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## Active Shooter in the Classroom: A Case Study of Past Events and Future Mitigative Strategies

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Active Shooter in the Classroom: A Case Study of Past Events  
and Future Mitigative Strategies

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### Abstract

This project is an overview of the emergency management discipline in protecting American schools through describing classroom active shooters, determining shared characteristics and indicators, and previous suggestions to improve the safety of the learning environment. Several sources were used to determine the best methods to mitigate this threat, including official after-action reports from past occurrences, psychological examinations of perpetrating individuals, and numerous federal agencies, such as the Department of Justice and the U.S. Secret Service. The methodology to reach suggestions for mitigation entailed qualitative analysis of numerous after-action reports to highlight mitigative efforts of threat assessment before the event and through which means. This methodology provided for the discussion of mitigative options for school administration, law enforcement, and emergency management and planning agencies. In addition, this project offers areas of future opportunity for research after mitigative strategies are explored to enhance and improve the safety and security in the classroom.

Active Shooter in the Classroom: A Case Study of Past Events  
and Future Mitigative Strategies

Violence in American schools is an unfortunate experience for the school community. One of the most destructive forms of violence in schools stems from active shooters. Countless incidents in educational facilities has led to the tragic deaths of thousands of students and faculty and wounded many more. This report is intended to address these significant incidents and their impact on the learning experience. With this, a research question arises in how to prevent these shootings: how can policies and response procedures be improved to mitigate against future incidents in American schools? To understand what can be done to mitigate against this threat, it is essential to know the definition of an active shooter and the statistics behind such incidents. An active shooter definition is explained in the following section.

**Active Shooter**

Defining an active shooter has been a challenging task for scholars and practitioners. Each event has differing characteristics and outcomes making one, overarching definition difficult to achieve. Several federal agencies, including the U.S. Department of Homeland Security and the U.S. Department of Justice, define an active shooter as “an individual actively engaged in killing or attempting to kill people in a confined and populated area” (FBI, 2013, pg. 5). This definition serves as a general and encompassing method to apply in reviewing statistics. Between 2000 and 2018, the FBI tracked and identified 277 instances of an active shooting in the United States (FBI, 2019). In these incidents, there has been a total of 2,430 casualties, including 884 killed and 1,546 wounded (FBI, 2019). Almost all perpetrating individuals were male, with only 12 females out of 282 total individuals involved in active shootings (FBI, 2019). These

statistics highlight the troubling nature of active shootings in the United States. In knowing these statistics, it is important to understand the relevance in the school environment.

### **Occurrences in Educational Facilities**

Shootings in educational facilities are unfortunately included in the statistics discussed previously. The FBI identified 57 occurrences in schools to be considered an active shooting between 2000 and 2018 (FBI, 2019). Of these 57, most incidents occurred in a high school setting at 24, followed by institutes of higher education at 15 (FBI, 2019). Casualties in these incidents totaled 391, with 171 killed and 220 wounded (FBI, 2019). Most individuals involved in these shootings were male, aged in their teens and 20s (FBI, 2019). These statistics point to some general conclusions about where active shootings occur in educational facilities: most happen in high school facilities and carried out by males in their teens and 20s. The frequency of these incidents and their deadly impact on the educational environment must be addressed to ensure the safety of students and faculty. To do this, the phases of emergency management must be explained to combat these events.

### **Phases of Emergency Management**

Understanding the phases of emergency management is essential to addressing gun violence and active shootings in educational facilities. The four established phases are preparedness, response, recovery, and mitigation (Lindsay, 2012). Figure 1 below depicts the proper flow of these phases. Preparedness describes the steps taken to “enhance the capacity to respond to an incident” that help personnel to be more effective and capable of handling the emergency (Lindsay, 2012, pg. 3). Response portrays the “immediate actions to save lives, protect property... and meet basic human needs” which includes activating emergency plans, facilitating evacuations, and deploying personnel to the incident (Lindsay, 2012, pg. 3).

Recovery follows the response phase and includes actions that “restore essential services and repair damages,” such as reestablishing government services and housing for displaced individuals (Lindsay, 2012, pgs. 3-4). Mitigation refers to actions prior to or after an incident that highlight “risks and hazards to either substantially reduce or eliminate the impact of an incident” (Lindsay, 2012, pg. 3). For the purpose of this report, mitigation will be the main phase of emergency management explored and discussed. Mitigation is the central focus of deterring and preventing school violence and active shootings. To ensure mitigative strategies are effective in this prevention, several characteristics of perpetrating individuals will be discussed next.

Figure 1



(Boston University, 2020)

### **Characteristics of the Perpetrators**

In understanding what an active shooting is and who follows through with these acts, it is important to explore commonalities in characteristics, attributes, and behaviors of these individuals. Active shooting perpetrators have been studied and classified as a result of several past occurrences. As such, knowing these characteristics can be used to help mitigate against these situations in the future. Underlying characteristics and behaviors must be studied to create an all-encompassing picture of the school shooter. There are many characteristics, indicators, and

influences that combine to create an active shooter, such as gender, race, and age, social issues, homelife, planning and motives, behavioral issues, and mental health. For this research, gang violence, domestic violence, and spontaneous, non-premeditated violence are not considered. Gender, race and age will now be discussed.

### **Gender**

Numerous sources convene and agree on the gender identification of perpetrators. It is generally accepted that most individuals are male (NTAC, 2019; Flores de Apodaca, Brighton, Perkins, Jackson, & Steege, 2012; Gerard, Whitfield, Porter, & Browne, 2016; Langman, 2016; Silver, Simons, & Craun, 2018). In the FBI's 2000-2013 study on all types of active shooter pre-attack behaviors, 94% of incidents involved one or more male perpetrators (Silver, Simons, & Craun, 2018). More specifically, in a study performed by the United States Secret Service on K-12 educational facility active shootings between 2008 and 2017, 83% of occurrences involved one or more male perpetrators (NTAC, 2019). Occurrences of female perpetrators pales in comparison to male perpetrators. One reason identified for this vast difference in gender is a male's propensity towards violence (Flores de Apodaca et al., 2012). According to Flores de Apodaca et al., school-age males are six times more likely to be arrested for violent acts than females (2012). Other reasons, not based on gender, are discussed in later sections. Gender correlates with race, as described next.

### **Race**

Historically, cases of active shootings have been dominated by Caucasian males (Steinkoler, 2017; Gerard et al., 2016; Flores de Apodaca et al., 2012; Langman, 2016; Silver, Simons, & Craun, 2018; NTAC, 2019). While this is generally the case, in more recent times, other ethnicities have increased in frequency for these events. These ethnicities, which have

witnessed specific increases, include black/African American, Hispanic/Latino, and Asian American (NTAC, 2019; Silver, Simons, & Craun, 2018; Langman, 2016). In the case of overall recent occurrences in America, from 2000-2017, black/African American accounted for 15-16%, Hispanic/Latino for 5-6%, and Asian American for 10% (NTAC, 2019 Silver, Simons, & Craun, 2018). Interestingly, one study found that this increase in other racial involvement was more common in specific populations in education. Most incidents at educational facilities involving non-Caucasian individuals were institutes of higher education, or universities and colleges (Langman, 2016). As with gender and race, age is also a major factor, outlined below.

### **Age**

Age is an important characteristic of active shooting perpetrators. Statistically, perpetrators against educational facilities are between the ages of 12-21, with a mean age of 16 (NTAC, 2019; Steinkoler, 2017; Flores de Apodaca et al., 2012). The grade level achieved by these individuals varies. In the study by the Secret Service, many of the perpetrators were in grades 9-11, showing high-school aged individuals to be most likely to carry out violence at school (NTAC, 2019). The lowest grade level witnessed was 7, with the highest level being some college (NTAC, 2019; Silver, Simons, & Craun, 2018). Maturity level is another variation of age important to analyze. As Gerard et al. states, age should be analyzed because “it relates to social dynamics and the interactive context in which the offender is based” (2016, pg. 25). Put simply, the maturity level of the perpetrator impacts the overall outcome of the incident. Langman and Gerard et al. discuss the suicide rates of perpetrators during active shooting events. Both studies conclude that adult individuals, described as over the age of 18, are more likely to commit suicide rather than be apprehended by law enforcement (Langman, 2016; Gerard et al., 2016). In addition, adult perpetrators have higher victim rates when compared to juveniles, aged 12-18.



Adult perpetrators average 11.8 victims while juveniles average 7.7 victims in these events (Langman, 2016). With these characteristics, it is important to understand social issues impacting these perpetrators, analyzed in the next section.

### **Social Issues**

Social issues are central to the characterization of perpetrators. Many of these individuals are victims of bullying, teasing, and victimization prior to performing acts of violence in educational facilities, with 100% of K-12 perpetrators experiencing a social stressor (NTAC, 2019; Gerard et al., 2016; Steinkoler, 2017; Flores de Apodaca et al., 2012). In addition, these individuals have characteristics of isolation and hardship integrating into the social nature of American school systems. These include suffering making new friends, are considered unpopular or loners by peers, and have experiences with rejection by peers (Gerard et al., 2016; Steinkoler, 2017). In about half of cases noted in the study by Gerard et al., peers directly linked to the bullying and victimization of the perpetrator before the shooting became the targeted victims and casualties (Gerard et al., 2016). In addition, Gerard et al. highlights that 80% of perpetrating individuals were victims of bullying, teasing, and ostracization (2016). Among the types of bullying of K-12 attackers, 74% experienced verbal bullying, and 40% experienced physical bullying (NTAC, 2019). From this population, 89% of perpetrators performed poorly in academics prior to the incidents (NTAC, 2019). Social issues tie into the homelife of the perpetrator, discussed now.

### **Homelife**

Experiences at home and with family members affect perpetrators in many ways. According to the Secret Service, 91% of individuals experienced a stressor directly linked to family and homelife prior to the attack (NTAC, 2019). Issues with family life include parental

abuse or neglect, lack of supervision, lack of intimacy or closeness to family members, a dominant parental figure, and frequency in moving houses (NTAC, 2019; Gerard et al., 2016; Steinkoler, 2017). With this, it is important to understand two specific characterizations under homelife with direct ties to the perpetrator: parental factors and the inclusion of firearms in daily life. In the Secret Service study, 71% of individuals experienced parental separation or divorce and 69% with financial struggles (NTAC, 2019). Single-parent households, either from separation or divorce, have also led to violent acts symbolizing a lack of involvement from an absent parental figure (Steinkoler, 2017). Firearms in family life are often present with perpetrating individuals before a shooting. Many of these perpetrators have regularly gone to shooting ranges with family and have gone on hunting trips (Steinkoler, 2017). From this, it is witnessed that 77% of incidents in K-12 schools were led by perpetrators owning, using, training with, or practicing with firearms (NTAC, 2019). This familiarity with firearms has often helped with individuals to acquire weapons for their acts of violence. The US Secret Service points out that 76% of perpetrators retrieved firearms from the home of their parent or close relative, with almost half of the cases involving readily accessible firearms at home (NTAC, 2019). With firearms comes the next stages of characterizing the perpetrator, planning and motives, described next.

### **Planning and Motives**

Premeditated, or planned, attacks are among the most common types of active shootings at educational facilities. Studies offer differing statistics with how often planning behaviors are noticed. The Secret Services states that 51% were observed to have planning in place before the attack (NTAC, 2019). Another study claims that 75% of perpetrators premeditated the attack, highlighting the trend of long thought into these events (Gerard et al., 2016). According to the

FBI, the median time spent preparing for attacks is 1-2 months, at 26%, with ranges between 24 hours and 24 months (Silver, Simons, & Craun, 2018). With planning, motives are brought into this discussion as to why a premeditated attack is being formulated. 95% of K-12 incidents involved at least one motive, with 85% holding a secondary motive as well (NTAC, 2019). Many of these motives are based on grievances, or “a perception... of having been wronged or treated unfairly or inappropriately” (Silver, Simons, & Craun, 2018, pg. 21). Between 79-83% of recorded motives in these shootings have involved a grievance of some sort (NTAC, 2019; Silver, Simons, & Craun, 2018). These grievances have often been caused by a precipitating event, triggering the shooting by the perpetrator (Silver, Simons, & Craun, 2018; Gerard et al., 2016). The leading grievances observed in educational facility events include peers, staff, and romantic issues, at 63%, 24%, and 22% respectively (NTAC, 2019). Motives separate from grievances include suicide with 41% and desires to kill at 37% (NTAC, 2019). Another significant statistic involves people close with the perpetrator or bystanders. Gerard et al. describes that in 93% of cases, people knew about at least some aspects of the planned attacks on schools before the event (2016). Planning and motives are often products of behavioral issues, which is observed in the following section.

### **Behavioral Issues**

Behavior problems are very prevalent in characterizing an active shooter in schools. These behavior problems entail policy violations, bullying, small acts of violence, and the planning of larger scale events (Flores de Apodaca et al., 2012). Disciplinary action for poor behavior is often witnessed before a shooting, also considered a precipitating event as discussed previously. Several categories of discipline are coupled with perpetrators before incidents, including fighting, classroom conduct, threats, academic integrity, and illegal substances (NTAC,

2019). It was discovered that of the 41 instances between 2008-2017, 71% of individuals had received disciplinary action for these listed behavioral issues (NTAC, 2019). The Secret Service outlines 10 different approaches to discipline for these cases, which are suspension, parental contact, conversations with staff, criminal charges or arrests, referrals for evaluation or assessment, formal documentation, detention, classroom consequences, expulsion, and other consequences not related to other approaches (2019). Behavioral issues often coincide with mental illness, seen below.

### **Mental Health**

The last characteristic to be discussed, and possibly of the most importance, is mental health. Almost all individuals who performed acts of violence against school facilities displayed issues with their mental state, with a rate of 91% (NTAC, 2019). Depression and suicidal ideation are among the two most prevalent forms of mental illness observed in these cases (NTAC, 2019; Gerard et al., 2016; Steinkoler, 2017). History of depression was found in three separate studies, with a range between 61-63% (NTAC, 2019; Silver, Simons, & Craun, 2018; Gerard et al., 2016). In addition, studies have indicated that suicidal ideation was observed in 60-78% of perpetrating individuals (NTAC, 2019; Gerard et al., 2016). Suicidal ideation includes attempted suicide or noticeable suicidal thoughts before the attacks (Gerard et al., 2016). Other instances of mental health issues most observed with perpetrators is anxiety, paranoia, anger management problems, and psychotic episodes (NTAC, 2019; Silver, Simons, & Craun, 2018). This high rate of mental illness in attackers may suggest that not enough is being done to help these individuals.

### **Suggestions for a Safer Learning Environment**

Understanding the characteristics of active shooters is important in applying what is known with what must be done to mitigate acts of violence against educational facilities. Several past case and research studies have been performed with these characterizations in mind to help curb these incidents. While traditional methods are still prevalent in protecting individuals in educational environments, much is being researched and suggested to proactively end school shootings and subsequent violence. Among the most prevalent methods of promoting a safer learning environment, physical and human measures along with threat assessments the way in most recent suggestions to make schools safe. Physical upgrades will be the first suggestion discussed in the next section.

#### **Physical Measures: School Resource Officers**

Physical upgrades in educational facilities are the most noticeable and obvious attempts at school security. These include both human-based and technological implementations to harden the school as a target for an active shooter. School resource officers (SRO) or other armed police officers have been a more traditional response implementation to school shootings (Jonson, 2017). These individuals are defined as “a commissioned law enforcement officer who is specially trained to work within a school community to prevent and respond to unlawful behavior, including disorderly or violent acts” (Massachusetts Task Force, 2014, pg. 3). About half of the incidents studied by the Secret Service in K-12 schools involved the use of an SRO (NTAC, 2019). The United States Department of Justice, through 2017, had granted \$745 million to help train and implement SROs in public schools (Jonson, 2017).

With the implementation of SROs, it has been observed that schools have been more thoroughly patrolled, have formalized responses to crime reports from students and school

personnel, have implemented an emergency response plan, and have implemented risk assessments (Jonson, 2017). In addition, it has been observed that a positive relationship with an SRO can lead to better reporting of violent acts and an enhanced feeling of safety while at school (Jonson, 2017). It is not a surprise, then, that numerous research studies, joint task forces, after action reports, and government agencies advocate for the implementation of an SRO in educational facilities. Roles for these SROs should include three target areas: educator, informal counselor, and law enforcement officer (Massachusetts Task Force, 2014). When an SRO is not available, other physical measures can be taken, discussed in the next section.

### **Physical Measures: Access Control**

While SROs are effective physical measures, allocating the funds to sustain one can be of trouble in schools. With this, other methods of hardened security often include access control. Access control refers to door locks, visitor screening and sign-ins, implementing identification badges, and other standard security features (Jonson, 2017). As a result of this being more cost efficient, access control is “the most common response to school shootings” (Jonson, 2017, pg. 963). Jonson’s findings indicate that 96% of schools have access control measures in place, with over 90% of schools employing the locking of doors and monitoring of all access points to the facilities (2017). As such, numerous sources advocate for the locking of all access points to the building. The Massachusetts Task Force Report on School Safety and Security states that there should only be one main monitored entrance that visitors can enter through, with the rest of access points locked down (2014). In addition, this report expands access control to suggesting door locks without the use of keys for educators and the implementation of name badges (Massachusetts Task Force, 2014). One more suggestion involving this form of access control is to regularly assess door locking mechanisms to ensure their proper working order (Massachusetts

Task Force, 2014). The combination of ease of implementation with effectiveness allows this form of security to be suggested through multiple sources. In addition to these implementations, another physical measure is offered below, metal detectors.

### **Physical Measures: Metal Detectors**

Metal detectors are another form of visible, physical measures to ensure school safety. These detectors are meant to “prevent the admittance of weapons, particularly guns, into the school” (Jonson, 2017, pg. 964). Studies have shown that metal detectors are at least somewhat or very effective and can possibly lead to the deterrence of students bringing firearms to school facilities (Jonson, 2017). While suggested to be a method to create a safer learning environment, these detectors are often cost prohibitive and may instill a sense of fear among students (Jonson, 2017). The implementation of this physical measure should, therefore, be implemented only in the most severe cases of repetitive school violence. With physical upgrades discussed, it is now important to go over what people can do for protection, starting with lockdowns.

### **Lockdowns**

Additional security measures that include protecting the individual involve protective action. These protective action measures include traditional lockdowns, shelter in place, and more recently, proactive multi-option responses. Lockdowns are intended to protect individuals when “weapon related violence is in progress or imminent” and is intended to “place barriers between the building occupants and assailant(s)” (Massachusetts Task Force, 2014, pg. 16). Lockdowns were used in 68% of K-12 schools studied by the Secret Service (NTAC, 2019). Many federal, state, and school officials recommend the use of lockdowns as an initial measure to protect lives during an active shooting (Massachusetts Task Force, 2014; Jonson, 2014). While recommended, sometimes it is hard to implement a full lockdown of an educational facility. This

is because there are often times when shootings occur when students are not in securable locations, such as hallways and cafeterias (Jonson, 2017). Knowing this, there are additional protective measures suggested by authorities about school safety, such as shelter in place and multi-option responses.

### **Sheltering in Place and Multi-Option Responses**

Shelter in place, also called reverse evacuation, is intended to be refuge for individuals in schools during an active threat when leaving the premises is more dangerous (Massachusetts Task Force, 2014). This method involves locking all exterior access points to the building and stops the movement of people for protection (Massachusetts Task Force, 2014). Shelter in place is advocated in many realms of school safety and security and is an extension of lockdown drills. When lockdowns and shelter in place measures fail, multi-option responses are suggested for use. These protective actions involve three core concepts: leaving the scene of the incident, locking down the facility and using barricades, and actively resisting the perpetrator (Jonson, 2017). Several forms of multi-option responses exist, including the United States Department of Homeland Security's Run, Hide, Fight; Texas State Advanced Law Enforcement Rapid Response Training (ALEERT) program's Avoid, Deny, Defend, and the A.L.i.C.E. Training Institute's Alert, Lockdown, Inform, Counter, and Evacuate (A.L.i.C.E Training Institute, 2014; ALEERT Center, 2004; DHS, 2020). These responses go in order of what should be attempted. Leaving the scene should be the first protective action taken and is advocated for by each of the preceding agencies or institutes (Jonson, 2017). If not an available option, locking down and using barricades should be next to prevent the perpetrator from gaining access to the room (Jonson, 2017). The last option, resisting the perpetrator, should only happen if the first two responses have been exhausted (Jonson, 2017). As research continues into mitigating against the active



shooter, many trusted sources advocate and suggest the implementation of multi-option responses for protection. Understanding the physical suggestions for safety, an extremely important tool to mitigate and prevent school shootings, threat assessments, is reviewed in the following section.

### **Characteristics of a Threat**

Almost all research and organizations involved in the study of school active shootings arrive on one sound approach to prevent these violent acts: threat assessments. In understanding what a threat assessment is, the nature of the word “threat” must be understood. The FBI Academy’s National Center for the Analysis of Violent Crime (NCAVC) defines a threat as “A threat is an expression of intent to do harm or act out violently against someone or something. A threat can be spoken, written, or symbolic” (O’Toole, 2000, pg. 6). Threats fall into four categories: direct, indirect, veiled, or conditional (O’Toole, 2000). In addition, there are three levels of concern that the FBI introduced in 2000 and still uses: low, medium, and high (BTAC, 2017; O’Toole, 2000). These characteristics of threats are the basis of what constitutes the threat assessment, outlined below.

### **The Threat Assessment**

Threat assessments tie together the threats, behaviors, and indicators of potential active shooters and provide a model to help in prevention of these incidents. The FBI’s Behavioral Analysis Unit (BAU) defines what a threat assessment is:

Threat assessment is a systematic, fact-based method of investigation and examination that blends the collection and analysis of multiple sources of information with published research and practitioner experience, focusing on an individual’s patterns of thinking and behavior to determine whether, and to what extent, a person of concern is moving toward

an attack. A threat assessment is not a final product, but the beginning of the management process. It guides a course of action to mitigate a threat of potential violence. (BTAC, 2017)

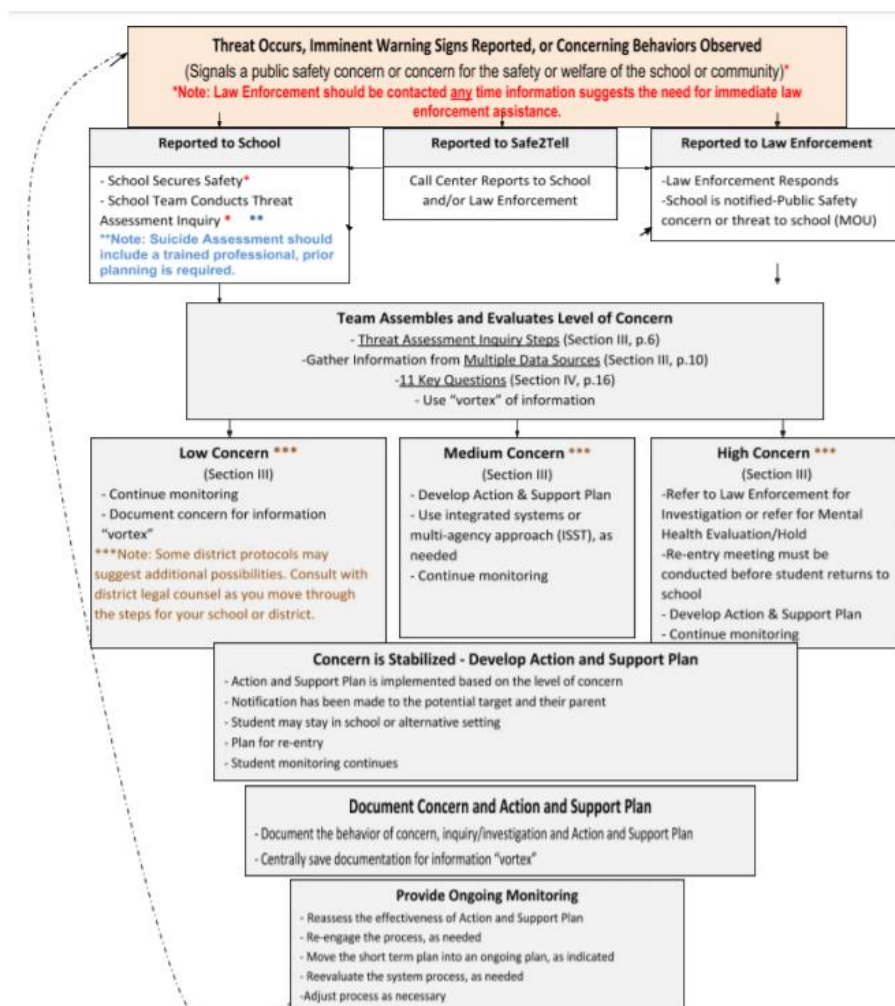
These assessments are vital in the prevention of target school violence and must follow four essential elements in order to be effective. These elements are as follows: “establish authority and leadership to conduct an inquiry; develop a multidisciplinary threat assessment team that is based in the school or district and provide ongoing training; establish integrated and interagency systems relationships and partnerships to respond to public safety concerns; and provide awareness training for staff, students, parents, and community partners in warning signs of violence and reporting procedures” (CSSRC, 2018, pg. 3). The nature of threat assessments, therefore, must have structure, described below.

### **Threat Assessment Cycle**

When implementing what is known about threat characteristics, the levels of threat, and what must be included for an effective assessment, the threat assessment cycle is formed to put the research into practice. Figure 2 below, produced by the Colorado School Safety Resource Center (CSSRC) accurately describes how a threat should be analyzed and the proper steps to follow. This diagram shows the proper procedures involved in performing a threat assessment. The first step in the threat assessment is the reporting of the threat through the school, a call center line, such as Safe2Tell in Colorado, and to law enforcement. After the report is made on the threat, an assessment team assembles to vet the accuracy of the report. Three levels of threats, low, medium, and high concern, divide the danger of the threat to determine the actions necessary to take. Low concern involves constant monitoring of the situation and thorough documentation. Medium concern involves the development of an action plan, continued

monitoring of the threat, and the inclusion of other disciplines. High concern involves law enforcement investigations, re-entry evaluations of the individual, and continual monitoring. Once this is completed and the threat is stabilized, the action plan must be followed along with documenting all steps taken to support the student and monitoring must continue as an ongoing plan. In properly following these steps, a threat assessment can significantly improve the safety of educational facility occupants. As noted above, including other disciplines improves the efficacy of the assessment, and should lead to the formation of a multidisciplinary threat assessment team.

Figure 2



### **Multidisciplinary Threat Assessment Teams**

Threat assessment teams should encompass personnel from multiple corresponding organizations and agencies. The CSSRC states the multidisciplinary team should include a senior administration member, school disciplinary or safety personnel, mental health professionals, local law enforcement, and other areas including guidance counselors, teachers, coaches, nurses, and other figures essential in school societies (2018). These are essential for an effective team to foster collaboration, coordination, and communication among the varying authorities that may receive an alert to a potential threat (FBI, 2013). As seen in the preceding sections, threat assessment is very involving and requires resources and effort from many areas of expertise. The effective nature of this tool and the stakeholders it encompasses leads to its recommendation from all levels of government, school administrators, and researchers.

### **Methodology**

The methodology of this research answered the following research question: how can policies and response procedures be improved to mitigate against future incidents in American schools? It was completed through the qualitative process of case study threat assessment review found in school shooting after-action reports. The case study review entailed reading after-action reports from previous incidents, filtering information regarding threat assessments, and focusing on issues from each assessment to determine their failures. This method was chosen for its use of data availability and reliability from government and nonprofit sources. To answer the research question, a matrix was developed to collect information regarding indicators, use of threat assessments, and the failures of the threat assessments. Below are the questions the matrix is based on:

- What indicators were identified before the incident?
- Was a threat assessment, or similar tool, used in response to these indicators?

- If so, what areas of the performed threat assessment failed?

These questions were formed through the analysis of past studies and research articles relating to individual characteristics, behaviors, and suggested strategies and implementations to create a safer learning environment. Additionally, the matrix categories were conceived to determine why threat assessments are highly recommended among practitioners and academics yet still fail in certain incidents. The intended outcome of this methodology was to highlight what characteristics are commonly noticed before an incident, what areas of the threat assessment failed, and how corrections to these assessments can create an effective measure to mitigate against future active shootings in American schools.

To best implement what is known about active shooters, their characteristics and behaviors, and the suggestions provided to increase safety in the classroom, the study of three specific incidents was completed. The choice of reviewing three incidents was determined to improve the reliability of the findings in the after-action reports. Characteristics and outcomes are better supported through the inclusion of multiple reports and limits research bias. Cases reviewed included reports that had established uses of threat assessments or similar measures to deter violence. The purpose of using these reports compared to other available reports is their abundance of information about threat assessments, the focus of this research project. In doing this, a thorough analysis of educational facility use of threat assessments was completed and is applied to correcting the shortfalls of the mitigative measure.

This study reviewed the cases of Arapahoe High School, Columbine High School, and Marjory Stoneman Douglas High School. Arapahoe High School is part of the Littleton Public Schools in Littleton, Colorado (Safe Havens International, 2016). The incident occurred on December 13, 2013 when Karl Pierson entered the premises, shot and killed one student, and

then proceeded to commit suicide (Woodward & Goodrum, 2016). A thorough review of the threat assessment used on Pierson is found in the two after-action reports produced. Columbine High School, also located in Colorado, experienced an active shooting led by two individuals, Dylan Klebold and Eric Harris (Columbine Review Commission, 2001). This incident ended after 47 minutes with 13 students and faculty dead and the suicides of both Klebold and Harris (Columbine Review Commission, 2001). As found in the other report, assessment measures were performed on both individuals prior to the shooting. The active shooting at Marjory Stoneman Douglas High School in Parkland, Florida was carried out by Nikolas Cruz on February 14, 2018 (MSDPSC, 2019). In the aftermath of this incident, 17 individuals were killed and an additional 17 wounded (MSDPSC, 2019). A threat assessment was performed on Cruz as in both other incidents at Arapahoe and Columbine High Schools. The following table, designated Figure 3, highlights what was found when reviewing the after-action reports of these three incidents.

Figure 3

Shooting Incident	What Indicators Were Identified Before?	Was a form of Threat Assessment Used?	What Areas of Threat Assessment Failed?
Arapahoe High School	<ul style="list-style-type: none"> <li>- Individual threatened to kill librarian</li> <li>- Individual threatened to kill middle school student</li> <li>- Individual had established anger management issues</li> <li>- Individual passed around pictures of purchased gun</li> <li>- Violent acts and statements against school staff</li> <li>- Demotion and ostracization from social clubs and groups</li> </ul>	Yes	<ul style="list-style-type: none"> <li>- There was not an integrated approach between administration and public safety partners</li> <li>- Lack of adhering to established policy in threat assessment process</li> <li>- Lack of multidisciplinary assessment team or point of contact</li> <li>- Many did not know how to report indicators to assessment team or Safe2Tell hotline</li> <li>- Mental health professionals were deceived by individual, preventing thorough assessment</li> </ul>
Columbine High School	<ul style="list-style-type: none"> <li>- Suicidal thoughts and mental illness</li> <li>- Social ostracization</li> </ul>	Yes	<ul style="list-style-type: none"> <li>- Information sharing between authorities was not allowed under law at the time</li> </ul>

	<ul style="list-style-type: none"> <li>- Other's knowledge of the acquisition of guns and making of bombs</li> <li>- Threats established on videotapes and a created webpage by individuals</li> <li>- Established history with juvenile justice system</li> <li>- Acts of violence against students prior to incident</li> <li>- Bullying and victimization by other students</li> </ul>		<ul style="list-style-type: none"> <li>- Authorities unaware of activities because of lack of integrated approach</li> <li>- Students did not report indicators to administration or law enforcement for fear of repercussions</li> <li>- There was not a multidisciplinary team established to address threats</li> </ul>
Marjory Stoneman Douglas High School	<ul style="list-style-type: none"> <li>- Adoption and foster home past</li> <li>- 69 incidences when individual referred to violent acts or ideologies</li> <li>- Long history displaying violent behavior</li> <li>- Extensive mental health treatment; depression and suicidal thoughts</li> <li>- Recorded incidences of racist or prejudiced ideologies</li> <li>- Individual killed small animals, not considered hunting</li> <li>- Unreported bullying and ostracization by peers</li> </ul>	Yes	<ul style="list-style-type: none"> <li>- Authorities in charge of threat assessment misunderstood or did not know assessment process</li> <li>- Reporting procedures for a threat assessment were not followed</li> <li>- Administrators were not trained on how to conduct a thorough threat assessment</li> <li>- Process was decentralized, reactive, and was not supervised by the school district administrators</li> <li>- Lack of oversight and accountability of those involved</li> </ul>

## Results

In reviewing the three specific shooting incidents at Arapahoe High School, Columbine High School, and Marjory Stoneman Douglas High School, there were many instances where indicators were observed. Each case had established characteristics as highlighted in previous studies and reports. The Arapahoe High School individual issued several violent verbal and physical acts against people within the school and other schools in the same district. In addition, this individual faced peer ostracization and isolation in the weeks leading to the event. When reviewing the individuals from the Columbine High School incident, there were also several identified characteristics that have been previously established. Among these, mental illness,

suicidal thoughts, social ostracization and bullying, and verbal and physical threats were the most prevalent precursors. In the Marjory Stoneman Douglas High School event, the individual had several recorded violence-related incidents with his family, peers, and school faculty. In addition, instances of mental illness and depression, racist and prejudiced ideologies, bullying and ostracization, and a history of an unstable homelife were observed. In each case, these precursors led to a threat assessment.

Analyzing these threat assessments performed before the shootings occurred highlights deficiencies in this strategy. In each of the three cases, the established protocols and procedures for threat assessments were fully not followed. At Arapahoe High School, several issues were noticed with the threat assessment. The most significant deficiency was the lack of integrating school administration, mental health providers, and law enforcement. Other issues observed were the lack of a central point of contact to oversee the threat assessment, poor communication to students and faculty about how to report disturbing behavior, and the inability of professionals to properly diagnose the individual prior to the incident. The Columbine High School shooting's assessment of the two individuals also had deficiencies. A significant factor in this event was legislation preventing information sharing between law enforcement and school officials. Additional issues observed include a lack of integration in the school threat assessment and students afraid to report troubling behaviors of the perpetrators for fear of discipline. Marjory Stoneman Douglas High School's shooting showed similar issues with threat assessment. Multiple school authorities were unknowledgeable in the threat assessment process and intended outcomes. In addition, reporting procedures were not followed, administrative personnel were not trained to perform assessments, and the process was not integrated with a lack of oversight on following through with disciplinary action. After reviewing the three shootings, it can be



determined that numerous indicators were observed before the incidents, but a deficiency in identifying indicators, performing the assessment, and acting on the threats led to the shootings.

### **Discussion**

While threat assessments are observed to be effective in preventing multiple forms of school violence, they must be performed cohesively and as designed. In each of the three cases reviewed, a lack of cohesion among student and faculty reporting, administrative leadership, and the lack of information sharing between school administration and law enforcement were the most common issues. These issues could have been avoided had proper procedures been followed by those involved in the threat assessments. In each case, several indicators of violent behavior found in active shooters was observed, but never fully addressed by threat assessment teams. One issue with these indicators was the reporting procedures in place for students and faculty. Students were not likely to report on fellow students and faculty were not sure when to report. In addition, a large failure among school officials was to properly train those on assessment teams on how to effectively perform their roles. This failure led to the lack of integration, which failed both the school administration and respective law enforcement agencies in the school districts. These shortfalls highlight the improper adherence to threat assessments and their intended outcomes.

Threat assessments, although failure-prone under certain circumstances, are still essential in preventing and deterring school violence. When followed properly, violent behavior and threats issued by individuals can be effectively handled to create a safer learning environment. Through the implementation of action plans by the multidisciplinary team, the assessed individual can be removed from school facilities, behavioral and mental assistance can be offered, and a reintegration plan established. Including all disciplines in this plan, especially law

enforcement, helps to ensure the individual does not continue to be of harm to his or herself and those in educational facilities. Even with the observed shortfalls in the reviewed cases, threat assessments remain an overall effective tool in preventing active shootings in schools.

To correct the deficiencies in threat assessments, the most significant recommendation is to improve training and educational opportunities to those on assessment teams. In each case, a lack of understanding in the true threat assessment process hindered its effectiveness. By offering more thorough and available training to school staff, administration, health providers, and law enforcement, roles can be more clearly identified, defined, and performed. Another recommendation to improve the process is to encourage students and faculty to report violent behavior and indicators to either administration, law enforcement, or a hotline. As observed in the cases reviewed, students were afraid to speak out in fear of punishment and some staff were unaware of reporting procedures already established. Improving the communication to students and faculty about reporting options and how these options improve the safety of the learning environment should be done through educational opportunities and outreach programs. These recommendations serve to help repair threat assessment processes to make the tool better suited for addressing violent behavior.

While much of the recommendations focus on the threat assessment process, it is still important to understand the role of indicators in the threat assessment. These assessments are only effective when the school community can identify these indicators in an individual and realize these characteristics can lead to violent acts. Those in the community should be informed of such indicators, especially on the topics of mental health, behavioral issues, social integration problems, and peer-related bullying, teasing, and ostracization. When these indicators are reported to the appropriate school administration or law enforcement, the threat assessment

process can be initiated and performed to prevent instances of school violence and active shootings. The school community's knowledge of what constitutes as indicating characteristics and behavior is essential to the effective threat assessment process.

The multidisciplinary threat assessment is a great tool to combat potential school violence when performed correctly. With that, there are other measures that can mitigate against violence in educational facilities. As discussed previously, there are several hardening procedures that can be implemented to prevent an active shooter from accessing the facility. These may be more reactive than proactive mitigative measures but are effective during an incident. Combining these hardening measures with the use of threat assessment can significantly increase the safety of the inhabitants of the school facility. An additional strategy is to better involve the parents in the safety measures taken at schools. Parents may observe behaviors or characteristics in their children that school staff, administration, and law enforcement do not see. By preventing the violent behavior from entering the school grounds, the parents can be the first step in the mitigative process in securing the safety of students and staff at school.

There are limitations observed in researching school violence and active shootings. One issue encountered is the definition of an active shooter and what constitutes as an individual involved. This report used the definition agreed upon by several federal agencies, including the U.S. Department of Justice and the U.S. Department of Homeland Security. Several other definitions exist in both the practicing and academic disciplines, as there is not just one effective, overarching definition of an active shooter. These individuals have common characteristics and behavior, but all differ in what characteristics are observed, what their planning methods are, where they attack, how they attack, why they attack, and the number of casualties. For these reasons, there is significant debate on defining these individuals, which is reflected throughout

this report. In addition, locating information for some areas of school violence and shootings is difficult. School violence, and more specifically the instances of shootings, is a sore spot among many involved in the school community. There is hesitation among family of the perpetrating individuals to provide research data after incidents; school staff and administration are hesitant to provide issues within their organization that may have led to the violence; and interviewing after the incident can cause emotional issues. Locating information on how threat assessments failed was limited by such hesitation to provide organizational issues.

Further research should be performed using the information provided in this report. Researching how to better prepare individuals to participate in information sharing in school communities should be completed. Information sharing was a failing point in the analyzed cases and methods for better communication researched. Additionally, researching methods to better equip the school community to report warning indicators, including behavior and mental health issues, should be performed. Ultimately, mitigative efforts centered around the threat assessment cannot be completed unless there is an effective reporting method implemented in educational facilities. This report lays the foundation for these research opportunities to be explored and new procedures developed to improve the mitigative efforts to increase school safety.

### **Summary**

The purpose of this report serves to understand what mitigative efforts can be used to prevent active shooters in educational facilities and create a safer learning environment in American schools. In doing so, it is important to understand the characteristics of perpetrating individuals involved with active shootings. These individuals are generally Caucasian males between the ages of 12 and 21 with histories of social integration issues, violent behavior, and mental health issues. There are issues observed within their family and there is often significant

planning behind an attack on an educational facility. Previous research has recommended mitigative efforts to prevent individuals from completing their attacks on schools. These include physical implementations, such as a school resource officer, access control, and metal detectors. Other measures include lockdowns, sheltering in place, and multi-optioned responses. Among the most recommended mitigative measures is threat assessment.

Threat assessment works to respond to reports of troubled individuals, determining the credibility of the threat and its level of concern, and implementing an action plan to remove the individual, provide necessary interventions, and reintegrate the individual back into the educational facility. These mitigative assessments have numerous effective qualities, are the most promising strategy currently, and should be used in all schools. Threat assessments are not foolproof and have areas that may fail. Among these areas, a lack of communication, involvement of appropriate team members, and lack of training are the most observed issues in threat assessment processes. To correct these issues, there should be training available to those involved with threat assessment so that roles are better understood and performed when necessary.

Other mitigative efforts schools should incorporate into their facilities include the hardening of the building. When combined with the threat assessment, the safety and security of the school facilities and environment is significantly improved. Additionally, involving parents and informing them of their role in preventing behavioral issues before it reaches the education environment should be implemented. This report is essential in understanding how current mitigative efforts to create safe learning environments are effective, what can be done to improve these efforts, and what other strategies can be further researched. By correcting the issues found in threat assessments, this mitigative tool to deter and prevent violence in American schools

should increase the safety of all in the school community, help individuals most at risk of violent actions, and ensure a more secure learning environment for all students in America.

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