K-12 SCHOOL SHOOTING DATABASE: RESEARCH METHODOLOGY

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INTRODUCTION

"How many times per year does a gun go off in an American school? We should know, but we don't." These two sentences, taken from a widely-publicized August 2018 National Public Radio investigative report, underscored a significant problem: when it came to school shootings within the United States, there was a dire lack of accurate and consolidated publicly available data.

Prior to the creation of the K-12 School Shooting Database, a landscape of publicly available information compiled on school shootings came from a wealth of sources including peer-reviewed studies, government reports, archived newspapers, mainstream media, non-profit entities, private websites, personal blogs, and crowd-sourced lists. Individually, however, these platforms failed to capture the magnitude of the problem. For example, government reports on school shootings by the US Secret Service, FBI, and Department of Education provide an explanation of factors contributing to shootings, but do not catalogue a comprehensive list of the incidents. Lists of shootings reported by the media identify a large number of incidents, but provide few details beyond the date and location. Databases of school shootings on blogs and crowd-sourced websites have extensive lists of school shootings, but lack citations to any primary source. Without a common methodology for data collection, individual data sources are limited in both validity and utility. There still is not a consensus for what actually defines a school shooting to serve as the inclusion/exclusion criteria across the different datasets.

To answer the question "How many school shootings have occurred" and address the void of centralized and available data, the K-12 School Shooting Database (K-12 SSDB) has been created as a research product of the Center for Homeland Defense and Security. The product is a filtered, deconflicted, and cross-referenced database of more than 1,550 K-12 school shootings from 1970 to present. This database was collated from the previously referenced sources as well as new and continued research by the authors.

The K-12 SSDB includes detailed information about each incident, a reliability score that quantifies the dependability of the information, and the verified primary source citation(s)

(e.g., newspaper article, court records, interviews, police reports) to allow for further academic research. The scope is widely inclusive by documenting each and every instance in which a gun is brandished, fired, or a bullet hits school property for any reason, regardless of the number of victims (including zero), time, day of the week, or reason (e.g., planned attack, accidental, domestic violence, gang-related). The breadth of this dataset allows for a comprehensive view of the issue while providing users with the ability to filter between specific subsets within the data (e.g., number of victims, pre-planning, and type of weapon used). Through the inclusion, rather than exclusion, of criteria that are cross-referenced, unfiltered, and agnostic, users could conduct more detailed analyses of specific incidents within their area(s) of interest from which to make better informed decisions and generate more accurate reports.

RESEARCH METHODOLOGY

The methodology for populating the K- 12 SSDB started by first establishing a definition of a *school shooting* and then following a 3-step process:

1. Preliminary research and merging multiple data sources
2. Detailed research
3. Score reliability of data

DEFINING SCHOOL SHOOTINGS

In August 2018, a shooting occurred during a high school football game held on the property of Palm Beach Central High School in Florida. The shooting caused chaos in the stands as students, parents, and visitors fled the stadium. When it was determined that the shooter and victims were not students, the chief of the Palm Beach Sheriff's Office said, "This is not a school shooting," and "this was not a random act of violence and had no bearing on the students, faculty, and/or staff". This is just one example of many underreported shooting incidents that have occurred after hours at high school football and basketball games.

Further compounding the problem of determining whether an incident is, in fact, a school shooting is in how the phrase is defined. Based on where the inclusion/exclusion criteria parameters are set affects whether the incident gets classified as a "school shooting" and added to the national statistic or classified as another type of crime, such as "robbery" or "gang violence." Criteria questions to consider are:

- Did the shooting occur at a location defined as an educational institute for children (i.e. school)? If it occurs in the administrative buildings on school property, is it still a school shooting?
- Does it need to be inside a school building to be a school shooting or just on school property?

- Are shootings that occur on school buses, which are not physically on school property, but rather in transit with students considered a school shooting?
- What if these same buses are shot at by an individual not on the bus, but cause injuries to student(s) inside the bus? What if it only causes property damage to the bus?
- Is it only a school shooting if it occurs during the school day? Does an after-school sponsored dance or sporting event count? What about a school event on the weekend?
- What if the shooting involves students and occurs during the school day, but happens across the street from the school during lunchtime?
- Do the victims need to be students? Is it a school shooting if non-students shoot at other non-students on school property during the school day?
- What if non-students shooting at other non-students miss and hit students who are bystanders and not the intended targets?
- Are gang-related shootings on school property by student gang members school shootings? Does it make a difference if only gang members are wounded or killed instead of uninvolved student bystanders?
- Is it a school shooting if a parent shoots a teacher during an after school parent/teacher conference? Or a school administrator shoots another school employee on school grounds before the morning school bell rings?
- Is a student committing suicide with a firearm inside the school a school shooting? What if the bullet strikes a second student who was not the target?
- What if a School Resource Officer or Armed Security Guard shoots a student who is threatening other students?
- Are domestic violence incidents that end with one parent shooting the other while on school property considered a school shooting? What if their student child is injured in the event?
- Do shootings that occur late at night in the school parking lot by either students or non-students meet the school shooting definition?
- What if a student is accidentally shot on the football field by a hunter who was target practicing a mile away? What if the same student was shot, but the shooter and reason for the shooting remained unknown?
- Do there need to be victims in order for it to be classified as a school shooting? What if a fellow student holds a classroom of thirty students hostage with a shotgun, then fires a round into the ceiling before surrendering to the police?

Although the vignettes above may appear hypothetical, they each represent an actual incident. They also demonstrate that no two school shootings are alike and therefore the circumstances surrounding each must be assessed and considered. Choosing to include or exclude any of these criteria comes with a level of risk by directly affecting the statistical narrative on school shootings. For example, through exclusion, fewer incidents will be reported resulting in a potential failure to elicit both attention and resources toward a systemic problem. Partial or complete inclusion, on the other hand, will increase the number

of reported incidents, but likely cause an overreaction among political, security, and societal stakeholders.

Regardless of how the incident is defined, the initial impact to a reported shooting that occurs at a school is generally the same. There is widespread fear and panic at the school. The campus needs to be locked down. Police, fire, and EMS respond. Law enforcement personnel systematically search and clear building(s). Children are escorted to safety. The media begins continuous coverage. Frantic parents scramble to find their children. Public officials need to make statements and assure everyone's safety. After action reports are written. Policies are put in place to prevent a similar future incident. This type of response occurred following both the February 2018 indiscriminate shooting at Marjory Stoneman Douglas High School, in which thirty-four people were either killed or wounded and the August 2018 non-student gunfire during a fight at Palm Beach Central High School, in which there were no deaths and only two injuries.

To allow anything other than location to qualify an incident as a school shooting is both arbitrary and subjective. All school shootings represent social, cultural, and interpersonal issues. As such, they should not be categorized based on who fired the gun or why it happened, but rather where it occurred. Because of the nebulous criteria and generally qualitative nature of the term "school shooting," a broadly inclusive definition is needed to cast the widest net possible, which gives the end user the power to filter for specific criteria. The definition used for the K-12 SSDB is: *a gun is brandished, is fired, or a bullet hits school property for any reason, regardless of the number of victims (including zero), time, day of the week, or reason*.

The objective of the database is to systematically record every K-12 school shooting, regardless of circumstance, injuries, or deaths, there is value in being able to collectively study all the different types of incident. For example, a student nearly shot in the hallway by random gunfire from a deranged fellow student shooter suffers the same as a student bystander struck in the chest by the crossfire of a gang shooting in the cafeteria. Although in these examples, one student was physically injured while the other was not, the emotional and psychological impact of a "near miss" victim should not be dismissed.

Inversely, brandishing, such as those instances where the shooter initially made threatening gestures with a firearm, but was stopped (weapon malfunction, shooter was tackled) prior to getting off a shot, are also included in the K-12 SSDB. Although often excluded from other national reports, which focus solely on injuries or deaths, these "near misses" offer significant research opportunities because a greater loss of life could have occurred if the gun had not jammed or the gym teacher was not nearby to bearhug the shooter. Furthermore, the circumstances leading up to school shootings have the same value in understanding the factors contributing to the issue, regardless of the body count after the incident. Near misses can also offer an opportunity to highlight what went right in preventing an incident from having a greater loss of life.

STEP 1: DATABASE COMPILATION AND PRELIMINARY RESEARCH

Based on our definition, an open-source analysis was conducted to determine all of the available data on school shootings. Data is currently being collected on school shootings by government agencies including the US Secret Service, FBI, and Department of Education; media or advocacy groups including The Washington Post, CNN, Gun Violence Archive, Everytown for Gun Safety, Education Weekly, and Mother Jones; and websites or blogs including Columbines Angels, Wikipedia, schoolshootingdatabase.com, and schoolshootingtracker.com. The scope of many of these datasets is not exclusive to K-12 schools, may include higher education, preschool, vocational schools (e.g., beautician or technical institute), may include attacks on students using weapons other than firearms, or include shootings not occurring on school property involving students. Furthermore, the inclusion and exclusion criteria also differ within each dataset. For example, a shooting involving students not at a school or school event (e.g., walking to school, in a restaurant, in a public park) could be included in one dataset and omitted from another. Analyses of the datasets also concluded that some incidents classified as school shootings actually occurred away from school property based on cross-reference of media reports.

After reviewing the existing data through an independent review of associated references, the information from each of the different databases was compiled into a single spreadsheet. The spreadsheet was then cross-referenced and deconflicted to avoid duplication. During the process of cross-referencing, discrepancies such as school name, location, date, and number of victims, were identified and flagged for follow-up research.

The data in the compiled database consisted of the date, school name, city, state, and number of victims for each school shootings. Some databases included more detailed information about the shooter, victims, firearms used, and demographics. This information served as a starting point for identifying the full set of data points (spreadsheet columns) that were developed for the comprehensive K-12 SSDB.

To verify the information collected in the compiled database and identify other school shootings that were not included in any of the merged databases, online searches were completed for each year from 1970-2018 using the below search criteria:

- "School shooting [year]"
- "School shootings [year]"
- "Student shot [year]"
- "Teacher shot [year]"
- "Pupil shot" [year]
- "Student shoots" [year]
- "Teacher shoots [year]"

The existing datasets that were used to build the framework of our database are detailed in Appendix 1. The rules used to enter information from the existing databases or other online sources are included in Appendix 2: Data Entry Rules.

STEP 2: DETAILED RESEARCH

Preliminary analysis of the compiled information from the existing databases showed a small number of school shootings organized by year in the 1970's and 1980's compared to years after 1990. After 1990, the increased popularity of the Internet resulted in the widespread availability of online news stories which remain accessible without a need to archive the files. Print newspapers from prior to 1990 were not retroactively archived for online users by most publishers.

To access the information not available through online searches, a subscription to newspapers.com was purchased to gain access to a digital archive of more than 73 million pages from 3,000 U.S. and Canadian newspapers to identify shootings that were reported by the media, but not transferred to online archives that are accessible via Internet search engines (e.g. Google.com). Even after the widespread adoption of online media reporting, our research found that in some cases, local newspapers continued to have the sole accounts of school shooting incidents into the 2000's.

Newspaper archives were reviewed by year from 1970-2017 with the search criteria:

- "Student shot [year]"
- "School shooting [year]"
- "School shootings [year]"
- "Teacher shot [year]"
- "Pupil shot" [year]
- "Student shoots" [year]
- "Teacher shoots [year]"

The newspaper archives website provides searchable but static images of newspaper pages. Data from the newspapers was transposed to the K-12 SSDB following Appendix 2: Data Entry Rules. This database provides numeric totals, yes/no, and preset categories that allow the user to decide their own choices for the filters, removing the need for detailed definitions of the terminology used (e.g., there is no definition for "mass shooting," because the user can decide how to set the threshold for number of victims injured/killed).

Many news articles had incomplete information about the school shooting incidents. Using the date of the shooting and keywords such as the school name, shooter's name, or victim's name, other articles not identified with the master list of search terms provided additional data. Cross referencing the information from multiple newspaper articles provided the most open source information and best corroboration reasonably available.

Newspaper articles often made mention of another shooting that had occurred in the same geographic area. A secondary analysis was conducted to find additional articles referencing the other shooting if they were not already included in the database. Secondary searches included specific terms such as "school name shooting", "shooter name shooting", "date shooting".

ASSESSMENT OF SITUATION

To assist users with identifying data and sorting information, a set of situations were established that provide a general context for the primary factors involved with the shooting. While there may be multiple contributing factors, these situations represent the primary circumstances of the shooting. The assignment of these situations is based on the research team's interpretation of the data available about each incident. Situations include:

- **Accidental:** No intent to fire the weapon (e.g., showing off gun and it went off; gun in backpack went off).
- **Anger Over Grade/Suspension/Discipline:** Primarily targeted teacher or school administrator due to poor grades, suspension, expulsion, or discipline. Also includes a school employee who targeted a school administrator or coworker following poor performance evaluation, suspension, or loss of employment.
- **Bullying:** Bullied by the victim(s) and did not indiscriminately target random students.
- **Domestic w/ Targeted Victim:** Had a romantic or familial relationship with the victim or victim was in a romantic relationship with a former lover of the shooter
- **Drive-by:** Shots fired by a person in a vehicle at people, or another vehicle, on school property.
- **Escalation of Dispute:** Physical or verbal altercation between the shooter and victim prior to the shooting or retaliation for a prior altercation or attack (e.g., during a fight between multiple students, one of the students involved pulled out a handgun and fired; following an argument earlier in the day, a student shot the other student that he/she argued with in the school parking lot).
- **Hostage/Standoff:** A standoff at the school between an armed shooter and law enforcement with or without hostages taken. Hostages may have been released without injury and/or no shots were fired during the standoff.
- **Illegal Activity:** Shots were fired during a robbery, sale or exchange of illegal drugs, trespassing, theft of property, or exchange of stolen property.
- **Indiscriminate:** Targeted random victims with the intent to kill or injure as many as possible (e.g., fired into a crowd; shot students in the hallway and random classrooms).
- **Intentional Property Damage:** Shots were fired to cause damage to the school building or vehicles on school property without intent to cause injury.
- **Psychosis:** Described as disconnected from reality and exhibiting symptoms of a severe psychotic episode, or having paranoid schizophrenia stated in open-source

reports (e.g., shooter believed the school was sending mind control signals or part of a government conspiracy).
- **Murder/Suicide:** Shot targeted victim and then immediately killed self (including other bystanders who were struck by gunfire but were not intended targets).
- **Officer Involved Shooting:** Police officer, SRO, or armed security guard was the only person to fire a weapon.
- **Racial:** Shooter targeted victim based on race.
- **Self Defense:** Shooter fired in self-defense or defense of someone else.
- **Suicide/Attempted:** Suicide or attempted suicide by a shooter who was the only victim (not an indiscriminate shooting or revenge/bullying where shooter kills self during the shooting).

* Field is left blank if there is not enough information available to determine the situation.

STEP 3: RELIABILITY SCORING

The information in the database is open-source from online and print news reports. Based on the source and number of reports, the validity of the information about each incident has been quantified with a reliability score from 1-5.

1. Blog: Privately operated blogs that may or may not include source citations. May be reported anonymously.
2. Single Newspaper Article or Online News Report: Stories published by network, cable, or online mainstream media sources. Stories include an author.
3. Multiple News Sources: Reports from multiple news sources showing consistent information from different independent sources.
4. Hundreds of News Sources OR Statement/Interview from Law Enforcement Official: Hundreds of reports from different news sources (e.g., thousands of stories have been published about the Columbine High School shooting)
5. Court Records or Police Report: Official records of the incident.

For example, school shootings, like most incidents of violent crime, are commonly reported by the media. Local as well as national newspapers often have reporters dedicated to crime coverage who often publish daily or weekly crime "blotters". Local press reporting on crimes usually includes the location, time, name(s) of suspect(s) and victim(s), details about the incident, and quotes from official(s) (e.g., statement by police chief). Due to the professional journalists' standards of ethics as well as the reputation of the publication where the stories post, the information contained therein is likely to be correct. As such, these reporting platforms were designated as primary sources.

AVAILABILITY TO PUBLIC

The data collected is only valuable if it can reach law enforcement leaders, school administrators, policymakers, and researchers who can use it to make informed decisions

about school safety. The database is available for download and users can access a digital mapping tool and interactive dashboard to sort and visualize the data on the same CHDS website.

LIMITATIONS

In situations where information about a school shooting is available solely through open sources (e.g., news reports), accuracy depends on the completeness and truthfulness of the report. There will always be some level of uncertainty that exists with interpreting and transcribing second-hand information into a database. To address this, the reliability scores detailed in Step 3 quantify the level of confidence in the accuracy of the information.

Many cases have information that will likely remain unknown forever. For example, if an unknown shooter fired at a school and escaped without being seen by any witnesses, the demographics, motivation, or circumstances surrounding the incident will never be known. There will also be school shooting incidents that remain unknown to the research team because they did not appear in either online or newspaper archives records.

The more time that elapses after a school shooting the likelihood that any information about the incident that is not recorded or archived will be lost. Many state and local police departments do not have policies or legal requirements governing the long-term retention of paper records. When old records are discarded, the details of those shootings may be gone forever.