rage. When the rage peaks at a certain point the individual begins to plan his revenge against the cause of the rage, leading to another school shooting incident. This scenario maps onto the concepts of routine activities theory with its key elements of target suitability and offender motivation.

Based on the routine activities certain variables might create a perspective of crime that is currently unseen in the school system. Drawve et.al (2013) said,

the activities of individuals throughout the day generate and reduce opportunities for the central elements to converge in space, thereby influencing the likelihood that a criminal event will occur...increase in activities that take people away from their homes and the concomitant increase in criminal opportunities is a leading explanation of victimization patterns (p. 452).

Continual activities that remove individuals from the safety of their homes increase the chances they will be victims of a crime. Simply by going to work you are increasing the chances of victimization, crime, and yourself will converge in time. Applying routine activities theory here, the lack of a capable guardian of a troubled student increases the chances the student will commit a shooting. The capable guardian is frequently overlooked in routine activities theory as it is mainly used to explain victimizations. One of the main roots of victimization can be eliminated once the third key element of the theory—the capable guardian is present.

The first two elements discussed were the suitable target and a motivated offender; however, neither of these elements would need to exist if a capable guardian existed in the offender's life. The capable guardian, "is usually a person who, by their mere presence, would deter potential offenders from perpetrating a crime" (Attorney General, 2011). The following illustration explains the importance of capable guardianship. A potential offender has issues with some students at school, but does not have any guardian to confide in and reinforce positive behavior to resolve the issue peacefully. Thus, the potential offender assumes the responsibility of resolving the matter in the only way they see fit to settle the situation. The potential offender has now escalated to an offender through a violent act. Routine activity theory would suggest that if the potential offender had a capable guardian at home, such as a caring parent, then the entire situation would not have happened (Attorney General, 2011).

However, capable guardians are not just limited to parents of offenders, and can include several role model figures for individuals as well as other non-physical measures. Potential guardians can include police officers, co-workers, friends, other family, security cameras, burglar alarms, and neighbors (Attorney General, 2011). Essentially, if another human being is closely involved with the troubled individual's life then the chances of that person committing a heinous act of violence, such as a school shooting, are greatly reduced. Also, if an item or person is left unguarded (lack of security cameras, personnel, etc.) then the opportunity for crime exists more openly (Cohen & Felson, 2010).

It remains possible for guardians to be present in an offender's life and have no effect. The individual can still commit a crime if they feel inclined to do so; the existence and presence of a capable guardian in a troubled individual's life modestly helps deter the

possibility of violence (Attorney General, 2011). Alternatively, it can be said that criminals are still willing to commit crimes even with heavy measures of non-physical guardianship, such as numerous security guards (Cohen & Felson, 2010). This is shown throughout the history of crime by easily examining various criminals who attempted a crime even when there were numerous measures of security visible.

Chapter IV

DATA AND METHODS

This study employed quantitative methods to answer the research questions. Quantitative research methods were chosen for this project because of the clarity they will provide in answering of the research questions. Data centered on identified variables will assist in addressing the proposed research questions. For example, the population size of the victimized school will be recorded and analyzed to see if a specific population size is present in the majority of attacks. If a particular size is revealed in the data, then it can be inferred that population size might play a major role in the probability that a violent attack will occur at that location. Institutional review board exemption was obtained for this study (see Appendix B).

Data was gathered for the research from two main sources of information. To begin, the “LexisNexis” database was utilized to find school shooting cases. On the LexisNexis website the key terms “school shooting” were entered into the search box. This yielded thousands of results from the search; therefore, the search needed to be narrowed. From this point, an advanced search was conducted using the date range of May 2000 to May 2014 to search for occurrences of school shootings. The date range selected was done in order to represent the culture of today’s society. Previous studies went as far back as the 1960s, but societal ways of thinking have shifted dramatically since then and might not represent the same reasoning as today. The specificity of this search helped narrow the results down significantly, although there was still a very large

pool of results. As such, the search was narrowed even further by selecting “newspaper reports.” This allowed the search to focus mainly on school shooting reports, and remove all results that were unwanted such as academic reviews, scientific studies, et cetera. During the use of LexisNexis a new source of data was discovered through the website www.stoptheshootings.org. This data source was used in the same manner as LexisNexis, but it was more organized. The data reported by the stoptheshooting website are utilized mainly to cross-validate the reports from the newspaper sources. The date range of May 2000 to May 2014 was still in effect as well as the option of finding newspaper reports as a primary source.

This particular search began yielding desired results for the research. Cases that were chosen from the search followed a general theme. The selected cases needed to be shootings that happened within the school, on school grounds (including parking lots), or on the campus. Any shooting that was discovered to be near a school, but not technically associated with the school was discarded. Cases were also discarded if the individuals associated with the shooting began their altercation off school grounds, and it traveled onto school grounds. For example, an individual who was being robbed chased the thief onto the campus of Example High School where he then shot the man. Cases of this nature were not included in the data set. Cases also needed to fall in the specified date range to help keep the results grouped together and not have any outlier cases that might have happened before the year 2000. By setting date restrictions it allows the research to focus on cases that are current with today’s social and societal problems that could be increasing instances of shootings. Cases were accepted into the data set if they occurred

at any educational level (elementary, high school, college); no level of education was withheld from the research.

There was a total of 200 cases of school shootings collected. Each case was entered into the data program Statistical Package for the Social Sciences (SPSS). The program SPSS was chosen for its comprehensive ability to analyze personalized data compilations and specific bivariate analysis. The cases were entered individually with as much information being found on each shooting as possible such as age, gender, race, type of weapon, origin of weapon, offender reasoning, and more. Any missing values in the data were caused by removal of information from the news source websites or privacy concerns for the victim. All of the cases found were used in the chronological order in which they occurred. Cases involving non-students, but which were a shooting that occurred on school grounds, were admitted to the research (teacher on teacher). This type of violence was still seen as a shooting that occurred at school which put students at risk. Cases involving students who only brought guns to school but did not fire them were also admitted due to the same reasoning previously stated. Additionally, cases involving suicides on school grounds with a gun were also admitted to the data for reasons of putting students at risk with a firearm at the school.

When an eligible case was found, as much information as possible was taken from the original news report. However, given the high number of unique variables for the research additional online resources were used to fill gaps in the dataset. The main source used to find answers to more obscure variables such as school population, county location, and specific time of shooting was the website www.high-schools.com/directory. It was used to find the student population size for each high school shooting report that

did not include it. Another source, www.schooldigger.com, was used to find student populations of schools that were below high school level. If the shooting occurred at a college, and the student population was not present in the original report, then the college's website was used to find the student population total.

The variable of school population size was included to determine if larger population schools are having an effect on the likelihood of a shooting occurring. Temporal variables, such as the specific time the event occurred, month, and the day of the week, are integrated to help understand if routine activities theory is a viable theory to predict shootings. It is important to have the knowledge of what day and time a shooting is most likely to happen. Variables such as offender1, offender2, offender3, were created to help determine if all offenders in the shooting may have held a similar mindset. The same logic is applied to the variables of the different victims in the dataset, such as vic1, vic2, etc. The victims were coded separately to understand if there was a certain type of victim a shooter was targeting or if the shootings were completely random.

The process of selecting a case was as follows: a refined search (as previously detailed) was made on the chosen websites yielding case results. Several cases immediately appeared in the yielded search area. The first link to a case was opened; this particular case describes a shooting near a high school, but it was simply on the same block meaning it could be a long distance away. This case was discarded. Returning to the resultant cases, another is opened. This case describes how a student entered the school that morning with a handgun in their backpack. During some point of the day this student revealed the handgun, and began firing on their intended target. Examining this case based on the quick amount of information gathered, it seemed to meet the study

criteria. As much information would be extracted as possible from a selected case. Any additional missing information would try to be found on other news websites that also reported on this same case. Often times other reporters have different information than their counterparts.

Research Questions

- What environmental and situational factors are present during violent school attacks?
- Are these types of incidents isolated to certain types of geographical areas and/or population sizes?
- What type of relationship does the offender(s) have with the victim(s)?
- Is there features or characteristic patterns of offenders that can be identified and used to explain violent shootings on school grounds?

The present research attempts to answer the aforementioned questions with the evidence based on empirical data. The theoretical basis provided by routine activities theory along with individual and environmental characteristics can help identify if students are being subjected to correlating factors on a daily basis. The analysis framework of these related factors and outcome measures of school shootings is diagramed in figure one.

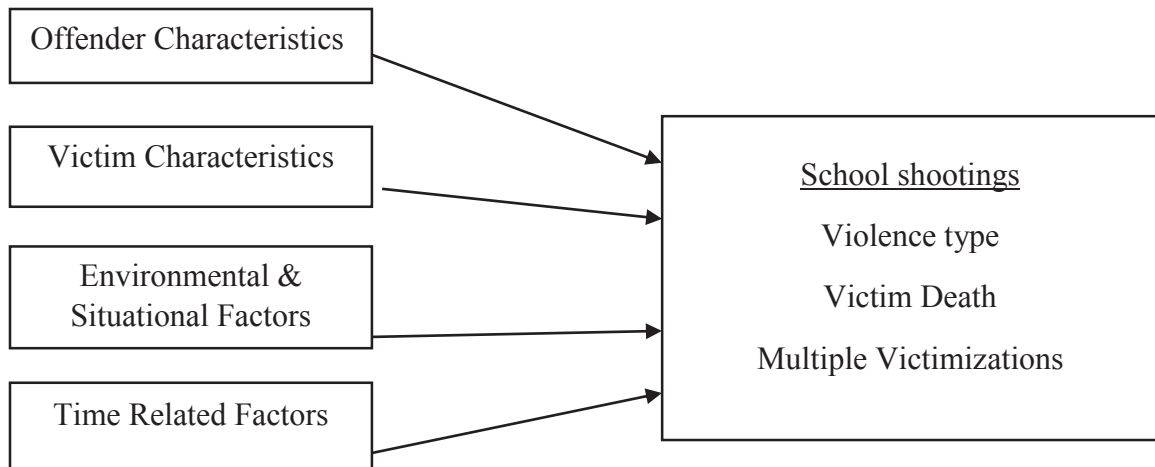


Figure 1: The Framework of Data Analysis

Data analysis using SPSS was performed to examine relationships of variables in the framework. Types of analysis such as frequencies of occurrence, cross-tabulation, and chi-square were used in the research. By studying the frequencies of specific variables it was possible to determine which variables occur most and least often. Comparing means and chi-square values revealed if variables were related or significant with one another.

Chapter V

ANALYSIS and RESULTS

After analyzing the compiled data and the frequency statistics that were generated, some generalizations were formed. The findings of the analysis regarding offenders were similar to those of previous research, but with some minor differences. Some generalizations of the findings of the offender's characteristics are not very different from previous research; the data displays a clear offender pattern which can be utilized to type possible school shooters across the country. These features can be used as a facilitator in identifying potential shooters and reaching out to them before violent attacks occur.

One of the most interesting statistics found was that over 50% of shootings occurred simply because of an interpersonal dispute between the offender and victim. This indicates there was a culture or mindset in place that allowed the offender to be willing to fire a gun on school grounds in order to settle a dispute with another student. Additionally, the greater than 6% of shooters who were bullied suggests those individuals did not know any other method of handling their problem other than shooting another student. These 6% shootings that occurred might have been avoided through proper management and counseling options available at the school. Additionally, it is equally as important to make these options known to students so they are aware these options exist. Table 1 on the following page shows percentages of offender characteristics.

Table 1: Background Variables of Offenders

Variables	Values	Valid Percentages
Offender Gender	0 = female	3.5
	1 = male	96.5
Offender Age	1 = 12 or younger	2.3
	2 = 13	5.8
	3 = 14	1.2
	4 = 15	11.1
	5 = 16	9.9
	6 = 17	12.9
	7 = 18	10.8
	8 = 19	5.8
	9 = 20 or above	29.8
Offender Race	1 = white	52.2
	2 = African-American	33.1
	3 = Asian	1.5
	4 = Hispanic	8.8
	5 = unknown	4.4
Offender Educational Background	1 = Below 9	12.6
	2 = High School	48.0
	3 = College	10.1
	4 = unknown	29.3
Offender Gang Affiliation	1 = yes	10.6
	2 = no	82.9
	3 = unknown	6.5
Offender Reason	1 = interpersonal dispute	53.5
	2 = hate crime	1.0
	3 = bullying	4.5
	4 = accidental	4.0
	5 = mental illness	4.0
	6 = gang-related	9.1
	7 = robbery	2.0
	8 = unknown	21.7
Offender Mental Condition	1 = mentally ill	4.0
	2 = not mentally ill	79.5
	3 = possible mental illness	16.5
Offender Criminal History	1 = yes	18.0
	2 = no	63.0
	3 = unknown	19.0
Offender bullied	1 = yes	6.5
	2 = no	85.0
	3 = unknown	8.5
Type of Weapon	1 = Handgun	74.1
	2 = Shotgun	2.9
	3 = Rifle	9.4
	4 = Other	4.1
	5 = Unknown	9.4

N = 200

The results shown in Table 1 reveal that over 96% of the shooters were male, leading one to believe males are unsure of how to express negative emotion towards other students. Most commonly the offender was white, 17 to 18 years old, and had some type of history with the victim. When examining solely college students the average age of the offender was 23 years old; all other findings remained consistent. Eighteen percent of the shooters had a known criminal history, and an additional 10% were associated with gang activity. It is important to note here that when over 50% of the offenders had an interpersonal dispute with the victim that this suggests a particular culture of thinking that exists. The offender and the victim had a disagreement between one another that led to gunfire.

Further analyzing offender statistics produced the following results from the data. The most common age of an offender was 17 years old. Offenders used a handgun over 70% of the time, and retrieved the handgun from their home over 40% of the time. Included in the 200 cases gathered, 56 of the individuals committed suicide at a point in time during the attack.

Four percent of the shooters were said to have a mental illness of some sort while another 16.5% were speculated to have a mental illness. The mental health variable is loosely considered because of the method of data retrieval. The limitation of newspaper reports leaves this variable open to the possibility of incorrect conclusions. However, the eight cases of mental illness that are believed to be confirmed in the study have been reported multiple times. For example, the shooting at Shepherd University produced multiple reports indicating the offender was receiving mental health treatment from a psychiatrist. Also, the cases from Orange High School and Deer Creek Middle School

ended in the offender found not guilty by reason of insanity. The scarcity of affordable mental health is too high for teenagers in need. Many families who send their children to public school might not be able to afford expensive medications and treatment for their mentally ill dependent.

The mere 6% of bullying cases in the data represents 49 casualties. Forty-nine individuals were slain due a student who was being bullied who may have felt there was no way to change the situation besides firing a gun on innocent civilians. One particular case of bullying was the Virginia Tech massacre of 33 individuals. This is an incredible amount of death for one individual to create. In a college setting it is challenging to help students unless they reach out to someone due to the mass amount of students enrolled. Nevertheless, it is not difficult to inculcate values in students earlier in life to avert them from pushing a fellow student to this point.

More than 70% of the time the weapon they brought to school was a handgun. The ease by which many of the offenders obtained their weapon is surprising. This indicates the shooter was aware of the location in which their guardian stored the gun, stole it, brought it to school with intent on shooting another student, and did not stop to think there might be a better solution to their problem. This type of statistic should be added to the conversation regarding arming school faculty, hiring additional security guards at schools, and making stricter gun laws. Clearly, if an individual wants to obtain a firearm then they are going to find a way by which to do so. The 40% who stole a weapon from their home more than likely stole a weapon that was legally purchased by their parents or guardian. In addition, before staff would be alerted to the situation the student would have engaged their targeted victim with the firearm rendering additional

security and armed faculty useless as a proactive tactic, but still effective as a reactive tactic.

Table 2: Background Variables of Victims

Variables	Values	Valid Percentages
Multiple Victimization	0 = zero or one	78.0
	1 = yes	22.0
Number of Victims	0 = 0	22.5
	1 = 1	55.5
	2 = 2	11.0
	3 = 3	3.0
	4 = 4	3.0
	5 = 5	1.5
Victim Age	6 = 6 or more	3.5
	1 = 12 or younger	5.4
	2 = 13-16	30.2
	3 = 17-20	30.9
	4 = 21-27	10.7
Victim Gender	5 = 28 or older	22.8
	0 = female	26.5
Victim Race	1 = male	73.5
	1 = white	44.6
	2 = African-American	39.6
	3 = Hispanic	10.9
Victim Educational Background	4 = unknown	5.0
	1 = below 9	10.3
	2 = high school	50.0
	3 = college	14.1
Victim Gang Affiliation	4 = unknown	25.6
	1 = yes	7.4
Victim Dead	2 = unknown	92.6
	0 = no	42.5
Victim Injury	1 = yes	57.5
	0 = no	1.9
	1 = yes	34.0

N = 200

Table 2 shows that the majority of school shootings that occur do not contain multiple injuries or casualties, with only 22% consisting of multiple victims. Victim is

defined here as someone who was injured in a shooting by the offender. The victim was seen as “zero” when an offender committed suicide without dealing harm to others.

Victims were still considered a victim whether they were killed or injured. The victim’s age does correlate with the offender’s age, as would be expected when considering the over 50% of interpersonal disputes that led to shootings. The most common age of the victim was 17 years old, and the most common age category was the 17 to 20 age range coinciding with the high percentage of high school shootings. There is a notable difference in the gender of offenders and victims. Victims were female over 26% of the time when only about 3% of offenders were female. This suggests that violence between sexes was occurring at an elevated rate which could also be expected due to the high number of interpersonal disputes (some romantic). However, there was still an overwhelming percentage of male victims in the dataset, nearly 74%.

The victim’s race is also of interest as revealed by analysis showing about 44% white victims compared to the 52% white offenders, lending to the assumption that interracial violence is occurring within schools around the country. There was an increase in the number of African-American victims as opposed to offenders with a 6.5% difference increase. Other related variables such as educational background and gang affiliation remained closely the same as one would expect. For example, 10% of offenders were involved in gang-related shootings while 7% of the victims claim gang affiliation. Luckily, school shooters are not more accurate in their shootings of targets, with 42% of their victims surviving the shooting.

Statistical findings continue in Table 3, which depicts environmental and situational variables related to the shootings. The findings in Table 3 are used to help answer the research questions presented earlier.

Table 3: Environmental, Situational, and Temporal Variables

Variables	Values	Valid Percentages
Month	1 = January 2 = February 3 = March 4 = April 5 = May 6 = June 7 = July 8 = August 9 = September 10 = October 11 = November 12 = December	10.5 10.5 5.5 11.0 10.0 3.5 2.5 5.0 9.0 11.0 13.5 8.0
Day	1 = Sunday 2 = Monday 3 = Tuesday 4 = Wednesday 5 = Thursday 6 = Friday 7 = Saturday	5.5 22.0 17.5 19.5 12.0 18.0 5.5
Time	1 = morning 2 = afternoon 3 = night	43.0 40.0 17.0
State	1 = California 2 = Pennsylvania 3 = Texas 4 = Illinois 5 = Tennessee 6 = Washington 7 = Others	15.5 6.5 7.0 5.0 5.0 5.0 56.0
School Location Setting	1 = rural 2 = suburban 3 = town 4 = city	7.4 8.5 6.9 77.2
Type of School	1 = middle/elementary 2 = high school 3 = college	24.5 60.0 15.5
School Population	1 = 0-500 2 = 501-1000 3 = 1001-1500 4 = 1501-2000 5 = 2001 or more	18.2 30.2 15.1 8.3 28.1
Attack Location	1 = inside the school 2 = outside/near the school 3 = school parking lot	44.5 37.0 18.5
Type of Violence	0 = random or accidental 1 = targeted	34.7 65.3

N = 200

Important environmental variables are shown in Table 3 that deserve recognition as indicators of possible increased chances of school related violence. Schools located within city settings have an extremely high chance of falling victim to a shooting with over 77% of the shootings gathered falling in this category. Urban areas produce highly populous schools, and a more diverse student population. Interestingly, schools with a population of 500 to 1,000 students are the most frequent setting for school shootings, although these are followed close behind with 28% for schools with 2,000 or more students. High schools still remain the most active types of schools for shootings as shown in the previous two tables.

The month of the year, day, and time all play a role in determining the level of risk for a shooting to occur. The winter months from October to February show the highest percentages of shootings occurring; November is the most common month for a shooting to happen. Shootings seem to decrease during March, December, and September, and then increase again near the end of the school year in April and May. Monday comes in with 22% of school shootings, giving it the highest probability for a shooting to occur. However, Wednesday (19.5%) and Friday (18%) are not far behind. There is little difference between the times of day that the shooting occurs, but there is still a 3% greater chance for a shooting to occur in the morning hours.

The location of the shooting is most likely to be inside the school. There is still a 37% chance that a shooting could occur outside of the school and an elevated chance for a shooting to take place in the parking lot (18.5%). When combining the chances of a shooting occurring outside the school and in the parking lot, there is a greater chance of

being victim to a shooting outside the confines of the school while remaining on the campus.

Most shooters breach the school with a predetermined target since over 65% of the shooters indicated they were targeting certain individuals. This number relates to earlier findings of the over 50% of shootings happening because of interpersonal disputes between the offender and victim. Table 3 reveals that California has the most shootings in the country, with 31 happening during the time frame of the data collected. However, California is the country's third largest state with very populous cities and a vast array of income and racial disparity which would increase the likelihood for a shooting to happen.

The main features shown here help provide a pattern of the most common times for a shooting to occur. During the month of November, on Monday, Wednesday, or Friday mornings, is the most likely time for a shooting to occur. It is hard to determine if any precautions can be taken based on this data since there is no real way of knowing when a shooting might happen. This data simply suggests the most common time frame for something of this nature to happen.

Certain variables were cross-tabulated with the type of violence (random, targeted, and accidental) to test their significance level. Table 4 shows the results.

Table 4: Violence Type Broken Down by Related Factors

<i>Variables</i>	Random or accidental		Targeted		X ²
<i>TIME</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Morning	21	29.6	50	70.4	Not significant
Afternoon	19	28.8	47	71.2	
Night	12	42.9	16	57.1	
<i>LOCATION</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	Not significant
Inside the school	28	31.5	61	68.5	
Outside/near the school	32	43.8	41	56.2	
School parking lot	9	24.3	28	75.7	
<i>DAY*</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.041
Monday	15	34.9	28	65.1	
Tuesday	11	31.4	24	68.6	
Wednesday	16	41.0	23	59.0	
Thursday	3	12.5	21	87.5	
Friday	12	33.3	24	66.7	
Saturday	8	72.7	3	27.3	
Sunday	4	36.4	7	63.6	
<i>INJURED*</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.017
No	1	33.3	2	66.7	
Yes	28	52.8	25	47.2	
<i>WEAPON TYPE</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	Not significant
Handgun	36	28.6	90	71.4	
Shotgun	2	40.0	3	60.0	
Rifle	8	50.0	8	50.0	
Other	3	42.9	4	57.1	
Missing Cases	4	25.0	12	75.0	
<i>NUMBER OF VICTIMS*</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.013
0	12	26.7	33	73.3	
1	32	29.1	78	70.9	
2	11	50.0	11	50.0	
3	3	50.0	3	50.0	
4	3	50.0	3	50.0	
5	3	100.0	0	0.0	
6 or more	5	71.4	2	28.6	

* $\leq .05$
 ** $\leq .01$
 *** $\leq .001$

When violence type was cross-tabulated with the variables of time, location, day, injury, weapon type, and the number of victims, certain significant variables were identified. The significance level of the chi-square test for time produced an insignificant result with (.364). This suggests that the time of the day the attack occurs does not relate to the type of violence occurred. The violence could be targeted murder or random killing. Also, the location of the attack is not significant (.088) when crosstabulated with violence type. The chances of being victim to random violence is almost as likely to happen inside or outside of the school walls.

One significant variable (.041) correlated with violence type is the day of the week. The significant relationship between these variables suggests that the day of the week is a strong indicator of when a shooting might take place. Monday is the deadliest day of the week with 43 cases of shootings occurring on that day. The variable of victim injury was found to be significant (.017) with the type of violence. Results suggest that random/accidental shootings are more likely to result in injuries than are non-injuries (52.8% versus 33.3%).

Moreover, the number of victims was found to be significant (.013) in the results. This suggests that the number of victims is associated with the type of violence that occurred. Targeted violence is most likely to result in a single victim incident, while random violent killing sprees will more likely result in multiple victims being injured. For example, targeted violence shows zero cases resulting in five victims, and only two cases resulting in six or more. Random violent attacks show three cases of five victim shootings, and five cases of shootings which yielded six or more victims. The difference in statistics here is significant. Those who enter the school grounds with an intended

target have set forth to blatantly commit murder. Those who enter school grounds with no target have come to take as many lives as possible. The column percentages for the number of victims in the shooting do not display any type of relationship with an even split; but, there is moderate relationship between zero or one victims and the type of violence.

Table 5: Victim Death by Related Factors

<i>Variables</i>	No		Yes		X ²
<i>WEAPON TYPE</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	Not significant
Handgun	45	40.9	65	59.1	
Shotgun	4	80.0	1	20.0	
Rifle	9	75.0	3	25.0	
Other	3	50.0	3	50.0	
Unknown	8	53.3	7	46.7	
<i>LOCATION</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	Not significant
Inside the school	34	45.9	40	54.1	
Outside/near the school	28	41.2	40	58.8	
School parking lot	12	37.5	20	62.5	
<i>OFFENDER REASON**</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.002
Interpersonal dispute	41	40.2	61	59.8	
Hate Crime	0	0.0	2	100.0	
Bullying	6	75.0	2	25.0	
Accidental	7	100.0	0	0.0	
Mental illness	2	28.6	5	71.4	
Gang-related	4	22.2	14	77.8	
Robbery	0	0.0	4	100.0	
Unknown	14	56.0	11	44.0	
<i>OFFENDER CRIMINAL HISTORY***</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.001
Yes	6	17.1	29	82.9	
No	46	45.5	55	54.5	
<i>OFFENDER BULLIED*</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.026
Yes	7	58.3	5	41.7	
No	58	38.7	92	61.3	

* $\leq .05$

** $\leq .01$

*** $\leq .001$

Findings from Table 5 show additional significant as well as insignificant variables. Whether or not the victim(s) was killed during the shooting was compared with the type of weapon that was used, the location of the attack, and the reason for the attack. The weapon type (.097) and location (.692) do not have any significant correlation with the outcome of the victim's life.

However, the offender's reason (.002) for the shooting does play a significant role in the victim's survival. The victim is more likely to be shot fatally during an attack that is considered interpersonal rather than other reasons. This suggests that the offender entered the school or school grounds with intent on shooting this lone individual. Acting in this manner increases the chances of the individual falling victim to a fatal shooting. Sixty-one cases have resulted in deaths of victims as compared to 41 non-fatal cases. Almost all other values within the variable are outnumbered by their negative counterparts accordingly. Gang-related shootings produce a higher likelihood of a fatal shooting as well (4 cases versus 14 cases). Other values, such as bullying and accidental reasons for violence produced a lower chance of a fatal shooting occurring.

As anticipated, when an offender is known to have a criminal history before the shooting occurs then the victim has a much higher chance of suffering fatal wounds. The (.001) significance level of these statistics means there is less than a 1:1000 possibility that the relationship between the victim's death and the offender's criminal history is due to random chance. Analyzing the statistic shown in Table 5 produces convincing results to verify the significance indicated. Out of the 35 offenders who were known to have a criminal history, 29 of their victims were fatally wounded while only six survived, resulting in a kill rate greater than 82%. Of the 101 offenders who did not have a criminal

history, only 55 of their victims were slain, producing a much lower 54% chance of death. This type of statistic is vitally important for future research and preventative efforts for schools. When known criminal offenders are attending a school it creates a much higher probability for that student to commit a violent act at the school putting students in danger. A solution for how to handle students with criminal histories will be discussed further.

Whether or not the offender was known to have been a bullying victim before the shooting attack at the school was also found significant (.026) in relation to the victim's death. The small sample of students who were bullied before the shooting makes it difficult to determine how these results should be interpreted. There was only 12 cases of offenders who were confirmed to have been bullied during their time at school. Of the 12 cases of bullied offenders, seven of their victims were not killed, while five were. Interestingly, out of the 150 cases of non-bullied offenders their victims were killed over 60% of the time. The higher percentages of murdered individuals is difficult to interpret due to the low number of bullied cases. Table 6 shows complete results.

Table 6: Multiple Victims by Related Factors

<i>Variables</i>	Zero or one		Yes		X ²
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
<i>TIME</i>					Not significant
Morning	55	43.3	16	42.1	
Afternoon	50	39.4	16	42.1	
Night	22	17.3	6	15.8	
<i>LOCATION*</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.048
Inside the school	64	71.9	25	28.1	
Outside/near the school	58	78.4	16	21.6	
School parking lot	34	91.9	3	8.1	
<i>TYPE OF WEAPON</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	Not significant
Handgun	97	77.0	29	23.0	
Shotgun	2	40.0	3	60.0	
Rifle	13	81.3	3	18.8	
Other	5	71.4	2	28.6	
Unknown	14	87.5	2	12.5	
<i>OFFENDER CRIMINAL HISTORY</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	Not significant
Yes	28	17.9	8	18.2	
No	99	63.5	27	61.4	
Unknown	29	18.6	9		
<i>OFFENDER REASON*</i>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.034
Interpersonal dispute	86	81.1	20	18.9	
Hate crime	2	100.0	0	0.0	
Bullying	6	66.7	3	33.3	
Accidental	6	75.0	2	25.0	
Mental illness	2	25.0	6	75.0	
Gang-related	14	77.8	4	22.2	
Robbery	3	75.0	1	25.0	
Unknown	35	81.4	8	18.6	

* $\leq .05$

** $\leq .01$

*** $\leq .001$

The results shown in Table 6 indicate that the number of victims involved with the shooting is related to the location of the shootings, and the offender's reason for the shooting. The time of day the shooting occurred was not synonymous with the number of victims that were involved in the attack. The chi square value produced by this relation is insignificant. The type of weapon the offender chose to use also did not show a significant relationship either. The number of victims is not related to if the offender used a handgun, rifle, et cetera.

The location of the shooting does play a role in the number of victims in the incident involved. The majority of multiple victim cases occurred inside the school. Logically, this bears a strong relationship to actual life events. When a shooting occurs within the school the population of the students is denser, increasing the chances that more individuals will be injured or killed. Shootings inside the school will increase the number of people becoming a part of the attacks. The column percentages (28.1%, 21.6%, 8.1%) shown between location and multiple victims display a relationship.

Another important factor to consider in this table is the offender's reason for the shooting. Even though the highest number of shootings resulting in multiple victims were from interpersonal disputes, other factors should not be overlooked. The high number of victims resulting from disputes can be attributed to this being the most frequently occurring reason for a shooting to ensue. Attributes such as mental illness, bullying, and gang-related shootings often ended in multiple students or staff being injured or killed. It should be noted that mental have the highest likelihood in generating results of multiple victims (71%) but the number of cases (6) is too small to generalize the results. Instances involving multiple victims are vital to recognize as they have caused the most damage to

families, and the community. The large number of interpersonal disputes resulting in multiple victims shows that even a problem between two people can escalate into a much more deadly ending. Table 7 shows the relationship between offender and victim race.

Table 7: Offender Race by Victim Race

<i>VARIABLES</i>	White		African-American		Others		X ²
<i>VICTIM RACE</i> ***	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	.000
White	33	80.5	5	12.2	3	7.3	
African-American	1	3.3	26	86.7	3	10.0	
Others	4	30.8	2	15.4	7	53.8	

* ≤ .05
 ** ≤ .005
 *** ≤ .001

Table 7 shows the significance of racial crime the study found. A significance level of (.000) indicates that is there a less than (1/1000) chance this relationship is due to random chance. The table shows that racial specific crime is the most likely type of crime to occur. White on white (33 cases) and African-American on African-American (26 cases) show a high number of cases between one another. Comparatively White on African-American only has one case and African-American on White only has five. The variable ‘others’ also shows the highest number of cases between each other. This finding is important to note because it addresses the issue of interracial violence. These numbers are also affected by the demographical makeup of the school’s student population whether at lower level education or college. Further research can be conducted at the individual incident level to focus more on this racial issue.

Chapter VI

DISCUSSION AND IMPLICATIONS

To begin, it is important to address the support or lack of support for the research questions proposed previously in the study. The first question relates to environmental factors that are present during the commencement of school shootings. Intriguing information was discovered surrounding this question. Many environmental factors that were found to be the most common factors associated with school shootings were those school characteristics that are difficult for any state government to control. School population seemed to play a major role in the number of shootings that occurred. Shootings were very likely to occur in schools that had more than 2,000 students enrolled or schools with less than 1,000 students. The results found relate to a previous study done by De Apodaca et al. (2012) which found schools with higher populations had an 8:1 higher violence rate. This statistic can be interpreted in two different ways. First, the schools with a student population of less than 1,000 students could be experiencing higher levels of bullied victims. The limited amount of students can foster an ‘everyone knows everyone’ mentality, making it more difficult for certain types of students to fit in at the school. When a student is unable to coexist with their fellow classmates it is a challenge just to complete a single day of classes. Constant challenge and struggle on the student can build up over months and years leading to an eventual violent outburst.

Continuing, schools with smaller student populations tend to receive less funding from the state because the state views them as not needing as much as other larger schools would. This lack of funding might mean the school must pick and choose which

services to offer to their students. These services may include athletic programs, counseling options, clubs and organizations, field trips, and other such activities. Some programs, such as counseling or organizations for students to join and make friends, might not make the budget cut and therefore be removed from the school or never offered in the first place. It can be a frightening situation when a student is feeling pressured, bullied, overwhelmed, unwanted, or simply an outcast and has no adult at the school to confide in. Schools need to provide a feeling of safety and opportunity for the students that attend them.

Larger schools can produce all of the same feelings in students, but in different ways. In a larger school that has more than 2,000 students in attendance it can be difficult to feel important. Students can often be overlooked and feel indifferent to the student population. Nance (2013) says by examining if the school is overpopulated can be a key contributing factor in determining why the shooting occurred. More students also means there is a higher chance of bullying or mentally ill students within the population. It is impossible to prevent all undesirable incidents from happening to students. Students need to experience negative events in life in order to grow from the experience. It is the individuals who do not experience the positive to counteract the negative who can produce deadly outcomes. A life of torment is no way for any individual to live, especially within an educational environment. A more highly populated school will most likely offer more of the services and programs that the smaller ones cannot.

Another situational factor that was present during the majority of shootings was the month, day, and time the shooting occurred. It was found that the most popular months were the winter months. Leading up to the holiday season, November exhibited

the highest frequency of shootings with 27, followed by the holiday season January and February which both contained 21 shootings of their own. The results shown from the data here could stem from the feelings of loneliness, and envy that are sometimes present during the holiday season. Many students are talking to each other about what they are hoping to receive for the holidays which could create jealousy, rage, and bitterness in other students. Like many businesses do during the holiday season, schools should also consider heightening security. December alone had an 8% chance of a shooting while students are only in classes for 2 weeks or less in December.

It was also found that the day of the week with the highest probability for a shooting to occur was Monday (22%). However, Wednesday (19.5% chance) and Friday (18% chance) were not far behind; the most recent case in Washington was on Friday. This high number can be explained by other variables that were analyzed from the dataset. Since it was found that the overwhelming majority of shooters targeted a certain victim one can say that Monday would be a clear choice for the highest frequency. The offender would have time to plan the attack over the weekend days, and then come into school Monday with intent to kill. This same logic can be applied to Friday. For example, if the offender was planning on assaulting another student over the weekend, but could not bring themselves to do it then the subsequent days leading to the attack might persuade them to do so. Again drawing from the targeted victim analysis, as well as the over 50% of interpersonal dispute shootings, it is fair to speculate that the offender and victim had an additional altercation that pushed the shooter to the brink of violence.

Returning to Monday, the most frequent time of day for an attack to occur was the morning hours. The time of day was known for 165 of the cases, and of those 71 (43%)

occurred within the morning hours. This means faculty, staff, security, and students should remain cognizant of their surroundings on Monday mornings. The three time specific variables (month, day, and time) should be recognized as significant indicators of when possible school shootings might occur. These numbers have shown common patterns of when a shooting might happen.

One of the most important factors discovered through the analysis was the large number of shootings that happened within technical city limits. Seventy-seven percent of the shootings that were documented happened in a city setting. Cities provide the opportunity for more diverse racial and ethnic groups to exist in schools. Cities are also home to higher populated schools which were shown to foster more shootings as well. Cities reside as an indicator of violence for not only schools, but most serious crimes as well.

The environmental variable that is associated with the location of the attack is seen as an indicator of where the attack is most likely to occur. The 89 attacks that occurred within the school make it the location with the highest risk for experiencing a shooting. The study by Perumean-Chaney and Sutton (2013) is revisited here showing that the perceptions of safety inside the school need to remain high despite physical and non-physical security measures. Many shootings can happen outside of the school or in the parking lot, but the inside the school itself remains the most dangerous obstacle for preventative forces. When attacks are executed outside of the school walls then many more unseen variables could come into effect; however, these attacks should not be taken lightheartedly. In summary, for the first question of the research it is found that certain environmental and situational variables do play a role in the chances of when a shooting

is going to occur. Variables such as month, day, time, location, and school population are important indicators of the likelihood of a shooting.

Question 2 of the study can be answered from the dataset in the sense that shootings are not isolated to certain geographical areas, but are more likely in some than others. As shown previously, schools located in cities accounted for 77% of the cases gathered compared to schools in rural areas (7.4%), suburban areas (8.5%), and towns (6.9%). The overwhelming majority of attacks are in city schools, but that does not mean there is not a possibility in other areas. It is clear that attacks are not isolated to a certain geographical area type.

Another part of Question 2 explores school populations, and the effects they can have on the chances of a shooting. The answer to this question coincides with the answer to the first half of the question. Schools with mid- and high- level student populations are the most likely to experience a shooting. In correlation, cities produce schools with high student populations. This suggests that larger city schools are more dangerous than any other, and should receive additional resources to help protect students. Resources should be dispersed as seen fit by the local government or school board with the implementation of new officers, additional schools to reduce overpopulated schools, or additional physical security measures in place at the schools.

Question 3 addresses the offender-victim relationship. It was found that the characteristics for the offender almost directly correlates to the victim. It can be concluded that the victim and offender frequently had a history with one another through variable analysis. The offender's common features is male, white, high school student, and 17 years old. The victim's common characteristics is also male, white, high school

student, and 17 years old. Differences here are shown in the offender's gender, indicating 26% female versus 93% male offenders. Male on female crime exists without question due to the number of interpersonal disputes that exist as the offender's reason for a shooting. Also, race disparities exist between victims and offenders, with 39% African-American victims and only 33% African-American offenders. General patterns can be formed from the data gathered. The results yielded by the research are consistent with other studies that have focused solely on this aspect of school shootings.

Other relationship variables between the victim and offender can include gang-affiliation. Offenders associated with gang activity composed 10% of the total data while victims accounted for just over 7%. Gang on gang and gang on civilian crime may exist in cases selected for the study. A few specific cases documented in the data resulted from a gang member firing at other gang members on school grounds or inside the school, and wounding innocent bystanders. No cases gathered involved an intentional slaying from a gang member to a non-gang member.

Included here are cases of bullied offenders since they would offer a strong relationship with the victim. Offenders who were to be bullied in school accounted for 12 shootings and one mass shooting. Even though the number of offenders in the dataset for bullying is low it does not mean this area should be ignored. Bullying in the documented cases may have served to take 49 lives. Forty-nine people were killed because bullying victims did not know how to stop their bully. It is important to continue efforts that are being implemented to remove bullying from schools.

The offender's criminal history is a major indicator of whether or not the victim was killed in the shooting. Students with a criminal history need to be taken more

seriously, and should be considered for some form of alternative schooling. Serious implications arise from those with a history of violence and crime. Online public K-12 schooling is now being offered for free across the country, and should be considered as an alternative for students who are deemed too dangerous to remain in the general populace. The statistics here indicate that offenders with a criminal history took 58 lives in school shootings. This number would only continue to rise if more cases were gathered. Offenders with a criminal history were proven deadlier than those without, with an 82% chance of the victim's death.

The research does show a generic pattern that can be used to identify shooters, and help explain violent attacks. The offender's characteristics as previously stated consists of white male high school students with an average age of 17. The offender frequently had previous or current negative relations with the victim. These notions can be monitored by the school staff, and used as an indicator of when trouble might arise. If faculty is made aware of long-term, negative emotions between students then they might be able to identify potential offenders, and defuse the situation. Many times the offender was bullied, had a criminal history, was associated with a gang, and in a small percentage of cases suffered from a mental illness. It is vital that those with mental illnesses are treated for their disease, and not neglected. Neglect can quickly turn into gunfire. It is dually important for school staff to take note of those in troubled situations within the school, such as being bullied or left out. The faculty should take some responsibility, and at least try to get the student to meet with a counselor or become involved in a school sponsored activity.

The implications of routine activity theory here are of high importance. Many offenders might feel that the lack of a capable guardian by the school allowed them to commit such heinous crimes. Schools all over the country continue debate about the amount of physical and non-physical security measures that need to be in place at the school. Guardians at school might be better put to use through the installation of Closed Circuit Television cameras so offenders are aware they will always be identified, and armed security personnel could be posted on the campus creating a safer environment. The capable guardian can come in many forms to deter the offender, but many schools do not offer this service. Capable guardians can come from a loving home or adult to guide the youth which is also lacking in many cases.

In many cases, the offender had their suitable target and knew their daily activities since they attended the same school. Suitable targets at schools are easy for an offender to target given the circumstances. Offenders can plan their attacks by studying their future victim's movements and schedule. The offender will be able to wait until they believe the timing is right to strike their unsuspected victim.

Victims were caught unexpectedly even when the offender and victim had a previous relationship. A motivated offender can produce high amounts of violence at schools. The offender can plan to attack their original target and have to switch to multiple targets once the violence begins. Other students or staff might try to stop the offender from firing more shots and end up becoming a victim themselves. All schools have a red alert drill in place to try and prevent this type of situation and allow trained police professionals to handle it. The interpersonal disputes between victims and offenders meet the motivated offender criteria. This study has shown that many aspects of

school shootings have correlated with the related components in routine activity theory as discussed previously.

All of the violence that occurs at schools is still overshadowed by the amount of violence occurring at children's homes. It is important to remind individuals that schools are still a safer place for a child to be than their own home, statistically. More violence towards children stems from family members at home than any other place.

This study can be used to help schools prepare and prevent this type of violence through the findings presented. Schools can implement additional security, hire more counselors, output role model staff behavior, and provide stronger policy towards violence.

The main limitation of the present study is the amount of cases documented. The 200 cases gathered could be considered a small sample size. Also, many cases have missing information about the victim's features due to the difficulty of finding such information, especially for older cases. In many school shootings when the victim was younger than 18 years old the family did not want personal or biographical information released to the public making it impossible to document things like race, gender, and age. Further limitation can include the method the data was gathered. Newspaper reports leave the data open to what another individual has written about the incident. One newspaper can report something different than another newspaper. This was especially considered when examining mental health conditions stated in the articles studies.

Other limitations might include the way in which the cases were documented. All cases that occurred at any level of educational schooling were accepted to the dataset, as long as it was related to the school. If the cases consisted of a student committing a crime with a firearm on school grounds it was included in the data. There were no specific

guidelines for only high school or college. Also, cases involving suicides were accepted, which some might not view as a technical school shooting. However, when a student brings a firearm onto school grounds and pulls the trigger on themselves, it puts all other students and staff in danger as well. There is no way of knowing whether or not the student had planned on using the gun on others before themselves, but could not bring themselves to do it.

Chapter VII

CONCLUSION

In conclusion, the data gathered were able to provide supportive answers to the proposed research questions. Data were centered on a specific theme of profiles consisting of offenders, victims, and the environment. The data clearly found a significant offender and victim pattern of characteristics, as well as relationships between the two.

The offender's features was similar to other studies of this kind. The offender was typically 17 years old, male, white, and a high school student. Small percentages of the offenders were associated with gang activity and were victims of bullying. Others were known criminals with criminal histories. More than half of the offenders had an interpersonal dispute with their victim leading into over 65% targeted violence. The high number of targeted victims coincides with the escalated amounts of interpersonal disputes with the offender and victim. This is implied by the findings of the analysis.

The data on the environmental and situational variables in the study also allows us to create the typical pattern of characteristics for such an event, which is new knowledge to this field of study. The prominent factors that were present during the majority of shootings were that the school had a mid (1000~ students) to large population of over 2,000 students, and was located in a city. The shooting was also most likely to occur within the school and not outside it or in the parking lot. Most commonly shootings occurred during the winter months of the calendar (particularly November), and on

Monday mornings. This insight has serious implications about the factors that are supporting school violence or failing to prevent it. During these periods of time it would be in the school systems' best interest to implement additional security measures such as armed guards.

Findings from this study brings new knowledge to the area of school shootings, and offer policy implications on how to slow its pace. Studies found during the literature review did not offer characteristics of the offender's reason for committing the crime, nor did they discuss the relationship they had with the victim. The literature also did not discuss the generic environmental characteristics discussed in this study.

With the findings here it can be said that local governments need to approve funding of new schooling or more options for students to discuss their problems with counselors. More schools means that students will attend less populated schools hopefully eliminating many threats or causes that instigate school shootings. This will also make more teaching jobs available in the region. When students attend smaller schools they feel more interconnected with each other and the teachers. This connection will allow students to feel safer and more important to the global heartbeat of the school they attend.

Given the information from the offender's features it has been shown that teenage males do not know viable options for dispersing their negative emotions. This research supports implementations of additional counseling options for the school and allow the school to reach out to troubled teens who need a capable guardian to lean on. The large quantity of interpersonal disputes supports the notion that additional counseling resources need to be made available at high schools across the country. Teachers and staff are in

close contact with their students on a daily basis and are the first line of individuals who would be able to notice a serious alteration in behavior between two students or odd behavior by a particular one.

Future research on this topic should include a study of schools which already have large amounts of physical and non-physical security measures in place, and the amount of violence they experience. Studying schools with more security, before and after their implementation of the security, would allow the stake holders to understand if more security measures are actually the answer. The schools' violence history should also be taken into account throughout the study.

Lastly, the data gathered largely provides new knowledge to the area of school violence. It allows individuals to better understand victim-offender relationships as well as the environmental variables that are most common during the shooting.

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APPENDIX A:

Codebook for Variables

v1: source, database
v2: date of publication, ex. 12/12/2012
v3: year of shooting
v4: month, month shooting occurred
v4: day, day of week shooting occurred
v5: time, time of day shooting occurred
 1 morning
 2 afternoon
 3 night
v6: specific time, actual time shooting occurred, ex. 12.45
v7: state, shooting occurred in, ex. GA
v8: city, where the shooting was committed
v9: county, where the shooting was committed
v10: attack location (Location of Violent Attack), where the incident happened on school grounds
 1 inside the school
 2 outside/near the school
 3 school parking lot
v11: location, school location setting
 1 rural
 2 suburban
 3 town
 4 city
v12: name of school, where shooting was committed
v13: type of school, education level where shooting was committed
 1 middle/elementary
 2 high school
 3 college
v14: school pop, number of students enrolled
v15: number offenders, number of offenders, ex. 1
v16: offender multi, multiple offenders involved
 0 no
 1 yes
V17: offend1age, first offenders age, ex. 18
V18: offend1gender, first offenders gender
 0 female
 1 male
V19: offend1race, first offenders race
 1 white
 2 black
 3 asian
 4 hispanic
 5 other
 6 NA
V20: offend1arrest, first offender arrested
 1 yes

- 2 no
- V21: offend1education, first offenders education level
 - 1 below 9
 - 2 high school
 - 3 college
 - 4 non-student
- V22: offend1gang, first offenders gang affiliation
 - 1 yes
 - 2 no
 - 3 unknown
- V23: offend2age, first offenders age, ex. 18
- V24: offend2sex, first offenders gender
 - 0 female
 - 1 male
- V25: offend2race, first offenders race
 - 1 white
 - 2 black
 - 3 asian
 - 4 hispanic
 - 5 other
 - 6 NA
- V26: offend2arrest, first offender arrested
 - 1 yes
 - 2 no
- V27: offend2education, first offenders education level
 - 1 below 9
 - 2 high school
 - 3 college
 - 4 non-student
- V28: offend2gang, first offenders gang affiliation
 - 1 yes
 - 2 no
 - 3 unknown
- V29: offend3age, first offenders age, ex. 18
- V30: offend3sex, first offenders gender
 - 0 female
 - 1 male
- V31: offend3race, first offenders race
 - 1 white
 - 2 black
 - 3 asian
 - 4 hispanic
 - 5 other
 - 6 NA
- V32: offend3arrest, first offender arrested
 - 1 yes

- 2 no
- V33: offend3education, first offenders education level
 - 1 below 9
 - 2 high school
 - 3 college
 - 4 non-student
- V34: offend3gang, first offenders gang affiliation
 - 1 yes
 - 2 no
 - 3 unknown
- V35: offender reason, offender's reason for shooting
 - 1 personal dispute
 - 2 hate crime
 - 3 bullying
 - 4 accidental
 - 5 mental illness
 - 6 gang-related
 - 7 unknown
 - 8 robbery
- V36: offender injure, offenders injuries sustained
 - 1 no injury
 - 2 minor injury
 - 3 severe injury
 - 4 suicide
 - 5 killed on scene
- V37: offender mentally ill, offender's mental condition
 - 1 mentally ill
 - 2 not mentally ill
 - 3 possible mental illness
- V38: offender bully, was the offender bullied
 - 1 yes
 - 2 no
 - 3 unknown
- V39: offender criminal history, offender criminal history
 - 1 yes
 - 2 no
 - 3 unknown
 - 4 NA
- V40: weapon origin, origin of weapon used
 - 1 home
 - 2 purchased
 - 3 unknown
- V41: number weapons, number of weapons used during shooting
 - 1 1
 - 2 2
 - 3 3+

- V42: weapon type, type of weapon used during shooting
- 1 knife
 - 2 handgun
 - 3 shotgun
 - 4 rifle
 - 5 explosive
 - 6 other
 - 7 unknown
- V43: multiple weapon type, multiple types of weapons, ex. Handgun (2), rifle
- V44: violence type, type of violence shooting considered
- 1 random
 - 2 targeted
 - 3 accidental
- V45: number victims, number of victims, ex. 2
- V46: victim multiple, multiple victims involved
- 0 no
 - 1 yes
- V47: vic1age, first victim's age, ex. 16
- V48: vic1sex, first victim's gender
- 0 female
 - 1 male
- V49: vic1race, first victim's race
- 1 white
 - 2 black
 - 3 asian
 - 4 hispanic
 - 5 other
 - 6 NA
- V50: vic1education, first victim's education level
- 1 below 9
 - 2 high school
 - 3 college
 - 4 non-student
- V51: vic1dead, first victim dead
- 0 no
 - 1 yes
- V52: vic1injure, first victim injured
- 9 NA
 - 0 no
 - 1 yes
- V53: vic1gang
- 9 NA
 - 1 yes
 - 2 no
 - 3 unknown

V54-116 follow same format as variables v47-53, up to vic10 for each variable

APPENDIX B:
Institutional Review Board Form