School Shooters: History, Current Theoretical and Empirical Findings, and Strategies for Prevention

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Abstract

Situations involving active shooters in schools have increased in recent years. We define an "active shooter incident" as an occurrence where one or more individuals participate in an ongoing, random, or systematic shooting spree with the objective of multiple or mass murders. Attempts to build a profile of active school shooters have been unsuccessful to date, although there is some evidence to suggest that mental instability, social isolation, a self-perception of catastrophic loss, and access to weapons play a role in the identification of the shooter in a school shooting incident. This article details theories and after-the-fact findings of investigations on previous school shooters, and we offer an application of Levin and Madfis's Five Stage Sequential Model to Adam Lanza, the perpetrator of the massacre at Sandy Hook Elementary School in December, 2012. Prevention strategies, suggestions for positive school climates, school security for the physical plants, and threat assessments are discussed, and implications for future research are offered.

Introduction

Situations involving active shooters in schools have increased in recent years, with each of the past several decades having one significant school shooting resulting in death and psychological traumatization, not just to the involved school and community but also across the United States. We define an "active shooter incident" as an occurrence where one or more individuals participate in an ongoing, random, or systematic shooting spree with the objective of multiple or mass murders (Mitchell, 2013). The term *active* is used by law enforcement as an indication that the shooting is currently occurring and implies that an emergency law enforcement intervention is underway to stop the shooter as soon as possible. In this article, the terms *shooter* and *attacker* should be considered synonymous.

In 1999, Eric Harris and Dylan Klebold killed 12 students and 1 teacher at Columbine High School in Littleton, Colorado. In 2007, Seung-Hui Cho shot and killed 32 students and professors at Virginia Tech. More recently, in 2012, Adam Lanza fatally shot 20 first-grade students and 6 adults at the Sandy Hook Elementary School in Newtown, Connecticut. These specific occurrences were particularly significant because of the high death toll and types of victims. Questions raised about the personality characteristics of the shooters became of interest, and research questions and hypotheses as to motives are areas of ongoing concern.

Although these shootings have the most notoriety, there have been many other school shooting incidents. In fact, more than 250 people have been killed in the United States during active shooter and mass casualty incidents since the Columbine High School shootings in 1999 (Mitchell, 2013). In terms of school-based events, Moore, Petrie, Braga, and McLaughlin (2003) estimated that between 1992 and 2001, 35 incidents of lethal violence occurred in which students brought weapons to their school or at a school-sponsored event and shot their schoolmates and teachers. Between 2000 and 2010, 445 school shootings occurred that did not result in death but in life-threatening wounds (De Venanzi, 2012).

Characteristics of Active Shooters in School Shootings

Analysis of school shooting incidents renders important trends. In June, 1999, 2 months after the Columbine High School shooting, the U.S. Department of Education and the U.S. Secret Service began to collaborate on a report examining whether plans for targeted violence at school

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Table 1. 10 Key Findings From "The Safe School Initiative."

1. Incidents of targeted violence at school rarely were sudden, impulsive acts.
2. Prior to most incidents, other people knew about the attacker's idea and/or plan to attack.
3. Most attackers did not threaten their targets directly prior to advancing the attack.
4. There is no accurate or useful "profile" of students who engaged in targeted school violence.
5. Most attackers engaged in some behavior prior to the incident that caused others concern or indicated a need for help.
6. Most attackers had difficulty coping with significant losses or personal failures. Moreover, many had considered or attempted suicide.
7. Many attackers felt bullied, persecuted, or were injured by others prior to the attack
8. Most attackers had access to and had used weapons prior to the attack.
9. In many cases, other students were involved in some capacity.
10. Despite prompt law enforcement responses, most shooting incidents were stopped by means other than law enforcement intervention (i.e., shooter suicides, arrival of law enforcement personnel).

Source. Vossekuil et al. (2002, p. 11).

might have been known and, if so, what could have been done to prevent the attacks (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002). Targeted violence at a school is defined as any premeditated incident where a known or knowable attacker deliberately chooses the school as the location for the attack (Vossekuil et al., 2002). The findings of *The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States* (Vossekuil et al., 2002) are the result of the examination of 37 incidents of targeted school violence between December 1974 and May 2000 in the United States and are discussed at length below. Ten key findings from the study are summarized in Table 1.

Of the 37 incidents of targeted school violence analyzed in the Vossekuil et al.'s (2002) study, there were some common characteristics among the incidents. All of the attackers were males, and 95% of them were current students with 5% being former students. Attackers worked alone in 81% of the incidents. Assistance from at least one other peer in the planning of the attack occurred in 11% of the incidents, but the attackers in those incidents ultimately carried out the attack alone. Two or more attackers committed the assault together in 8% of the incidents. In terms of weapons, 76% of the attackers used only one weapon, whereas 46% of the attackers had more than one weapon with them at the time of the attack. Handguns were used by 61% of the attackers, and 49% of the attackers used rifles or shotguns. In 73% of the incidents, the attacker killed one or more individuals at the school, and in the remaining incidents, at least one person was injured by a weapon. Fifty-nine percent of the incidents occurred during the school day, indicating that fewer were carried out before school (22%) or after school (16%).

Targets were not necessarily random, although persons in addition to targets were also harmed. Attackers had selected at least one administrator, faculty member, or staff member as a target in 54% of the incidents (Vossekuil et al., 2002). Students were chosen as targets in 41% of the cases, and attackers selected more than one target prior to the attack in 44% of the incidents. Persons who were targeted before the attack were actually harmed in the attack in 46% of the cases. Individuals not identified as original targets of

the attack were also injured or killed, and of these individuals, 57% were students and 39% were administrators, faculty, or staff.

According to Vossekuil et al. (2002), there is no "profile," or "set of demographic and other traits that a set of perpetrators of a crime have in common" for student-attackers (p. 11). The use of profiles for identifying individuals who may commit targeted violence has its own set of problems as the practice has

> a considerable risk of false positives (i.e., most youth who fit the profile are not a targeted violence risk), has a potential for bias, and has been sharply criticized for its potential to stigmatize students and deprive them of civil liberties. (Reddy et al., 2001, p. 169)

An analysis into the various characteristics of attackers reveals both similarities and differences among perpetrators. Attackers came from a variety of family situations (i.e., intact families to foster homes), and they differed considerably in social relationships (i.e., socially isolated to being popular). At the same time, 71% of the attackers felt bullied, threatened, or injured by others before committing the attack, a significant finding to note if one were to attempt to categorize traits of active shooters. In addition, most attackers had some history of suicidal ideation or attempts, or a history of extreme depression. Most attackers were known to have had difficulties coping with "significant losses or personal failures" (Vossekuil et al., 2002, p. 35). Academic achievement ranged from failing to excellent grades. Some attackers had no behavioral problems whereas others had histories of disciplinary problems. Although most attackers had no history of violent or criminal behavior before the attack, 59% demonstrated some interest in violence whether it was through video games, movies, books, or other media. Most attackers did not display any significant change in academic performance, friendship patterns, interest in school, or disciplinary problems before the attack (Vossekuil et al., 2002). At the same time, Vossekuil et al. (2002) noted that 93% of the attackers engaged in some behavior before the attack that made others (e.g., parents, school officials,

teachers, fellow students) concerned about their behavior. Targets did not seem to know about the attack beforehand, as most attackers did not threaten their targets directly before the attack.

Vossekuil et al. (2002) found that targeted violence at school is often planned ahead of time with some attackers devising the idea as few as 1 or 2 days before the attack and others holding the idea of the attack for as long as a year before its execution. Motives for attacks varied, and 54% of the attackers held multiple motives or reasons. For 61% of the attackers studied, revenge was a reason for the attack, 81% of the attackers had some type of grievance at the time of their attack, and 66% of the attackers had told other people about the grievance before the attack. Additional but less common motives of attackers were trying to solve a problem (34%), suicide or desperation (27%), and attempts for attention or recognition (24%).

In terms of advancing the attack, many attackers had experience using weapons and had access to weapons. Fifty-nine percent of the attackers had some experience with a gun, and 68% used firearms that they obtained from their own home or that of a relative. Vossekuil et al. (2002) also noted the involvement of others in that 44% of the attackers were influenced by others in deciding to carry out the attack, encouraged or dared by others to commit the attack, or both.

Most school shootings were not stopped by law enforcement despite prompt response times. Instead, the shooter surrendered to or was apprehended by school staff (27% of the incidents) or by students (5% of the incidents). The attacker stopped on his or her own or left the school in 22% of the attacks, and in 13% of the attacks, the shooter killed himself. Vossekuil et al. (2002) found that law enforcement stopped only 27% of the shootings and only discharged weapons in three of the incidents examined. Most school shootings were not stopped by law enforcement, in part, because of their short duration. Forty-seven percent of the incidents lasted 15 min or less from the beginning of the attack to the time when the attacker stopped shooting, surrendered, or was apprehended, whereas 27% of the incidents concluded within 5 min.

Despite these common characteristics among school shooters, Lankford (2012) examined the specific subset of school shooters who end their attack by attempting or committing suicide. Lankford found that a comparison of suicide school shooters, workplace shooters, terrorists, and rampage shooters revealed that differences were mostly superficial. Although school shooters were far younger than the other attackers, all four of these offenders actually struggled with similar personal problems, including social marginalization, personal crises, or issues at home, school, or work. Lankford concluded that law enforcement investigators should not be focused on a particular characteristic but should pay close attention to individuals who are struggling with significant personal issues, and Lankford's hypothesis should be studied further as well as viewed as a possible

beginning point for teachers and administrators when attempting to identify those who may be at risk of violent incidents in schools. Although Lankford highlights the significant role that serious personal problems play in all of these different types of offenders who attempt suicide, ultimately, significant psychological problems usually play a role when any individual attempts suicide. The numerous similarities drawn across these attackers' results tend to neglect more specific motives for carrying out violent attacks against others.

Theories on Active Shooters in the Schools

Sequential Model for Mass Murder at School

Levin and Madfis (2009) proposed a Five Stage Sequential Model to explain what might lead students to commit mass murder at their schools. Each distinct stage is hypothesized as a necessary condition, but it is the cumulative strain where these different factors intersect and build on each other that is viewed as leading to a school shooting (Levin & Madfis, 2009). The five stages are Chronic Strain, Uncontrolled Strain, Acute Strain, The Planning Stage, and Massacre at School.

Levin and Madfis's (2009) first stage of Chronic Strain stems from Agnew's (1992) general strain theory. Under Agnew's theory, strain includes a range of negative experiences or events in social relationships at school, home, work, or in the neighborhood where the individual resides. Strain is viewed as a range of difficulties that result in anger, frustration, disappointment, depression, fear, and, eventually, crime.

When strain becomes intense and continues for a considerable amount of time, it becomes "Chronic Strain" (Levin & Madfis, 2009). Chronic Strain appears to be a major factor for school shooters as most felt bullied, threatened, or injured by others, and had a history of extreme depression and difficulties coping with significant losses (Vossekuil et al., 2002). School shooters often have had stressful conditions at home or school (Levin & Madfis, 2009). Leary, Kowalski, Smith, and Phillips (2003) found that school shooters felt chronic rejection in 13 of the 15 school shooting incidents that they analyzed. The Chronic Strain at home appears to be reflected in the fact that some school shooters kill their parents or other members of their family prior to the shooting. Kip Kinkel murdered both of his parents; Luke Woodham beat and stabbed his mother to death; and, more recently, Adam Lanza shot his mother four times in the head prior to making his way to Sandy Hook Elementary School (Mendoza, 2002; Schmidt, 2012). Both Kimmel and Mahler (2003) and Newman, Fox, Roth, Mehta, and Harding (2004) noted that the shooters came from intact families and argued that quality of family life is not best measured by traditional measures such as family structure or living arrangements.

Another source of strain for school shooters can stem from interpersonal relationships at school. Agnew (1992) identified the failure to achieve positively valued goals and the disjunction between expectations and actual achievements as additional sources of strain. Middle and high school students often measure their success in life in terms of their popularity with peers (Levin & Madfis, 2009) and, as Vossekuil et al. (2002) have noted, most school shooters felt bullied, threatened, or injured by others. Kimmel and Mahler (2003) argued that some school shooters were attacked about their masculinity through homophobic slurs and that these shooters may have felt that they had already failed in their developing manhood. As a result, it seems likely that Chronic Strain in school shooters stems from family conflict and/or problematic relationships with peers at school. Although these conditions create Chronic Strain, Chronic Strain alone does not lead individuals to become school shooters. Many youngsters experience these forms of Chronic Strain and do not become attackers, and so other psychologically moderating factors must be in play as well.

Levin and Madfis's (2009) second stage is Uncontrolled Strain during which the strains of everyday life are left unchecked by the absence of conventional and/or prosocial relationships. When faced with Chronic Strain, students who cannot find acceptance in school may look for acceptance in their family or may find friends outside of their school. However, some individuals either never make meaningful relationships with others or form relationships with other students who have been marginalized and who then become supportive of and/or encouraging of their violent antisocial feelings and beliefs (Levin & Madfis, 2009). In fact, Agnew, Brezina, Wright, and Cullin (2002) found that juveniles who have little attachment to their parents or school and/or have relationships with troublesome friends are generally more likely to react to strain by engaging in delinquent behavior. Although Vossekuil et al. (2002) noted that attackers ranged from socially isolated to popular among their peers, 27% of the attackers were part of social groups that were disliked by most mainstream students or were considered to be part of a "fringe group"; 34% of the attackers were characterized by others as "loners" or viewed themselves as loners. In an attempt to lessen the effect of the Chronic Strain, a youngster may externalize responsibility for failures that can then increase isolation (Levin & Madfis, 2009).

Levin and Madfis's (2009) third stage, Acute Strain, takes place when some loss is perceived as catastrophic by the attacker, and it is this loss that serves as a catalyst for the attack. Whereas Chronic Strain is persistent and long term, Acute Strain consists of short-term but especially upsetting events that seem catastrophic to an already troubled and isolated individual (Levin & Madfis, 2009). Most school shooters appeared to have difficulty coping with losses, and 98% of the attackers had experienced or perceived a major loss prior to the attack (Vossekuil et al.,

2002). The majority of these losses were a perceived failure or loss of status, or the loss of a loved one or of a significant relationship including romantic relationships.

Acute Strain in the presence of long-term Chronic Strain leads the potential shooter to feel that there is nothing left to lose and leads to the fourth stage, the Planning Stage. Once the attacker decides to commit a massacre, some time is spent planning, as mass murder is not a simple criminal act (Levin & Madfis, 2009). Most attackers develop a plan at least 2 days before carrying out the attack, and some spend much more time than only several days (Vossekuil et al., 2002). For example, Eric Harris and Dylan Klebold spent more than a year preparing for their attack at Columbine High School (Larkin, 2007). Time was spent obtaining and modifying guns, and their attack was timed to be on the anniversary of Hitler's birthday. School massacres were rarely impulsive or spontaneous attacks (Vossekuil et al., 2002). School shooters also tended to not have histories of having had a mental health evaluation and tended to not be diagnosed with a mental disorder (Vossekuil et al., 2002). This mental health background is consistent with the fact that school shooters do not suddenly "snap" and commit attacks but rather plan them out. Levin and Madfis (2009) examined this phenomenon and determined that if school shooters are not "hallucinating maniacs," then a massacre must somehow serve as a rational, albeit immoral, solution (p. 1238). The attack acts as a solution to the shooters' most serious issues of damaged personal identity and self-worth. Attackers see the shooting as a means of forcing others to take notice of them. In addition, a school massacre is used as a way of asserting masculinity as much of Western culture associates violence with masculinity (Kimmel & Mahler, 2003; Newman et al., 2004). Ultimately, ignored and emasculated young males believe that a massive shooting will regain lost feelings of power, pride, and masculinity, and may also have them achieve international attention (Levin & Madfis, 2009).

The fifth and final stage in Levin and Madfis's (2009) model is the Massacre at School, where certain facilitating factors must be in place. In fact, these researchers suggested that most bullied and isolated boys never commit a school shooting even if they endure Chronic and Acute Strain, and that many seriously troubled youngsters who have considered committing a school shooting and even made plans for an attack have not carried it out. For potential attackers to become school shooters, they must have some firearm proficiency and access to firearms.

The Culture of Narcissism Theory

De Venanzi (2012) argued that antisocial behaviors in schools, especially suburban schools, do not stem from pervasive violent media content but from society's narcissistic culture. In addition to overconsumption and extreme individualism, narcissism has also come to include anxiety, a loss of meaning, and a continuous feeling of

dissatisfaction (De Venanzi, 2012). Furthermore, De Venanzi proposed that society has overemphasized material comfort and narcissism leading to feelings of resentment, envy, and hatred toward others' real or imagined success. These feelings of frustration toward others can be identified in school shooters, particularly those in suburban schools, and act as an impetus for an attack.

The Active Shooter at a College/University

The profile for an active shooter in the college setting has different motivations (Fox & Savage, 2009). Mass shootings in universities are often perpetrated by graduate students (Fox & Savage, 2009). Instead of a history of feeling bullied or persecuted, like active shooters in high schools, older graduate students seem to turn to violence as a response to what they perceive to be intolerable pressure to be successful or the inability to face the reality of failure (Fox & Savage, 2009). Graduate students place greater emphasis on academic work and training and often lack balance in their personal lives. An intense focus on academic achievement creates high stakes when there is the possibility for failure. Fox and Savage (2009) note that foreign students have extra pressures because their academic visas are often dependent on their continued student status. Furthermore, faculty mentors may be less sensitive to the pressures placed on graduate students and are ultimately the gatekeepers to success. Inherent in the understanding of what makes a graduate student an active shooter surely must be a positive history of a significant mental disorder, both known and unknown to their families as well as previously treating mental health professionals.

Improving Survival After School Shooting Incidents

About half of the school shooting incidents lasted 15 min or less, from the beginning of the shooting until the attacker stopped shooting, was apprehended, surrendered, or killed by law enforcement or by suicide at the end of an incident. For example, Adam Lanza shot his way into Sandy Hook Elementary school at 9:35 a.m. and shot himself in the head at 9:40 a.m., and it was fewer than 5 min from the time the first 911 call was placed until Lanza shot himself (Sedensky, 2013). Most school shootings were not stopped by law enforcement intervention because of their short duration. This finding, which has major implications in terms of first responders, was the topic of discussion among the informed leaders from medicine, law enforcement, fire/rescue, emergency medical services (EMS) first responders, and military experts brought together by The American College of Surgeons to explore strategies for generating policies that will enhance survival of victims of mass casualty shooting events (Jacobs et al., 2013). The meeting, known as the *Hartford Consensus Conference*

(April 13, 2013), used data and evidence from existing military and recent civilian incidents.

The integrated active shooter response recommended by *The Hartford Consensus Conference* is summarized in the acronym "THREAT" (Threat suppression, Hemorrhage control, Rapid Extraction to safety, Assessment by medical providers, Transport to definitive care). Life threatening bleeding from external wounds is best controlled first through the use of tourniquets whereas internal bleeding requires speedy transport to a hospital setting. Jacobs et al. (2013) note that these concepts are straightforward, proven, and somewhat inexpensive, and these measures have been adopted as best practice by many law enforcement agencies. In addition to hemorrhage control, The Hartford Consensus notes that the response to an active shooter incident must be integrated across law enforcement, fire/rescue, and EMS personnel. The Hartford Consensus stresses that the response effort must include coordination between law enforcement and the medical/evacuation providers. Communication among responders will lead to the best possible outcomes and part of this communication is shared definitions for terms used in mass shooting incidents. In addition, The Hartford Consensus recommends jointly developed local protocols for responding to active shooter events and the inclusion of active shooter events in table-top and field exercises to further familiarity with the protocols.

Jacobs et al. (2013) noted that long-standing practices for response to shooting events have involved a segmented, sequential public safety operation. First, theoretically, law enforcement responds by stopping the shooting and then this is followed by rescue and recovery. Although efforts to stop the active shooter are still of greatest importance, Jacobs et al. highlight that, medically, early hemorrhage control is essential for maximizing victim survival. Jacobs et al. urge that initial actions to control bleeding should be part of the initial law enforcement response and that knowledge of hemorrhage control should be a core law enforcement skill. The injuries sustained in active shooter incidents bear similarities to those injuries seen in war. Based on military experience, hemorrhage is the number one cause of preventable death in victims of penetrating trauma (Jacobs et al., 2013). To maximize survival of active shooter incidents, Jacobs et al. believe that there needs to be an updated and integrated system that can accomplish multiple objectives simultaneously.

The Hartford Consensus has implications for school shootings as well. In the analysis of Vossekuil et al. (2002), most incidents of targeted violence in schools were stopped by those within the school or by the attacker's suicide. Given that information, responding law enforcement should have knowledge of hemorrhage control to maximize the chances for survival among victims. Basic training in life support and cardiopulmonary resuscitation (CPR) could extend to school administrators, teachers, and staff as part of school protocol as well.

Prevention

Security Measures as Prevention

School shootings, especially those that receive extensive media coverage, can affect those not directly affected by the school shooting (i.e., a ripple effect). Individuals become susceptible to the availability heuristic, or the cognitive judgmental bias in which individuals tend to draw upon information that is most easily accessible to them (Furlong, Morrison, Austin, Huh-Kim, & Skager, 2001; Kahneman & Tversky, 1996). The result is that when individuals are asked about the trend of violence in schools, they typically draw upon the extensive media reports, and their responses could be skewed. In addition, media coverage can affect viewers' beliefs about the likelihood of future school shootings. The Principle of Bounded Subadditivity is a cognitive process that influences the psychological impact of an event by changing perceptions that an event that was once considered an impossibility is now a clear reality (Furlong et al., 2001; Tversky & Fox, 1995). Under the Principle of Bounded Subadditivity, an individual can go from thinking that school shootings do not happen at all, or in their type of neighborhood, to thinking that shootings can happen at any school, at any time, in the United States (Furlong et al., 2001). In fact, as school shootings continue to occur, it seems likely that this cognitive restructuring must occur.

Oftentimes, after an active shooter attack, the media focus on gun control and not on the shooter's personal or the family's responsibility for the actual act. As previously noted, school shooters often have access to guns through a relative or family member. Mass shootings in schools are among the most difficult violent acts to prevent using gun control (Kleck, 2009). Because most firearms were acquired from a family member, guns should be stored in a way that makes them completely inaccessible by troubled youngsters (Levin & Madfis, 2009).

In response to a school shooting, many institutions react with increased security measures. Visible security measures include physical devices (such as the use of security cameras) and trained personnel (school security guards) to prevent school violence (Addington, 2009). The reason that schools increased security was the intense media coverage of the Columbine High School shooting as well as the fear that the media coverage instilled among students and parents (Addington, 2009). According to Mifflin (1999), national television networks spent more airtime covering Columbine than any other previous shooting. The amount of news coverage could be seen as reasonable as Columbine was and still is the deadliest high school shooting in U.S. history. In fact, 68% of Americans followed the coverage of Columbine "very closely," and the Columbine High School shooting was the third most closely followed story of the decade (Pew Research Center, 1999). Communication between parents, school administrators, and law enforcement personnel likely influenced decisions to increase school security measures.

There are several different categories of security measures that can be implemented in schools (Addington, 2009). One security measure category is limiting access to the school building through the use of identification cards (staff and/or students), locked school entrances including "one-door" policies, visitor sign-in requirements, and gated campuses. Another category is prohibiting weapons on campus through metal detectors, lockless student lockers, and random sweeps for contraband. The third category is increasing surveillance of students through security cameras, school resource officers, and staff training (e.g., lockdown drills). The final category of security measure is reacting to a crisis or violent incident through student drills, duress alarms, and telephones in classrooms. The security measures that are most frequently used by public school systems are controlling access to the school building, limiting access to social networking websites from school computers, and prohibiting use of cell phones and text messaging devices (Robers, Kemp, & Truman, 2013).

Addington (2009) stressed that further research is needed on the effects of school security measures. Security measures have the potential for creating a negative school environment by creating student resentment or a prison-like environment. Addington noted the limitations of studies that have found the use of school security measures correlated with higher reports of student victimization and fear, and greater school disorder. These studies did not have baseline measures prior to the implementation of security measures, and so there is no reference point. Addington also raised concerns about students' privacy rights in school and the effects of security measures on students' civil liberties.

Climates of Safety in Schools

The key findings from the study by Vossekuil et al. (2002) have implications for methods to address and/or prevent targeted school violence. The fact that most attackers formulated a plan and that others knew about the attackers' plan offers potential in determining ways to make those plans knowable. In addition, most attackers engaged in some behavior that either indicated a need for help or made others concerned, had difficulty coping, and felt bullied or injured before an attack. These pieces of information can be used to identify potentially violent students. Overall, the information can be used to develop methods to evaluate risks through threat assessments and then utilize the information from the threat assessment to prevent potential school attacks from taking place.

Threat assessments are effective only within the context of a "climate of safety" (Fein et al., 2002). The major features and tasks for creating a safe school climate are summarized below in Table 2. When schools have a climate of safety, adults and students have mutual respect and

Table 2. Major Components and Tasks for Creating a Safe/Connected School Climate.

1. Assess the school's emotional climate.
2. Emphasize the importance of listening in schools.
3. Take a strong, but caring stance against the code of silence.
4. Work actively to change the perception that talking to an adult about a student contemplating violence is considered "snitching."
5. Find ways to stop bullying.
6. Empower students by involving them in planning, creating, and sustaining a school culture of safety and respect.
7. Ensure that every student feels that he or she has a trusting relationship with at least one adult at school.
8. Create mechanisms for developing and sustaining safe school climates.
9. Be aware of physical environments and their effects on creating comfort zones.
10. Emphasize an integrated systems model.
11. All climates of safety ultimately are "local."

Source. Fein et al. (2002 p. 69-72).

students have a positive connection to at least one adult. In addition, students are able to openly voice their concerns without any fear of reprisal. Without fear of punishment, students are more likely to help other students who are in distress by appealing to adults in the school environment. In the ideal, safe climate school, concerns are raised and handled early on before they become more serious. Ultimately, the potential for school violence is reduced because action is taken instead of the information being kept secret until it is too late and an attack has occurred.

In a safe school climate, staff and students respect each other, and communication between them is encouraged and supported. Staff members serve as positive role models for students. Diversity is respected, and conflicts are mediated. Fein et al. (2002) also stressed that teachers and administrators address social–emotional needs in addition to academic needs. Part of the respect component is establishing "shame free zones" where "daily teasing and bullying is not accepted as a normal part of the adolescent culture" (Fein et al., 2002, p. 12). School environments where bullying and teasing occur regularly can affect academic learning and lead to the strain and isolation that drive some students to physical violence. Part of the safe school climate is an understanding that violence does not solve problems and only makes them worse.

Formal anti-bullying programs are a way to change student culture and reduce the strain from interactions with peers. Levin and Madfis (2009) recommend Second Step and Lesson One as educational programs that teach social skills and promote problem solving. Second Step is a comprehensive bullying prevention curriculum that is focused on teaching empathy, emotion-management, and problem-solving skills. Lesson modules are dynamic and interactive, and the program includes online training for all staff. Studies have demonstrated the effectiveness of Second Step (Frey, Nolen, Edstrom, & Hirschstein, 2005). Lesson One, which was created by Oliver and Ryan (2004), teaches elementary school-aged children to develop internal discipline and other life skills. Research has found that the Lesson One program increased students' self-control and problem-solving skills and that the program

had a positive impact on school culture (Oliver & Ryan, 2004).

Another central feature of a safe school climate is relationships among students and relationships between students and adults, so that students' academic, safety, and social-emotional needs are met (Fein et al., 2002). All staff have the potential to be a person in whom a student can confide, including teachers, administrators, school psychologists, secretaries, coaches, custodians, social workers, counselors, nurses, and safety officers. Each student needs at least one adult within the school with whom he or she can discuss concerns.

In some schools, there is a "code of silence" where students and some adults believe that telling someone that a student may be posing a threat is a violation of that code (Fein et al., 2002). Because most school shooters shared their plans for an attack with peers, having a "code of silence" keeps the information undisclosed. In a school climate of safety, students are more willing to share concerns about their peers without feeling that they are snitching on a friend.

Threat Assessments

The primary objective of a threat assessment is the prevention of targeted violence through analysis of the "actions, communications, and specific circumstances that might suggest an individual intends to mount an attack and is engaged in planning or preparing for that event" (Fein et al., 2002, p. 29). The six principles that inform the threat assessment process are presented in Table 3. These principles address the nature of targeted violence and the approach that should be taken when investigating. When conducting a threat assessment, attention should be placed on students who make a threat (i.e., have a plan to harm someone) as well as those who pose a threat (i.e., engage in behaviors that suggest an intent or plan to attack; Fein et al., 2002). A threat assessment investigation should also seek to identify any major losses or perceived failures with which a student may be struggling to cope. The inquiry must address whether the student has access to weapons or firearms.

Table 3. Six Principles of Threat Assessment Process.

Targeted violence is the end result of an understandable, and oftentimes discernible, process of thinking and behavior.
Targeted violence stems from an interaction among the individual, the situation, the setting, and the target.
An investigative, skeptical, inquisitive mind-set is critical to successful threat assessment.
Effective threat assessment is based on facts rather than on characteristics or "traits."
An "integrated systems approach" should guide threat assessment inquiries and investigations.
The central question in a threat assessment inquiry or investigation is whether a student *poses* a threat not whether the student has *made* a threat.

Source. Fein et al. (2002, p. 29).

There are also three elements that guide the formation and operation of a school threat assessment program: (a) authority to conduct an assessment, (b) capacity to conduct inquiries and investigations, and (c) systems relationships (Fein et al., 2002). For authority to conduct an assessment, schools need to have policies on collecting and handling information on potentially threatening situations and criteria for determining whether a threat assessment and investigation is necessary. Threat assessments involve legal issues related to access to and sharing of information and searching students or their property. Administrators should consult with the school's legal counsel. School officials should develop a formal policy that authorizes them to conduct a threat assessment and the conditions under which these assessments do not constitute a violation of students' rights to privacy.

In terms of capacity to conduct school threat assessments, schools must be proactive and implement a program instead of waiting for a crisis to occur. Fein et al. (2002) recommended a multidisciplinary threat assessment team with a respected school faculty member or administrator, an investigator (e.g., school resource officer, or police officer assigned to the school), a mental health professional (e.g., school psychologist, clinical psychologist, or forensic psychologist), and other professionals who may contribute to the process (e.g., guidance counselors, teachers, coach). The roles and responsibilities of the team and the individuals should be clearly defined, and team members should be trained together. An ad hoc member of the threat assessment team could be included if there is an individual who knows the student of concern and can offer additional information. There are also specific skills needed by those members of the threat assessment team such as an analytic and questioning mind-set, familiarity with child development, and good judgment in working with others and evaluating information from multiple sources.

Finally, integrated systems relationships refer to how a threat assessment program must have relationships among individuals and organizations within the school and external to the school. The individuals who form and maintain these relationships across agencies are referred to as "boundary spanners" (Fein et al., 2002, p. 39). Boundary spanners must have strong interpersonal skills as they act as a formal liaison between systems and meet regularly with different agencies. They should know how other systems operate as that aids in integrating relationships among agencies, developing written protocols, and helping to resolve conflicts. Fein et al. (2002) also describe detailed procedures for conducting a school threat assessment and managing a threatening situation. Fein et al. include a step-by-step procedure for establishing a threat assessment program in a school district as well.

Analysis Into the Shooting at Sandy Hook Elementary School

On November 25, 2013, the Danbury, Connecticut State's Attorney released the report on the shooting at Sandy Hook Elementary School (Sedensky, 2013). Despite extensive investigation and information gathering from various sources, the report states that Adam Lanza's motives for the shooting remain unanswered. This finding could be accounted for, in-part, because a computer hard drive from Lanza's home is still unreadable, and it is highly improbable that data will ever be recovered. The evidence did demonstrate that Lanza had planned his actions including his suicide but that there was no clear reason as to why he committed the shootings or why he chose Sandy Hook Elementary School as his target. Although there may not be a clear-cut concrete explanation for why Adam Lanza committed a school shooting, at present, analysis of the evidence gathered seems to fit within Levin and Madfis's (2009) cumulative strain model and offer possible explanations.

In fitting Adam Lanza to this theoretical model, one might speculate on some of his behaviors and resulting motives. The first stage of the model is Chronic Strain. Details suggest that Lanza had experienced Chronic Strain at home, in school, and from his own mental health issues. The fact that Lanza killed his mother prior to the massacre at school is already suggestive of strain at home. In addition, his parents separated in 2001 and eventually divorced. Lanza's relationship with his father deteriorated toward the end of 2010 and although his father continued to email him, Lanza stopped responding. His father remarried in 2011. Lanza's older brother moved out of state after college and had no contact with Lanza from 2010 on. Therefore, for about 2 years before the shooting, Lanza had no contact with either his father or his older brother.

Lanza had a relationship with his mother, but it was highly pathological and complex. Some reported that Lanza was close to his mother whereas others said that he did not have "an emotional connection" to her (Sedensky, 2013, p. 30). According to one person, Lanza described his relationship with his mother as "strained because the shooter said her behavior was not rational" (p. 30). Nevertheless, his mother did not work because of Lanza's condition. Lanza had sensory issues, multiple daily rituals, and eating idiosyncrasies where he was particular about the food he ate and how it was placed on a plate, and his mother was responsible for preparing his meals for him. Lanza's mother frequently did his laundry as he changed his clothes often during the day. She also made arrangements with workers who came to the house because Lanza had issues with loud noises. At the same time, Lanza never let his mother into his room to clean and communicated with her by email despite living in the same house.

In terms of strain experienced at school, teacher reports seemed mixed about Lanza having been bullied. His father said that Lanza was bullied about his "social awkwardness and physical gait," but it was not excessive (Sedensky, 2013, p. 29). Lanza seemed to have few friends growing up. During his early schooling, he was described as "a nice kid, though sort of withdrawn" (Sedensky, 2013, p. 33). Lanza's psychological issues also constituted an additional form of strain. As far back as preschool, Lanza engaged in "repetitive behaviors, temper tantrums, smelling things that were not there, excessive hand washing, and eating idiosyncrasies" (Sedensky, 2013, p. 34). These behaviors likely interfered with his interactions with peers and showed him to be atypical developmentally. In 2005, Lanza was diagnosed with Asperger's Disorder and was described as "presenting with significant social impairments and extreme anxiety" (Sedensky, 2013, p. 34). It was also noted that Lanza "lacked empathy and had very rigid thought processes" (Sedensky, 2013, p. 34). Many of those who knew Lanza described him as "unemotional, distant, and remote" (Sedensky, 2013, p. 29). His mother explained Lanza's dislike of birthdays, holidays, and Christmas by saying he "had no emotions or feelings" (Sedensky, 2013, p. 30). In terms of social-emotional functioning, Lanza appears to have extreme difficulties for an extended period of time that may have made him feel isolated. Although he may have been diagnosed with Asperger's Syndrome, there are suggestions in the record that a more significant mental disturbance might have been present, such as Schizophrenia, Paranoid Type.

Lanza appeared to have few interpersonal relationships, and those he did have seemed strained. His lack of prosocial relationships leads to Levin and Madfis's (2009) second stage of Uncontrolled Strain. Lanza's lack of friends leaves the Chronic Strain he already experienced unchecked. His mother noted significant changes in his behavior around the seventh grade where Lanza stopped participating in activities such as the school band and playing soccer and baseball. His written work began to reflect violent themes. In fifth grade, he wrote a story in which the protagonist has a gun in her cane and shoots at people including children. His seventh grade writing assignments were "obsessed about battles, destruction, and war, far more than others his age" and the amount of violence in the writing was "disturbing" according to Lanza's teacher (Sedensky, 2013, p. 34).

Later, Lanza appeared to become more of a loner and more socially isolated. In 9th and 10th grades, he became reclusive and stayed in his bedroom playing video games all day. He played a variety of video games, some of which had violent content, and he had a computer game called "School Shooting." Lanza had a cell phone but never used it. In addition, his high levels of anxiety, Asperger's characteristics, Obsessive Compulsive Disorder, and sensory issues significantly limited his participation in a regular education setting. Interventions were suggested, specifically tutoring, desensitization, and medication, but Lanza refused to take medication and did not engage in the recommended behavior therapies. Mental health professionals who saw Lanza did not see any aggressive or threatening tendencies that would have predicted his later actions.

In the third stage of the cumulative strain model, the school shooter experiences an Acute Strain, which is some loss that is perceived as catastrophic by the attacker and serves as a catalyst for the shooting. Lanza's mother had plans to sell her house in Newtown and move to either Washington State or North Carolina. Of those choices, Lanza wanted to move to Washington. The plan was for him to go to a special school in Washington or get a computer job in North Carolina. Although such a move may not appear catastrophic to many, Lanza had extreme anxiety along with a myriad of other mental health issues. For them to move, his mother was going to buy a recreational vehicle (RV) to help with showing and selling the house because Lanza refused to sleep in a hotel. In fact, when their house lost power after Hurricane Sandy, Lanza stayed in the house refusing to go to a hotel. If Lanza's overall debilitating anxiety prevented him from staying in a hotel, moving to a new house in a new state may very well have proved catastrophic for him.

When Acute Strain occurs while long-term Chronic Strain persists, the potential shooter begins to feel that there is nothing left to lose and enters the fourth stage, the Planning Stage (Levin & Madfis, 2009). The evidence from the Sandy Hook Elementary School shooting indicated that Lanza had formulated a plan. It is difficult to say when Lanza began planning but he was home alone two days before the shooting while his mother made a trip to New Hampshire (she had prepared his favorite meals for him before leaving). Evidence indicated that Lanza had a preoccupation with mass shootings, especially the 1999 shooting at Columbine High School. In fact, a spreadsheet listing mass murders with information about each incident

was found among his possessions. He also collected newspaper articles about school shootings, one from 2008 of the school shooting in Northern Illinois University and some from 1891 about the shooting of schoolchildren. Lanza clearly had a plan as he had materials regarding mass murders, had removed his Global Positioning System (GPS) from his car, used ear plugs during the shooting, purposefully damaged his hard drive, and waited for his mother to return from New Hampshire and then murdered her. Extreme emotional disturbance was ruled out as a defense for Lanza, which fits Levin and Madfis's (2009) model.

The final stage in Levin and Madfis's (2009) model is the Massacre at School where certain facilitating factors must be in place, specifically access to and proficiency with firearms. All of the firearms that Lanza used had been legally purchased by his mother. In fact, shooting was a family pastime. Lanza's mother grew up shooting guns, and they enjoyed target shooting together. Lanza and his mother took National Rifle Association (NRA) safety courses. She had even written out a Christmas check for Lanza to purchase another firearm. His mother believed that "it was good to learn responsibility for guns" (Sedensky, 2013, p. 31).

In Levin and Madfis's (2009) model, the attack is understood to be a solution to the shooters' issues of damaged self-worth and/or a means of forcing others to take notice of them. Investigators question why Lanza targeted Sandy Hook Elementary School. Except for attending Sandy Hook as a child, Lanza had no continuing involvement with the school. He was never assigned to any of the specific classrooms he attacked when he had attended the school. Perhaps, one has to step back from the specifics in this case and view how the shooting fits into the larger scheme. Lanza was obsessed with the Columbine High School shooting, which was and still is the deadliest high school shooting in U.S. history. Lanza's attack at Sandy Hook is the deadliest elementary school shooting in U.S. history, and it is the second deadliest school shooting after the Virginia Tech shooting. His goal may have been to achieve international attention, and Sandy Hook Elementary School may have been selected merely because of feasibility. In addition, the classrooms that Lanza attacked may have had no significance except for their physical position near the front of the school where he entered the building.

Conclusion

Mass casualty school shootings have occurred with increasing frequency in the past 20 years. Research is needed on prevention, particularly in the areas of security of the physical plant, school climate, and promoting prosocial behavior among students, faculty, and staff. Professional development activities that consist of pertinent information regarding known characteristics of school shooters should be a regular part of all school personnel's continuing education. School districts need to form partnerships with law enforcement personnel who are specialists in threat assessment with the goal of policy and program development as prevention measures.

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