A REVIEW OF SCHOOL SAFETY PROGRAMS: RECOMMENDATIONS FOR AN

EVIDENCE-BASED SCHOOL SHOOTER INTERVENTION PROGRAM

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Seminar Paper Abstract

A REVIEW OF SCHOOL SAFETY PROGRAMS: RECOMMENDATIONS FOR AN
EVIDENCE-BASED SCHOOL SHOOTER INTERVENTION PROGRAM

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Statement of the Problem

The Gun Free School Zone Act (GFSZA) of 1990, and amended in 1995, was enacted to protect children from gun violence. This act made it unlawful for anyone besides authorized law enforcement to carry or discharge a firearm within 1,000 feet of school grounds. Since 1992, there have been between 17 and 34 school-associated homicides each year (Center for Disease Control and Prevention, 2016). Between 2000-2017, there were 56 active shooter incidents with 135 individuals killed and 157 wounded (Federal Bureau of Investigation, 2018). Most recently, an active shooter killed 17 people, wounding many more at Marjory Stoneman Douglas High in Florida. Incidents of gun violence on school grounds have persisted despite laws such as the Gun Free School Zone Act, and school safety programs, such as Operation CleanSWEEP. Therefore, a comprehensive analysis of current school safety programs and their effectiveness at reducing the likelihood of school shooters is needed to prevent further homicides among U.S. youth.

Current responses to school shootings either involve adding armed officers to strengthen school surveillance and protection, restricting building access and scanning for potential threats, or initiating active shooter training programs developed to prepare students and staff about what to do in an active shooter scenario (Jonson, 2017). School Resource Officers, or SRO's, have increased by 38% nationwide since 1994. However, crime reporting only increases when students have a positive outlook on the SRO and few studies have actually examined SRO

effectiveness at reducing crime rates, and none have assessed school shootings (Jonson, 2017).

Over 90% of schools currently utilize restricted access to protect against active shooters. Two

prominent studies, Evaluating the Relationship Between Law Enforcement and School Security

Measures and Violent Crime in Schools, and Predicting Perceptions of Fear at School and Going

to and From School for African American and White Students: The Effects of School Security

Measures, both found restricting access, such as locking doors and requiring identification, to be

ineffective at reducing crime (Jonson, 2017). In addition, no study has been conducted on

whether or not restricting access reduces the likelihood of school shootings. It is also difficult to

determine the effectiveness of the active shooter training programs because no definitive

research has been conducted. Only when looking at historical data of past shootings where

certain tactics increased survival chances, can conclusions be made as to what is effective. For

example, active, aggressive approaches have yielded higher survival rates in shootings such as

the Virginia Tech shooting, where rooms of students who barricaded themselves had a higher

survival rate than those that did not, or the most recent Florida school shooting where JROTC

cadets barricaded a large number of students in a classroom, preventing further loss of life.

Purpose of the Study

The purpose of this research is to identify the inadequacies with current school safety

programs at identifying potential active shooter threats and recommend a program with

empirically effective components that could be effective at reducing the likelihood of active

shooter incidents in schools.

Programs specifically targeted to keep schools safe and labeled as "school safety

programs" are specific in reducing crime, bullying, or truancy. It does not appear that there are

any programs that target youth at risk for displaying extremely violent behavior. Operation

CleanSWEEP, while effective at reducing crime rates, only targets those students committing crimes listed under criminal codes. A teenager posing with a rifle, and posting threatening messages to social media, is not listed under any criminal code. Therefore, that program will not seek out the immediate threat. Active Shooter Training Resiliency programs, developed by different federal agencies such as the Department of Homeland Security, inform staff and students about what to do while the active shooter situation is in progress, not how to reduce the risk or report suspicious behavior before the incident can occur. The Safe School Initiative was conducted to gather information about school shooters and if there were any warning signs prior to an attack. While useful, this initiative did not put an actual program or protocol in to place to reduce the likelihood of school shooters. Finally, the Cops Mentoring Kids program is a good example of what most school safety programs target, at-risk youth who show signs of potential criminal behavior. Once again, psychological patterns of behavior are put aside for concrete criminal acts.

To summarize, these programs are lacking effective components. The articles cited earlier all come to the same conclusion that the current "School Safety Programs" are merely reactionary and not based on empirical evidence. Therefore, there are components that are proven to be ineffective for reducing violent crime, much less an active shooter. Since there is such a lack of study on what seems to reduce active shooters, historical cases will need to be utilized to present patterns of tactics that work.

Significance of the Study

The significance of this study is to address active shooters killing school aged children in school more than ever before. The process of researching and developing a strategy or school

safety program that could reduce the likelihood of this happening is of immediate concern. These active shooters effect children as young as kindergarteners to young adults.

Criminological theory, mental health studies, active shooter case studies, and the examination of school safety programs will determine the best way to not only identify potential active shooters but also to put a program in place to stop them. This program recommendation will have federal, state, and local law enforcement implications.

Methods of Approach

The data for this paper was gathered through secondary research to support the argument mentioned above. This data was gathered from federal incident reports, statistical analyses of active shooters, mental health implications of school shooters, and current school safety program effectiveness studies. Through this critical analysis, an effective approach utilizing multiple fields including law enforcement, mental health, and school safety programs was created. This approach will utilize empirically proven components that are effective at stopping crime and providing mental health support.

Assumptions of the Study

School shooters are a growing trend in the United States that have not slowed in recent decades. Decreases in mental health services, a growing number of incidents, and increasing lethality combined with media attention have brought this topic to the forefront of societal concerns. It is assumed that this problem will not only continue this trend, but also become more lethal as the numbers increase. In addition, it is assumed that these school shooters are being identified prior to the incident through witness reports, but with no set recourse, these identifications are not being used properly or to their full potential.

Contribution to the Field

The specific contribution to the research is the recommendation of a program to reduce the likelihood of active shooters, built around the Safe School Initiative's Threat Assessment Model. The program has three phases. The first phase, identification of a threat, will need to be done by training school staff and local law enforcement how to identify the warning signs. This is plausible and repeatable through examination of how educators were trained to identify signs of abuse in children. The second phase, is the added reporting phase. This is where the added security of armed, school-appropriate, SRO's who have access to the suggested reporting database are informed of the potential threat and can notify local and federal agencies. Finally, the third phase is managing the threat through a crisis protocol, which will include mental health and law enforcement professionals to successfully and peacefully neutralize the threat, therefore possibly reducing the risk of a school shooting. This phase is supported through crisis management protocols, active shooter mental health data, and law enforcement use of force scales.

Anticipated Outcomes

It is anticipated that this research will be a resource for the future development of a national reporting system for potential active shooters on a local, state, and federal law enforcement level. Additionally, it brings attention to the lack of study into school safety programs and the decline of a concrete mental health system. Finally, it is anticipated that this research will identify and advocate for the empirically supported components of school safety programs and school resource officers.

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I. Introduction

The Gun Free School Zone Act (GFSZA) of 1990, and amended in 1995, was enacted to protect children from gun violence at school. This act made it unlawful for anyone besides authorized law enforcement to carry or discharge a firearm within 1,000 feet of school grounds. Since 1992, there have been between 17 and 34 school-associated homicides each year (Center for Disease Control and Prevention, 2016). Between 2000-2017, there were 56 active shooter incidents with 135 individuals killed and 157 wounded (Federal Bureau of Investigation, 2018). Most recently, an active shooter killed 17 people, wounding many more at Marjory Stoneman Douglas High in Florida (Segarra, Reilly, Meixler, & Calfas, 2018). Incidents of gun violence on school grounds have persisted despite laws such as the Gun Free School Zone Act, and school safety programs, such as Operation CleanSWEEP. Therefore, a comprehensive analysis of current school safety programs and their effectiveness at reducing the likelihood of school shooters is needed to prevent further homicides among U.S. youth.

The purpose of this research is to identify the inadequacies with current school safety programs. Specifically, identifying the inadequacies that effect the reduction of violent crime and school shooters. This research will be used to recommend a program with empirically effective components that may reduce the likelihood of active shooter incidents in schools.

Data for this evaluation was gathered through secondary research. This data was gathered from federal incident reports, statistical analyses of active shooters, mental health implications of school shooters, and current school safety program effectiveness studies. Through this critical analysis, an effective approach utilizing multiple fields including law enforcement, mental health, and school safety programs was created. This approach utilizes empirically proven components that could be effective at stopping crime and providing mental health support.

The individual case study of school shooters contains 56 incidents from 2000-2017. All of these incidents were analyzed from the Federal Bureau of Investigation's Active Shooter Database and 2017 Mass Casualty Shooting Data from the National Criminal Justice Research Statistics website. These incidents were selected based on the school being the target of the attack. For example, the federal government classifies additional crimes as "school shooters" which includes suicide by firearm that occurs on school grounds and accidental firearm discharges by law enforcement or school resource officers on school grounds. These incidents were not considered because there was no threat or violence directed towards students or faculty.

A few of the more prominent cases were also researched through official government reports on the perpetrator and overall shooting. Additional data was reviewed from the Federal Bureau of Investigation on age, victims, weapons used, incident outcome, and any other pertinent data that could aid in identifying shooters before the incident occurs. Specific incident information was gathered from official government reports and other law enforcement sources.

II. Literature Review

A review of current literature is important to determine the scope of crime in schools which includes the effectiveness of school safety programs and violence statistics in schools. Gun access in the United States was also analyzed as a possible contributing factor. Finally, this review also includes a school shooter case review and an analysis in school shooter trends. It is important to note that two of the school shooting cases from 2017 had not released shooter information at the time this analysis was conducted due to the offender being a minor who had yet to be tried as an adult.

School Crime Rate and Safety Statistics

According to the U.S. Department of Education, crime rates have decreased between 2000 and 2016. During this time period, 29 out of 1,000 students were nonfatally victimized at school in 2016, which is a decline of 65% since 2000 (National Center for Education Statistics, 2018). This victimization includes everything from theft to homicide. In addition, student victimization rates off of school grounds also declined by 72% since 2000 (National Center for Education Statistics, 2018).

Numerous security measures were also put into place between 2000 and 2016. Controlling access, to include things such as requiring ID's and locking doors to different parts of the school, rose from 75% of all public schools to 94% of all public schools (National Center for Education Statistics, 2018). Implementation of school security cameras rose from 19% to 81%, and requirements for staff to wear badges rose from 25% to 68% (National Center for Education Statistics). Other safety tactics such as enforcing a dress code, randomized police K9

patrols, requiring students to wear ID's, and random metal detector checks had no significant increase or decrease over the same time frame.

The numbers of security staff present in schools and school emergency planning also increased between 2000 and 2016. In the ten-year span between 2006 to 2016, every school level had an increase in security staff present on campus with an overall increase from 42% to 57% (National Center for Education Statistics, 2018). Emergency planning is also a notable consideration for school safety. By 2016, over 90% of public schools had plans in place in case of natural disasters, bomb threats, and active shooters.

While many schools have a written plan in place in case of an active shooter, many schools only develop physical security measures in reaction to other school shooter incidents. The physical security measures include; adding armed officers to strengthen school surveillance and protection, restricting building access and scanning for potential threats, and active shooter training programs developed to prepare students and staff about what to do in an active shooter scenario (Jonson, 2017). School Resource Officers, or SRO's, have increased by 38% nationwide since 1994: yet crime reporting only increases when students have a positive outlook on the SRO and few studies have actually examined SRO effectiveness at reducing crime rates, and none have assessed school shootings (Jonson, 2017). Over 90% of schools currently utilize restricted access to protect against active shooters (Jonson, 2017). Two prominent studies, *Evaluating the Relationship Between Law Enforcement and School Security Measures and Violent Crime in Schools* and *Predicting Perceptions of Fear at School and Going to and From School for African American and White Students: The Effects of School Security Measures*, both found restricting access, such as locking doors and requiring identification, to be ineffective at reducing violent crime.

In addition, no study has been conducted on whether or not restricting access reduces the likelihood of school shootings. It is also difficult to determine the effectiveness of the active shooter training programs because no definitive research has been conducted. Only when looking at historical data of past shootings where certain tactics increased survival chances, can estimates be made as to what is effective and what is not effective. These historical cases can aid the development of programs such as the Federal Bureau of Investigation acknowledging that two separate reports were received prior to the Florida school shooting (Bowdich, 2018).

Programs specifically targeted to keep schools safe and labeled as "school safety programs", are specific in reducing crime, bullying, or truancy. No program specifically targets youth at risk for displaying extremely violent behavior. Operation CleanSWEEP, while effective at reducing crime rates, only targets those students committing crimes listed under criminal codes (Penrod, 2001). A teenager posing with a rifle, and posting threatening messages to social media, is not listed under any criminal code. Therefore, delinquency intervention programs such as Operation CleanSWEEP will not seek out the immediate threat. Active Shooter Training Resiliency programs, developed by different federal agencies such as the Department of Homeland Security, inform staff and students about what to do while the active shooter situation is in progress, not how to report or intervene on suspicious behavior before the incident can occur. The Safe School Initiative was conducted to gather information about school shooters and identify if there were any warning signs prior to an attack. While useful, this initiative did not put an actual program or protocol in to place to reduce the likelihood of school shooters. Finally, the Cops Mentoring Kids program is a good example of what most school safety programs target: at-risk youth who show signs of potential criminal behavior. Once again, psychological patterns of behavior are put aside for concrete criminal acts.

Firearm Statistics and Studies

Are firearms the real issue? Handguns were utilized in over half of all incidents as the sole weapon class utilized (FBI, 2013). Rifles only were used in 3.6% of incidents and shotguns only were used in 12.5% of incidents. A combination of the three classes of firearms were used in 23.2% of incidents. Lethality for all incidents averaged to: handguns at 1.3 deaths per incident, rifles at zero deaths per incident, shotguns at .08 deaths per incident, and a variety of firearms at 2.5 deaths per incident (FBI, 2013). These averages were found while controlling for the Sandy Hook and Virginia Tech shootings, due to their exponential number of victims.

As stated earlier, it's is illegal under federal law to carry or discharge a firearm on school grounds. The question then becomes how are students obtaining these firearms? One study of incarcerated juveniles in high crime areas reported that 83% of the juveniles owned guns prior to incarceration (Arbetter, 1994). Seventy percent of these juveniles had "no trouble at all" obtaining firearms (Arbetter, 1994). Finally, the students from this study reported the most common sources of obtaining weapons were friends or family, street dealers, drug dealers or addicts, and theft (Arbetter, 1994). This study indicates that in high-crime areas it is relatively easy for juveniles to obtain weapons and they are most likely obtaining them illegally.

A study conducted in Arizona on the interaction of bullying, suicidal ideation, and gun carrying found that students who carried a firearm in the past 30 days were almost four times as likely to commit suicide (Romero, Bauman, Ritter, & Anand, 2017). Juveniles who experienced bullying at school are one and a half times more likely to create a plan for a suicide attempt (Romero et al., 2017). This study is pertinent because it reflects how suicidal ideation, a mental illness reported for many school shooters, is further influenced by firearms and firearm use.

In a study conducted on juvenile gun ownership it was found that owning a long-gun, as in a rifle or a shotgun, was not associated with juvenile delinquency (Johnson, Matthews, Jenks, & Bass, 2013). Handguns and other forms of conceal and carry firearms were the most strongly associated with juvenile delinquency (Johnson et al., 2013). The conclusion that handgun ownership is more frequently associated with juvenile delinquency than long gun ownership supports other studies conducted on which types of firearms correlate with criminal behavior. High academic achievement was the only school-related variable to decrease juvenile gun ownership and having an adult male family member in the residence who also owned firearms was the most significant overall indicator of whether or not the juvenile owned a firearm (Johnson et al., 2013).

The Federal Gun Control Act of 1968 prohibits any individual under the age of 18 to buy or possess a handgun or handgun ammunition (Bureau of Alcohol, Tobacco, Firearms, and Explosives, 2016). Under the same act, any firearm or firearm ammunition may not be sold to anyone who has been committed to a mental institution or has been adjudicated as mental defective. These same individuals are also prohibited from possessing firearms or firearm ammunition. In addition, this act initiated a requirement for all new firearms to have a serial number. In 1994, the Brady Handgun Violence Protection Act also instituted a 5-day waiting period in order to purchase a handgun for those states without a background check system already in place.

In many states, there is no legal minimum age to owning a long gun such as a rifle or shotgun. A study was conducted on the relevance of gun laws compared to youth gun carrying. This study found that states with more restrictive youth gun laws had a 9% reduction in the number of juveniles who chose to carry firearms (Xuan & Hemenway, 2015). This study and

other similar studies, are an indication that gun sale and ownership laws need to be restricted for juveniles.

These laws and regulations are counterproductive or ineffective. According to data collected from the *Federal Bureau of Investigation Active Shooter Incident Report,* along with other government incident reports, 59.9% of school shootings between 2000-2017 were committed with a handgun only and 51.7% of the shooters were 18 years old or younger (Federal Bureau of Investigation, 2018). Out of the 33 handgun-only shooters, 16 were under 18 years old. This indicates that in around half of all handgun-only shootings, the handguns are illegally obtained and possessed. This does not include the individuals over 18 who obtained their weapons illegally or the variety weapon choice shooters who also carried handguns and were under 18 years old.

The way these laws could improve would be to add an age minimum for long guns as well as handguns. Even though the studies that were previously discussed indicate that many high-crime area juveniles obtain firearms illegally, the small reduction in gun laws may reduce the likelihood of some shootings without direct intervention. Initiating more control over individuals with a mental illness and gun possession should also become a priority. Mental illness is a consistent factor with school shootings and implementing a system of reducing the likelihood of these individuals from purchasing or possessing firearms may also aid in school shooting reduction. At the very least, studies have shown that depression and suicidal thoughts are associated with the possession and carry of firearms (Romero, Bauman, Ritter, & Anand, 2017).

School Shooter Case Review

School shooters are difficult to predict because they span a wide range of ages, backgrounds, and experiences with vastly different targets, and a low incident rate. Therefore, to help create a clear profile of who school safety programs need to target, a review of all school shooting cases between 2000 and 2017 was conducted based on information from the *FBI's Active Shooter Report* and the *Center for Disease Control's School Associated Violent Death Study*. In total, 56 cases were reviewed with 135 people killed and 157 people wounded. All but two of these cases were perpetrated by males.

Out of the 56 cases reviewed, 51.7% of the shooters were between the ages of 12-18 (Federal Bureau of Investigation, 2018). High Schools were the most likely target at 44.6%, followed by universities at 32.1%, Middle Schools at 10.7%, and finally Elementary Schools at 8.9%. Incident outcomes were evenly distributed. 33.9% committed suicide prior to apprehension, 33.9% were apprehended by someone other than the police, 25% were apprehended by police, and only 7.1% were killed by police prior to apprehension. A handgun without other weapon classifications, such as a rifle or shotgun, was the most common weapon utilized in 59.9% of incidents. Infatuation with weapons was not pertinent in many of the cases evaluated as most shooters retrieved their parent's weapons without showing an outward affinity towards guns.

The rate of school shootings occurred at 3.3 incidents per year between 2000 and 2016 (Center for Disease Control, 2016). However, 2017 by far had the most school shooter incidents at 10 over the course of the year compared to every previous year. Between 2000 and 2010, only 2006 had 6 incidents occur while the other years were all bellow four incidents. Between 2011 and 2017 four out of the seven years had school shooter incident counts above four for the year.

This demonstrates an increase in incident rate over the past 7 years with an extreme increase in 2017.

Only two of the school shooter incidents between 2000 and 2017 were committed by female shooters. Both shooters committed their crimes at the university level and killed at least two people during the incident. One committed suicide and one was apprehended by police. While female school shooters are quite rare it's important to note the possible triggers and warning signs associated with the cases. Latina Williams was a student who killed two fellow students before committing suicide at Louisiana Tech and was reported by local police to "have paranoid tendencies and lose touch with reality" prior to the shooting. Amy Anderson was a professor at Alabama University who killed three faculty members and wounded three more. She had prior incidents of violence including a shooting incident with her brother and a pipe bomb allegation earlier in her career. Police report following the shooting Amy stated, "There's no way. They're still alive" which indicates a possible disassociation with reality (James, 2010).

Two of the most lethal cases were the shootings at Virginia Tech University and Sandy Hook Elementary School. These two incidents alone skew the average lethality of all incidents. During the Virginia Tech University shooting 32 people were killed and 17 were wounded (Federal Bureau of Investigation, 2018). During the Sandy Hook Elementary School shooting 26 people were killed and 2 were wounded (Federal Bureau of Investigation, 2018).

The perpetrator of the Virginia Tech shooting had a well-documented mental health history which included anxiety disorder, selective mutism, and a court ordered mental health treatment which included a judge declaring him mentally ill (TriData Division, 2009). In the state of Virginia, because he was not sent to a residential treatment facility he was able to legally obtain firearms. A dissociation with reality was also present in his case as an 1,800-word

manifesto and many videos were found in which the shooter describes himself as a savior to the oppressed (TriData Division, 2009). The shooter also attempted to rationalize that this shooting would be a good thing for society in his videos (TriData Division, 2009).

A report by the State of Connecticut Office of the Child Advocate on the Sandy Hook Elementary School shooter, Adam Lanza, stated that he displayed significant delays in social skills and language development along with being diagnosed with mental illness prior to the shooting (Eagan, VosWinkel, Ford, Lyddy, Schwartz, & Spencer, 2014). The shooter was diagnosed with Asperger's Syndrome along with depression, anxiety, and obsessive-compulsive disorder (Eagan t het al., 2014). While the report states that no particular illness or lack of skill directly predicts an individual becoming a mass murder, these components may be taken into consideration when seeking to intervene on extreme levels of antisocial behavior.

Adam Lanza's background is being taken into consideration to help guide possible school safety programs aimed at reducing the likelihood of school shootings. Specific intervenable instances are listed here from the State of Connecticut's Office of the Child Advocate's report on Adam Lanza (Eagen et al., 2014). During the fifth grade, he submitted a book for a class assignment that was violent and disturbing in nature. After this report it was determined by the State of Connecticut Office of the Child Advocate that following this submission, the shooter should have been mentally evaluated by a child psychiatrist. In the eighth grade, he was seen by a mental health crisis team in an emergency room and that his mother believed he should not return to school. School officials referred him to a psychologist who he started seeing and eventually was placed on "homebound stats" meaning he was too disabled to attend school even with disability support. Lanza was seen by a psychiatrist at the Yale Child Study Center who wrote a report stating he had "severe social disabilities and needs therapy" along with stating,

"parents need education and do not understand depth or implications of disability" (Eagen et al., 2014).

As he grew older, Lanza's mental state continued to decline. He became increasingly socially withdrawn throughout high school, denied needing friends, and refused all medications from his local therapist (Eagen, 2014). Lanza had unrestricted access to family guns and guns that were bought for him. Eventually, Lanza stopped leaving the house or interacting socially completely and became obsessive over a single non-violent video game that he played relentlessly (Eagen, 2014). An obsession soon developed with mass murders in which he would spend hours researching the topic and discussing mass shooters on message boards (Eagen, 2014). It is unlikely that his parents had any awareness of his online activities. Police found many books on war, murder, and guns in his room. Within a few months prior to the shooting, Lanza began to live in near isolation, during which he never left his room. A doctor later diagnosed him as malnourished and anorexic (Eagen, 2014). Prior to the shooting, his mother was planning on moving out of state which could have been a possible trigger. Police found evidence of the shooting being purposefully thought out and planned (Eagen, 2014). Evidence also suggests a disassociation with reality as a result of his isolation and obsession with violence.

The report conducted by the State of Connecticut made important recommendations based on their study of the Sandy Hook Elementary School shooter. In the early years, it recommends routine mental health screenings, proper communication between healthcare providers, families, and schools, and developmental support across all skills (Eagen, 2014).

Recommendations for the school-age years include training teachers and educators in identifying mental health concerns, a mandated referral process, and electronic records that can be easily compiled to establish a complete picture of a child's mental health (Eagen, 2014).

Homebound status is not therapeutic to these types of children and if a child is placed on this status the district must set a date to return and actively provide therapy (Eagen, 2014). Additionally, clear coordination needs to occur between mental health care providers, families need to fully participate in a child's therapy, and just because a child is successful academically doesn't mean they are capable of coping in a classroom (Eagen, 2014). The mental health problems referenced in this report rarely lead to outward aggression. However, these issues most likely combined with his obsession with violence and mass murders converted his internal turmoil to external aggression.

While there are many different factors that played into the motive behind these shootings a few similarities were consistent. Bullying was a constant area of discussion and was identified as one of the major causes in most of the shootings. Mental health was the other area of main concern. Many shooters were labeled as having "emotional issues", impulse control issues, and a dissociation with reality, especially with the younger age group (Eagen, 2014, TriData Division, 2009). This is in addition to the many shooters who had a history of diagnosed mental health disorders.

To summarize this data, shooters are most likely to be males between the ages of 12-18, target a high school, and use a handgun to commit their crime (Federal Bureau of Investigation, 2018). The individual most likely has a documented history of being repeatedly bullied. Mental health, while only officially diagnosed in some cases, was pertinent because signs and symptoms of depression, suicidal ideation, and emotional instability were often observable by family and friends. Warning sings included a wide range depending on the shooter's motive however many shooters wrote, drew, or made something that referenced killing others before the shooting

occurred. Some of the shooters even asked for help or discussed their violent mindset. These warning signs were often seen by others but left unreported.

Mandatory Reporting

Finally, examining mandatory reporting procedures that are already in place can indicate how effective teachers and staff are at noticing warning signs. Teachers and other faculty are often designated as mandatory reporters for suspected child abuse or neglect (Children's Bureau, 2015). Mandatory reporting means that a law is set in place so that if the designated individual suspects something, legally they have to report it to the appropriate authorities (Children's Bureau, 2015). Child abuse mandatory reporting coincides with a possible reporting system for at-risk delinquents because both groups exhibit somewhat consistent warning signs and they have a similar difficulty in detecting those signs.

Empirically, the mandatory reporting system is effective. A study conducted in Australian schools found that in the four years following the implementation of the law there were almost four times as many reports as there were in the three years prior (Mathews, Lee, & Norman, 2016). In addition, there was an increase in substantiated investigated reports, resulting in twice as many sexually abused children being discovered post-law implementation (Mathews, Lee, & Norman, 2016). This study helps to demonstrate how effective mandatory reporting laws can be at identifying and helping those in need.

The impact of mandatory reporting laws also needs to be assessed in the attitudes of the children. A survey of children in New Zealand, where this law has yet to be implemented, has found that children would be less likely to report abuse to their teachers if the law was enacted and if they were being abused it would make them less likely to attend school (Lawson & Niven,

2015). These are important considerations to make, especially since these laws may actually drive children away from schools. However, the sharp increase in children that are identified should outweigh the possibility of discouraging students from reporting abuse themselves.

Mandatory reporting laws need to be associated with a standard training procedure that makes the teacher or individual aware of the signs that they should be identifying. Since teachers are in a unique predicament with extensive knowledge on youth development and long hours of interactions, they are good candidates for mandatory reporting. However, bias can interfere with reporting which may be a cause for some of the lack of reporting that happens within schools (Bourke & Maunsell, 2015).

One study found that teachers often report a lack of effective knowledge about child abuse and a lack of knowledge about how the reporting process works with as little as 13% of surveyed teachers being aware of their own procedures (Bourke & Maunsell, 2015). A bias also exists among teachers that the government agency or reporting procedures won't do any good or may actually harm the child (Bourke & Maunsell, 2015).

A second qualitative and quantitative survey conducted with school counselors found that what little training they did receive was helpful, however it had a narrow focus (Bryant & Baldwin, 2010). The counselors suggested additional training on other types of abuse besides physical abuse and training on how to work with affected families (Bryant & Baldwin, 2010). The counselors also shared concerns about the effectiveness of the reporting system and what they should be doing post-report (Bryant & Baldwin, 2010). These concerns coincide with the previous study and indicate effective ways to improve the program.

In order to overcome these biases and lack of knowledge a standardized system would need to be put into place that both educates teachers on the warning signs and reporting process, but also to keep them involved in the process once they make the report (Bryant & Baldwin, 2010). This would help them to understand that steps are being taken to help that child and that this system is effective.

III. Theoretical Framework

A theoretical framework for juvenile delinquency and ultimately extreme acts of violence starts with why juveniles commit crimes. Psychologically, juveniles commit crimes as a conduct disorder or antisocial behavior. Conduct disorder is a group of repeated negative behaviors such as lying, stealing, or fighting (Bartol & Bartol, 2011). Antisocial behavior in juveniles is defined as serious habitual behavior such as violent crime against others (Bartol & Bartol, 2011). These crimes include acts such as homicide, rape, and aggravated assault.

Juvenile Delinquency Theories

Terrie Moffitt identified a developmental theory that highlighted juveniles who exhibited antisocial behavior throughout the lifespan. Juveniles who exhibited antisocial behavior that grew or changed over the lifespan from fighting or stealing as children to robbery, rape, and abuse in their late 20's were identified as life-course persistent-offenders (Bartol & Bartol, 2011). Juveniles who exhibited antisocial behavior that generally ceases once the individual reaches the age of 18 are called adolescent-limited offenders (Bartol & Bartol, 2011). Adolescent-limited offenders do not demonstrate the early childhood antisocial behavior that the life-course-persistent offenders do however, during their adolescent and teen years both groups demonstrated the same amount and severity of violent crime. Unlike the adolescent-limited

offenders, the life-course-persistent offenders perform poorly academically, have poor social skills, and often exhibit psychological disorders such as ADHD (Bartol & Bartol, 2011).

Moffiti's developmental theory is significant due to its emphasis on a juvenile's history of delinquency and how other factors such as psychology and social skills follow the same pattern. Juveniles who have psychological disorders and underdeveloped interpersonal skills are more likely to exhibit escalating antisocial behavior and severity in crimes committed (Bartol & Bartol, 2011).

Creating a program to reduce violent crime in schools and school shooters should use this theory to demonstrate how delinquency prior to high school can be a good indicator for a need for intervention. In addition, a student who has a history of delinquency pre-high school, documented mental health disorders, and school recorded instances of fighting or an inability to communicate with peers should be the target for these programs (Bartol & Bartol, 2011).

Aggression and Violence Theories

Aggression and violence theories were assessed due to the violent nature of school shooters and violent crime in general. While the theories mentioned may have played a part in acts of extreme aggression, it is unlikely that they are real answer. Aggression theories revolve around impulse and what happens moment to moment. School shooters are often premediated and not immediately reactionary (Vossekuil, 2004).

The Weapons Effect is a theory about aggression that claims that aggressive stimuli in the environment such as guns, violent video games, or imagery causes aggressive behavior (Bartol & Bartol, 2011). This theory while initially supported with the Berkowitz-Lepage findings, has

become controversial due to difficulties in repeating the results. However, the studies were adapted to allow for a genuine test of aggression with findings that support the weapons effect.

The social learning theory also applies to aggression and violence. Children who observe violence and often have violent acts committed against them are much more likely to have their violent tendencies reinforced rather than dissuaded (Bartol & Bartol, 2011). An example of this theory is Albert Bandura's "Bobo Doll" experiment in which children who watched a video of someone punching the doll replicated that action while children who had not seen the video did not act aggressively towards the doll. This theory may work as an explanation as to why these shooters are able to act so violently because it's the way they were raised.

Applying these theories to programs that could reduce crimes in schools is valuable because they explain how a child could develop violent tendencies. For example, if a child is repeatedly abused at home, or physically bullied at school, they learn that violence will solve their problems (Bartol & Bartol, 2011). Associating the juvenile's life of learning that violence is acceptable along with psychological disorders causing emotional instability and a lack of interpersonal skills, creates a reasonable example of how a child can be pushed into extremely violent acts.

Mental Illness

Mental illness is also a consideration for school safety programs. One study found little correlation between mental illness and school shooters, stating that only depression and suicidal thoughts or attempts were statistically significant among shooters (Vossekuil, 2004). Another study finds that in and of itself those with mental illness are no more likely to commit mass shootings than those without mental illnesses (Metzl & MacLeish, 2015). That same study also

reports that individuals with disorders that cause delusions or hallucinations such as schizophrenia may be more likely to be mass shooters, however statistical analysis is difficult to confirm due to the rarity of these events (Metzl & MacLeish, 2015). Lack of data hinders the evaluation of the influence of mental illness on school shooters however, there is some supportive data for different behaviors such as suicide attempts, depression, and the reports of those who lose touch with reality.

Child Development Theories

Erickson's Psychosocial Stages of childhood development identify ages and psychological "conflicts" experienced at that age. The two most prevalent stages are Industry vs. Inferiority from ages 6 to 12 and Identity vs. Role Confusion from ages 12 to 18 (Berk, 2018). The first stage occurs when children start to compare themselves to their peers to see how they compare. In this stage, it's important for children to develop interpersonal skills and not have an abundance of negative social experiences. The second stage occurs when they start to develop a sense of who they are as individuals. In this stage, it's important for adolescents to develop a positive view of themselves. If they fail to find out who they are and who they want to be as adults, they struggle to find personal goals which leads to poor decision making.

Bronfenbrenner's Ecological Systems theory also helps to identify how important the juvenile's environment is to their development. The microsystem, or the system that has the most influence on the individual, contains the individual's immediate family, school, and peers (Berk, 2018). These systems influence the development of the individual and have a large impact on their success or delinquency.

IV. School Safety Programs

Many school safety programs have been ineffective both at reducing crime and reversing juvenile antisocial behavior. Studies have found that juveniles who commit serious violent crime have little drive to change their behavior because they have had negative, antisocial interactions throughout their entire lives (Bartol & Bartol, 2011). Therefore, a closer examination of why these programs fail will help to establish more effective programs.

Program Components

Delinquency must be interceded early and have multiple facets to counteract both the antisocial behavior along with the lack of academic and interpersonal skills. Early, disruptive, antisocial behavior is found to only diversify rather than move from one behavior to the next (Bartol & Bartol, 2011). This means that a juvenile won't move from stealing a candy bar to stealing a bike. The juvenile will start with stealing candy bars than expand to stealing bikes, selling drugs, truancy, and vandalism all while still stealing candy bars. Juvenile delinquency expands and diversifies, rather than taking measured steps.

Programs that focus on child development psychology are the most effective at reducing juvenile delinquency. One of the most important aspects during a child's development is that they are in a protective environment throughout their adolescence (Bartol & Bartol, 2011). In addition, delinquency programs were found to be the most effective when associated with the proper stage of development.

The theories discussed earlier on childhood development coincide with the school safety programs because the studies have shown that these theories must be correctly integrated into the program and aligned with the proper age group. Therefore, most school safety programs should

be focusing on Erickson's 12-18 age group and Bronfenbrenner's ecological systems theory to address the social developmental deficits that these juvenile delinquents are experiencing (Berk, 2018).

Family should be the first step in correcting a juvenile's antisocial and delinquent behavior. Studies that have examined school safety programs found that focusing on the family interactions prior to addressing academic skills and peer interactions give the best chance of success (Gorman-Smith, Tolan, Huesmann, & Zelli, 1996). This study also outlined the family characteristics most likely to lead to delinquent behavior such as, poor parental monitoring or supervision of the juvenile, poor or inconsistent discipline, and a lack of familial attachment (Gorman-Smith et al., 1996). Other prominent studies have not only supported this claim but also included substance abuse as another factor to antisocial behavior (Brown & Shillington, 2017).

School safety programs must also attempt to address as many of the juvenile's issues as possible. A study has found that in order to have lifelong success at overcoming antisocial behavior, multiple issues such as the students' safety at home and school, social interactions, and academic success must be addressed (Tedeschi & Kilmer, 2005). There is a clear connection between the student's overall well-being and the inclination to turn towards delinquent behaviors. If a child is raised in a home that is frequently exposed to violence, is unsafe or unhealthy to live in, and lacks academic and interpersonal success, antisocial behaviors are much more likely to arise.

Cultural influences must also be taken into consideration. Certain social interactions such as eye contact or shaking hands have different meanings within cultures. Effective programs acknowledge these differences and tailor the program to suit the culture. This includes socioeconomic subcultures such as lower class compared to middle class. Juveniles living in

poverty will have different acceptable social norms such as stealing food when they are hungry compared to the middle class who see any form of theft as unacceptable (Guerra, Huesmann, Tolan, Van Acker, & Eron, 1995).

Finally, peer interactions programs have been largely unsuccessful due to the interactions likely occurring with other antisocial peers that rather than discourage antisocial behavior, actually promote it (Vitero & Tremblay, 1994). School safety programs need to promote prosocial peer interactions which means interventions such as group therapy simply don't work because there are no prosocial peers to create these interactions. Similar studies have also shown that foster homes may also promote delinquency due to more than one delinquent juvenile residing in the home.

Intervention Program Classification

There are currently three classifications of juvenile delinquency intervention programs: universal, selective, and treatment. Universal treatment programs are the preventative programs that target children in large groups or schools, before they show signs of delinquent behavior (Bartol & Bartol, 2011). These programs appear to be effective because they prepare juveniles to resist delinquent behavior.

Selective programs target high-risk youth with early signs of antisocial behaviors in a much smaller, more focused environment (Bartol & Bartol, 2011). The key to these programs is that they target the more insignificant, early signs of antisocial behavior to prevent the habitual and possibly violent antisocial behavior that would eventually follow. While these programs are efficient since they target specific youths, they can also create more problems for the juvenile

who believes that since they are in a specific program, that's who they are and they will never change.

Finally, tertiary intervention programs, are the treatment programs that occur once the antisocial or delinquent behavior has already been established (Bartol & Bartol, 2011). Tertiary programs often work alongside selective programs because as selective programs identify and attempt to correct early antisocial behavior, treatment programs are utilized to try to help the juvenile overcome that behavior.

These program definitions help to give a good outline as to where certain behavioral changes can occur and the specificity of the targeted behavior. As outlined previously, antisocial behavior is tough to treat (Bartol & Bartol, 2011). There are many different components that a program must consider in order to be effective. Therefore, it is reasonable that the most effective and efficient programs are the intervention programs that attempt to reduce antisocial behavior before it becomes unmanageable.

Evaluated Programs

The following school safety programs were analyzed for overall effectiveness as well as possible effective components that could be utilized for other programs. These programs were analyzed in two separate categories. The first group of programs are programs that target deviancy. One of the major aspects that make a school unsafe is the crime rate in and around the school. Therefore, programs that effect delinquency will also affect school safety. The second group are programs that effect the safety of a school as a whole, such as student or staff training programs. These programs aim to reduce crime throughout the school and inform the staff and students on how to prevent injuries or violent acts.

Operation CleanSWEEP from San Bernardino County, California, places students into programs to help reduce delinquent or inappropriate behavior (Penrod, 2001). The goal of this program is to avoid criminalizing students and to keep offenders in classrooms instead of detention centers (Penrod, 2001). Operation CleanSWEEP is organized to identify students who violate criminal codes. Violating students go to an informal court and receive tickets for various amounts of money, but can do other programs such as anger management, community services, improving grades, etc. instead of paying the ticket.

The program also has a component that assesses schools on their overall safety. Deputies investigate the school for issues with physical security, crisis response, discipline procedures, and staff training (Penrod, 2001). Finally, a variety of special projects represents the third element of Operation CleanSWEEP. These comprise of an array of speakers, classes, presentations, and promotional events designed to teach students and staff about personal safety (Penrod, 2001). For example, the sheriff's department teaches crisis management to help the school prepare for emergency situations, including an armed suspect on campus, a student with hostages, potentially violent parents on campus, bomb threats, poison scares, and suicidal students (Penrod, 2001).

A positive for the CleanSWEEP program is that it is empirically effective. Statistics collected during the first 2 years of operation from schools participating in CleanSWEEP demonstrate calls for service to countywide sheriff's department stations declined between 12 and 57 percent, indicating that fewer crimes occurred on those campuses employing the program (Penrod, 2001). At every CleanSWEEP school, suspensions and expulsions were reduced, along with peripheral crime, or crime that occurs immediately around the school (Penrod, 2001).

Operation CleanSWEEP is an example of a selective intervention program because it targets youth as they initially start to demonstrate deviant behavior (Bartol & Bartol, 2011). It also assists the faculty in developing safety protocols for the entire school. While it is important that the program targets topics such as improving grades and anger management, it lacks essential family involvement and targeted mental health treatment. There is also a lack of developmental psychology employed to how these schools handle which "punishments" for violations are utilized.

Operation CleanSWEEP demonstrates how programs like this one could be adapted to target not just juveniles on the edge of the criminal justice system, but also to those exhibiting precursor signs of antisocial behavior (Penrod, 2001). For example, a student could be reported for inappropriate behavior surrounding guns and their social media. Instead of sending them to a judge, they could be reported to a mental health professional who would then make a determination on any treatment or help to guide them out of the system.

The "Only You Decide Who You Are" is a sports-based delinquency intervention program targeting at-risk youth (Spruit, Van der Put, Van Vugt, & Stams, 2017). This program is based in Denmark and provides sports-based intervention to youths beginning to demonstrate antisocial or delinquent behaviors. The only differences between Denmark criminal law and U.S. criminal law is that this research does not include the crimes of marijuana possession, underage drinking or truancy (Spruit et al., 2017). In total. 13 community-based sports clubs that implemented the program were used to study program effectiveness.

The results of this study have shown that the program is most effective at improving conduct and reducing aggression when the coach at the club places an emphasis on ethics (Spruit et al., 2017). This means that the coach and other youths create prosocial interactions for the

juvenile which they may not get at home or school. Culturally, there was also a difference in results between the soccer and basketball clubs which may be due to rules and cultural differences in acceptable aggression and other antisocial behaviors within the sport itself.

This program also demonstrates selective intervention as it targets youth who are just starting to demonstrate delinquent behaviors (Bartol & Bartol, 2011). While this program and study took into account some cultural influences, the most important aspect is that the coach, or authority, in the program had to establish a highly moral and approachable atmosphere to treat the juveniles. This is most applicable to the mixed results acquired from studies on school resource officers, who hold a similar position of power, but if not culturally appropriate for the school that they serve, are rendered ineffective.

The Cops Mentoring Kids Program, conducted in Hollywood, Florida was organized so that police officers could reach out to kids as mentors in at-risk schools. The Hollywood Police Department asked every public elementary school to identify at-risk students who could benefit from the program (Sanchez, 2017). At-risk students often came from troubled households, such as homelessness, domestic violence situations, etc. (Sanchez, 2017).

This selective intervention program demonstrates how mentoring is an effective component for helping at-risk youth (Sanchez, 2017, Bartol & Bartol, 2011). It also highlights that mental health issues, along with other in-school behavioral problems and family issues, can be accurately identified by school staff and brought to the attention of the proper program or authorities. Utilizing mentoring early on for students with documented behavioral issues may also help to reduce the likelihood of attacks as they grow older.

To summarize, while effective at reducing minor delinquency, these programs are lacking effective components. The articles cited earlier all come to the same conclusion that the current "school safety programs" are merely reactionary to delinquent behavior (Sanchez, 2017, Penrod, 2001). Therefore, the programs have components that are proven to be ineffective for reducing the likelihood of violent crime, much less an active shooter. While the programs may have one or two effective components, studies have shown that the most effective way to treat delinquency is to treat as many causes of antisocial behavior as possible.

The second group of programs are the universal intervention programs aimed at preventing crime or violence across an entire school (Bartol & Bartol, 2011). Universal intervention programs are non-specific in nature and aim to help all students, regardless of risk, remain safe or reduce the likelihood of delinquent behaviors. These programs are utilized more as safety programs since they have such a generalized target.

Active Shooter Resilience Training Programs were created by government agencies to limit loss of life in the event of active shooters. The Department of Homeland Security's *Active Shooter: What You Can Do*, and The Center for Personal Protection and Safety's *Shots Fired on Campus: When Lightning Strikes* are two examples of resilience training programs (Department of Homeland Security, 2018, Center for Personal Protection and Safety, 2018). Both of these programs highlight the same basic concepts, if you can, get out of the building, if not, shelter in place. If the individual is in a room: barricade the door, turn off the lights, and be quiet. If a shooter attempts to enter the room, be aggressive and grab any weapon to fight back. Listen carefully to police orders because they don't know who the bad guys or good guys are and have to be extremely thorough in their search. While these concepts may be helpful in surviving a shooting, and demonstrate a foundation for staff and student education, there is nothing within

the program itself on how to reduce the likelihood of this event from occurring. This program could be effective as an overall safety program, but ineffective at getting to the real issue of active shooter incident reduction.

The Safe School Initiative, conducted by the Secret Service and Department of Education in 2004 was conducted to identify any "red flags" or warning signs that are observable prior to a school active shooter event. The initiative then used the data to create suggestions and empirical data on school shooters in general. Important findings include; school active shooters are rarely impulsive and often planned out, most of the time someone else knew about the attack or suspect's mental state, there is no profile, many suspects were bullied, suicidal, and had access to weapons, and incidents often ended by other means than law enforcement (Vossekuil et al., 2004).

Perhaps the best suggestion was the use of the Secret Service's "Threat Assessment Model", which has three phases including: identifying the threat, assessing the individual's potential risk through information gathering, and managing the threat (Vossekuil et al., 2004). The initiative suggested that this model may be adapted to suit the needs of an intervention program. This program, while it may only be an information gathering initiative, was a good first step, and the basis for a lot of the information still being used today to combat active shooter situations. However, as it was conducted in 2004, it is time for an update and further progression. The threat assessment model needs to be applied to a concrete program with realistic response times. As was reported in the Florida Marjory Stoneman Douglas High School shooting, simply reporting "red flag" behavior is not enough. This is simply the first step on the threat assessment model. A system needs to be in place where the school is notified so they may conduct their own investigation, and have the authority to do so, along with a protocol to manage the threat,

whether this be through mental health professionals or more aggressive actions through law enforcement

V. Recommendations for a Program that could Reduce the Likeliness of School Shooters

Reducing the likelihood of school shootings is of the utmost importance to protect youth in the United States. According to data collected from the FBI, 135 students and faculty have been murdered at school from 2000-2017 (Federal Bureau of Investigation, 2018). This section will recommend a program with evidence-based components that could intervene and provide treatment for juveniles at-risk for extreme acts of violence or school shootings.

In the previous section, the Secret Service's School Safety Initiative was discussed along with their "Threat Assessment Model" (Vossekuil wt al., 2004). This model will be utilized to outline steps of a program that could provide selective intervention for youth at-risk for extreme violence. This model will also institute empirically evidence-based components discussed throughout this paper.

The Threat Assessment Model has been evaluated and found to be effective for rare instances, such as school shootings, in which there is no identified suspect profile (Borum, Fein, Vossekuil, & Berglund, 1999). This is due to the threat assessment model targeting individual patterns of behavior that gradually lead to violence, rather than using already known data to assume potential identity.

The first step of the Threat Assessment model would be to identify the individual or juvenile. The original School Safety Initiative found that two-thirds of school shooters had no history of violent behavior, even more had never harmed an animal or had even been arrested (Vossekuil et al., 2004). Therefore, the obvious violent warning signs would not be relevant to

this program. Instead, the most prominent warning sign was that the family or friends that were either told or became aware that an attack was imminent (Vossekuil et al., 2004). Other warning signs discussed earlier in this paper include an obsession with violent media or topics, severe depression or suicide attempts, and noticeable abnormal behavior.

In most cases, school shooters are going to display concerning behavior prior to an attack. Adam Lanza had many instances, one of the most notable was the book he wrote as a child with violent and disturbing topics that he submitted to his 5th grade teacher (Eagan et al., 2014). Cho also exhibited disturbing, homicidal writings submitted to his teacher in the eighth grade (TriData Division, 2009). Latina Williams would exhibit paranoia and "lose touch with reality" according to multiple news sources.

Other pertinent variables for school shooters included being a victim of bullying, a loss in the family, and access to weapons (Volleskuil et al., 2004). Juvenile access to weapons in the United States should also be reevaluated. While individuals under the age of 18 are not allowed to purchase or possess handguns, they can still purchase and possess long guns (Bureau of Alcohol, Tobacco, Firearms, and Explosive, 2016). In addition, over this 17-year period, around half of school shooters were 18 years old or younger (Federal Bureau of Investigation, 2018). Adjusting the laws so that individuals under the age of 18 could not own or possess any firearm, excluding hunting and other sporting events, along with amending the mental health laws to include those individuals actively involved in this reporting system could also reduce the likelihood of school shootings.

While none of these instances alone automatically signal an evolving school shooter, together they do indicate a possible threat. Faculty, school resource officers, and law enforcement could be trained at identifying these warning signs in a similar nature to mandatory

reporting guidelines. Mandatory reporting, as discussed earlier, has been shown to be an effective way at identifying troubled individuals (Mathews et al., 2016). Improving on this system through a standardized training and a clear outline of reporting procedures could create a clear and concise program for identifying potential school shooter threats.

Reporting individuals demonstrating violent warning signs to the proper authorities is also imperative. School resource officers will only be effective if they are culturally appropriate for their school environment (Jonson, 2017). Therefore, teachers become even more important because not only will they have longer interactions with the individual, other students, and their families, but they will also be trained at recognizing warning signs.

The second step of the Threat Assessment model would be to assess the individual or juvenile. At this point an investigation would be conducted to verify the legitimacy of the report. One of the major recommendations from the report on Adam Lanza was that a centralized form of communication was needed for everyone covering his case (Eagen et al., 2014). As a recommendation, an electronic system should be developed that includes appropriate individuals in the school administration, law enforcement, and mental health providers. This system would include the initial report and any additional reports, family contact and communication, mental health reports and recommendations, and any law enforcement action or assessment. This would allow the different institutions to all work seamlessly at reducing the likelihood of school shootings because they would be able to know what each individual institution is doing and what kind of effect it is having on the individual. These electronically compiled reports would close at the conclusion of an unsubstantiated investigation or clearance by a mental health professional but they aren't deleted from the system. This way if further reports are made at a later date, the initial reports could still be accessed.

The legality behind this program would coincide with school enrollment or access. If an individual is attending or has access to a school or campus they are eligible to be assessed within this system. Individual privacy would be maintained under HIPPA, or the Health Insurance Portability and Accountability Act, which regulates health care providers and the sharing or access of patient information (U.S. Department of Health and Human Services, 2018).

The third step of the Threat Assessment model would be to manage the individual or juvenile. Steps should be taken not to ostracize the individual during this process. Research cited previously suggests that further social isolation is harmful to these individuals (Eagen et al., 2014). At this point the individual should be counseled by school administrators, referred to mental health services as necessary, and enrolled in appropriate treatment programming. Law enforcement would become involved as the situation dictates. An initial report would suspend the individual's right to buy or possess a firearm, which would be reinstated once the investigation or treatment was concluded. Any criminal action or protective custody could also be handled by law enforcement in conjunction with school officials and mental health professionals.

VI. Summary and Conclusions

In summary, this research was conducted in an effort to find the inadequacies with current school safety programs at identifying potential active shooter threats. The research was then used to recommend a program with evidence-based components that could possibly be effective at reducing the likelihood of active shooter incidents in schools. Statistics were reviewed concerning firearms, juvenile delinquency, and school resource officers. Data was compiled and reviewed from the Federal Bureau of Investigation and the National Criminal Justice Research Statistics website. This data was used to determine a pattern of warning signs and other information to propose a successful program.

Theories concerning juvenile delinquency, child development, and aggression and violence were assessed for how the development and personality of juveniles impacts their future actions. Different school safety programs were assessed for effectiveness and particular program components. These theories and components were then applied to the reduction of the likelihood of school shooters program proposal.

The final proposal recommendation involves a utilization of all of the researched components with a template created by the Secret Service's Safe School Initiative. This program also uses known warning signs, a mandatory reporting system similar to the child abuse mandatory reporting laws, and an electronic program that involves the three key services of school officials, mental health professionals, and law enforcement.

In conclusion, the blame and cause of school shootings has been wildly only guessed at with multiple sources including guns, parenting and mental health. Throughout this paper, empirically significant and evidence-based components of school safety programs were

addressed along with the theoretical framework that should accompany a successful program. These theories, components, and statistics, were combined to form a plausible program for the reduction of the likelihood of school shooters and an end to school-associated homicides.

References

Arbetter, L. (1994). Guns in the hands of babes. *Journal of Security Management 38(4)*, 1-14.

Bachman, R., Randolph, A., & Brown, B. L. (2010). Predicting perceptions of fear at school and

going to and from school for African American and white students: The effects of school

security measures. *Youth & Society 43(2),* 705-726. DOI:

https://doi.org/10.1177%2F0044118X10366674

Bartol, C. R. & Bartol, A. M. (2011). *Criminal behavior: A psychological approach.* Prentice

Hall. Upper Saddle River: NJ.

Berk, L. E. (2018). *Development through the lifespan*. Hoboken, NJ: Pearson.

Borum, R., Fein, R., Vossekuil, B., & Berglund, J. (1999). Threat assessment: Defining

an approach for evaluating risk of targeted violence. *Behavioral Sciences and the Law 17,*

323-337.

Bourke, A. & Maunsell, C. Teachers Matter': The impact of mandatory reporting on teacher

education in Ireland. *Child Abuse Review 25(4),* 314-324.

Brown, S. M. & Shillington, A. M. (2017). Childhood adversity and the risk of substance use and

delinquency: The role of protective adult relationships. *Child Abuse and Neglect 63,* 211-

221.

Bureau of Alcohol, Tobacco, Firearms, and Explosives. (2016). *Gun control act*. Retrieved from

https://www.atf.gov/rules-and-regulations/gun-control-act

Bryant, J. K. & Baldwin, P. A. (2010). School counsellors' perceptions of mandatory reporter

training and mandatory reporting experiences. *Child Abuse Review 19(3),* 172-186.

Center for Disease Control and Prevention. (2016). *School associated violent death study*.

Retrieved from

https://www.cdc.gov/violenceprevention/youthviolence/schoolviolence/SAVD.html

Center for Personal Protection and Safety. (2018). *When lightning strikes*. Retrieved from

https://cpps.com/when-lightning-strikes/

Children's Bureau. (2015). *Mandatory reports of child abuse and neglect*. U.S. Department of

Health and Human Services. Retrieved from

https://www.childwelfare.gov/pubPDFs/manda.pdf#page=2&view=Professionals%20req

uired%20to%20report

Eagan, S. H., VosWinkel, F., Ford, J. D., Lyddy, C., Schwartz, H. I., & Spencer, A. (2014).

Shooting at Sandy Hook Elementary School: A report of the Office of the Child Advocate.

State of Connecticut Office of the Child Advocate. Retrieved from

http://www.ct.gov/oca/lib/oca/sandyhook11212014.pdf

Federal Bureau of Investigation. (2018). *Active shooter incidents in the United States 2000-*

2017. U.S. Department of Justice. Retrieved from https://www.fbi.gov/file-

repository/active-shooter-incidents-2000-2017.pdf/view

Gorman-Smith, D., Tolan, P. H., Huesmann, L. R., & Zelli, A. (1996). The relation of family

     functioning to violence among inner-city minority youths. *Journal of Family Psychology*

     10, 115-129.

Guerra, N. G., Huesmann, L. R., Tolan, P. H., Van Acker, R., & Eron, L. D. (1995). Stressful

     events and individual beliefs as correlates of economic disadvantage and aggression

     among urban children. *Journal of Consulting and Clinical Psychology 63,* 518-528.

James, F. (2010). *UAH survivor: Alleged killer Amy Bishop shot methodically*. Retrieved from

     https://www.npr.org/sections/thetwo-way/2010/02/uah_survivor_alleged_killer_am.html

Jennings, W. G., Khey, D. N., Maskaly, J., & Donner, C. M. (2011). Evaluating the relationship

     between law enforcement and school security measures and violent crime in schools.

     Journal of Police Crisis Negotiations 11(2), 109-124. DOI:

     10.1080/15332586.2011.581511

Johnson, L. M., Matthews, T., Jenks, D., & Bass, C. (2013). Juvenile gun ownership in the USA:

     Knowledge and future directions. *International Journal of Criminal Justice 8(2),* 133-

     152.

Jonson, C. L. (2017). Preventing school shootings: The effectiveness of safety measures. *Victims*

     & Offenders 12(6), 956-973. DOI: 10.1080/15564886.2017.1307293

Lawson, D. & Niven, B. (2015). The impact of mandatory reporting legislation on New Zealand

secondary school students' attitudes towards disclosure of child abuse. *International*

Journal of Children's Rights 23(3), 491-528.

Mathews, B., Lee, X. J., & Norman, R. (2016). Impact of a new mandatory reporting law on

reporting and identification of child sexual abuse: A seven year time trend analysis. *Child*

Abuse and Neglect 56, 62-79.

Metzl, J. M. & MacLeish, K. T. (2015). Mental illness, mass shootings, and the politics of

American firearms. *American Journal of Public Health 105(2),* 240-249.

doi:10.2105/AJPH.2014.302242

Penrod, G. S. (2001). Operation CleanSWEEP: The school safety program that earned an A+.

FBI Law Enforcement Bulletin 70(10), 20-24.

Reisner, N. & Philipps, D. (2018). Florida school's R.O.T.C. lost 3 cadets; Suspect was a

member. *New York Times*. Retrieved from https://www.nytimes.com/2018/02/20/us/jrotc-

cadets-florida-shooting.html

Romero, A., Bauman, S., Ritter, M., & Anand, P. (2017). Examining adolescent suicidal

behaviors in relation to gun carrying and bullying. *Journal of School Violence 16(4)*, 445-

458.

Sanchez, T. (2017). Cops mentoring kids: An investment in crime reduction. *FBI Law*

Enforcement Bulletin, 1-6.

Segarra, L. M., Reilly, K., Meixler, E., & Calfas, J. (2018). Sheriff's office had received about 20

    calls regarding suspect: The latest on the Florida school shooting. *Time Magazine*.

    Retrieved from http://time.com/5158678/what-to-know-about-the-active-shooter-

    situation-at-florida-high-school/

Spruit, A., Van der Put, C., Van Vugt, E., Stams, G. J. (2017). Predictors of intervention success

    in a sports-based program for adolescents at risk of juvenile delinquency. *International*

    Journal of Offender Therapy and Comparative Criminology 62(6), 1535-1555.

Tedeschi, R. G. & Kilmer, R. P. (2005). Assessing strengths, resilience, and growth to guide

    clinical interventions. *Professional Psychology: Research and Practice 36,* 230-237.

TriData Division. (2009). *Mass shootings at Virginia Tech*. System Planning Corporation.

    Retrieved from https://scholar.lib.vt.edu/prevail/docs/April16ReportRev20091204.pdf

U.S. Department of Health and Human Services. (2018). *Health Insurance Portability and*

    Accountability Act. Retrieved from https://www.hhs.gov/hipaa/for-individuals/mental-

    health/index.html

U.S. Department of Homeland Security. (2018). *Active shooter: What you can do.* Federal

    Emergency Management Agency. Retrieved from

    https://training.fema.gov/is/courseoverview.aspx?code=IS-907

Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., Modzeleski, W. (2004). *The final report and*

findings of the safe school initiative: Implications for the prevention of school attacks in

the United States. U.S. Secret Service and U.S. Department of Education. Retrieved from

https://www2.ed.gov/admins/lead/safety/preventingattacksreport.pdf

Xuan, Z. & Hemenway, D. (2015). State gun law environment and youth gun carrying in the

United States. *JAMA Pediatrics 169(11),* 1024-1031.

doi:10.1001/jamapediatrics.2015.2116.