THE VIOLENCE PROJECT

The Violence Project
Database of Mass Shootings in the United States, 1966–2019

Jillian K. Peterson & James A. Densley

November 2019

About The Violence Project

The Violence Project is a nonpartisan think tank dedicated to reducing violence in society and improving related policy and practice through research and analysis. We conduct high-quality, high impact, research for public consumption. We also develop and deliver education and training to share research findings and prevent violence. We provide media commentaries and support concerned citizens, K-12 schools, colleges and universities, workplaces, houses of worship, and other public or private clients in their strategic response to violence. Visit us at **www.theviolenceproject.org**.

About *This* Violence Project

In November 2019, The Violence Project will publicly release the largest, most comprehensive database of mass shooters in the United States, developed by professors Jillian Peterson and James Densley and a team of students at Hamline University in St. Paul, Minnesota. The entire database is downloadable for free at **www.theviolenceproject.org**, but it is vital that it is only used for the purpose of better understanding or preventing mass shootings. This report accompanies the public launch, providing some background on the project and a summary of topline findings.

The Violence Project Database of Mass Shootings in the United States, 1966–2019, was supported by Award No. 2018-75-CX-0023, awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. The opinions, findings, and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect those of the Department of Justice.

About the Authors

Jillian K. Peterson, PhD, launched her career as a special investigator in New York City, researching and developing the psycho-social life histories of men facing the death penalty, which were used in their sentencing hearings. In that office she developed a saying - the worse the crime, the worse the story - and it was always true. Since then, Jill has led large-scale research studies on mental illness and crime, school shooting prevention, and mass violence, which have received national media attention. She is a sought-after national trainer and speaker on issues related to mental illness and violence, trauma, forensic psychology, and mass violence. Jill earned her Master's in social ecology and Doctorate in psychology and social behavior from the University of California, Irvine. She is also trained in restorative justice, violence mediation, crisis intervention, de-escalation, and suicide prevention. Jill is a Professor of Criminology and Criminal Justice at Hamline University and the faculty director of the Center for Justice and Law.

James A. Densley, PhD, is a Professor of Criminal Justice and University Scholar at Metropolitan State University, part of the Minnesota State system. He is also a Fellow of the Hamline University Center for Justice and Law and Visiting Professor at the University of West London. Born and raised in England, James first moved to the United States to teach special education in the New York City public schools. After earning his Doctorate in sociology from the University of Oxford, he quickly established himself as one of the world's leading experts on street gangs and youth violence, including cyber violence. James' work has attracted global media attention. He is the author of three books, including the award-winning *How Gangs Work* (Palgrave Macmillan, 2013), 40 refereed articles in leading social science journals, and over 50 book chapters, essays, and other non-refereed works.

Database of Mass Shootings in the United States, 1966–2019

Jillian K. Peterson, Ph.D.

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Introduction

The United States has not one gun violence problem, but several (Densley & Peterson, 2017; PERF, 2019). Everyday gun violence claims or changes hundreds of lives each week, disproportionately young Black and Latino men. In 2017 alone, the Centers for Disease Control reported 14,542 homicides by discharge of firearms. About 106 of those deaths were attributable to mass public shootings, according to our data—the highest of any year recorded because of the Las Vegas shooting that claimed an unprecedented 58 lives.

The fact that mass shootings account for fewer than 1% of all firearm homicides does not diminish their extraordinary tragedy—mass shootings cause damage and devastation far beyond that which is measured in lives lost (Fox & DeLateur, 2014). Mass shootings are focusing events (Fleming et al., 2016). And while they are statistically *rare* (Harding et al., 2002; to the extent that the actual risk of being killed in a mass shooting is smaller than the risk of being struck by lightning), in the United States they are certainly *routine*. Mass shootings have been occurring since at least August 1903, when a war veteran deliberately fired into a crowd of people in Winfield Kansas, killing nine and wounding 25, before turning the revolver on himself.

In the first half of the 20th Century, there were a handful of mass shootings, including the infamous "walk of death" in September 1949, where another ex-military man, targeting local shopkeepers whom he believed had aggrieved him, killed 13 in Camden, New Jersey. These early crimes didn't lack for publicity, but the watershed moment for public awareness of mass shootings was the summer of 1966. In August of that year, a former Eagle Scout and Marine shot and killed 15 people from a 28th floor observation deck on the University of Texas

campus in Austin. What set the Texas clocktower shooting apart was that it unfolded live over the radio and the new medium of television—reporters on the scene described the events as they happened. Our study goes back to the Texas tower shooting in 1966 for this reason—mass shootings since then have received sufficient news coverage to be able to reconstruct and study them.

The term "mass shooting" is quite new. Before the early 2000s, it was much more common to speak of massacres, slayings, rampage shootings, mass killings, multiple homicides, bloodbaths, even "going postal." A mass shooting is a modern variant on mass murder, but the more generic term lumps together cases that vary along what researchers agree are important dimensions: time, place, and method (Duwe, 2007). Someone who kills their victims in separate events is different from someone who kills them all at once. A person who kills in public is different from a person who kills in private, especially when private victims tend to be family members; and different still from a contract killer, bank robber, or gang member who kills in the commission of another crime. An arsonist or bomber is different from an active shooter.

There is no universally accepted definition of a mass shooting. The U.S. Federal Bureau of Investigation (FBI) do not officially define one nor do they use the term in their Uniform Crime Report statistics; instead, federal authorities tend to focus on "active shooters" (e.g., Blair & Schweit, 2014). In the 1980s, however, the FBI established a definition for "mass murder" as "four or more victims slain, in one event, in one location," excluding the offender if they committed suicide or were killed in a justifiable homicide (Krouse & Richardson, 2015, p. 4). By extension, the most commonly accepted definition of a mass shooting is an incident in which

four or more victims are killed publicly with guns within 24 hours (Duwe, 2007). In this tradition, we follow the Congressional Research Service definition:

> *…a multiple homicide incident in which four or more victims are murdered with firearms—not including the offender(s)—within one event, and at least some of the murders occurred in a public location or locations in close geographical proximity (e.g., a workplace, school, restaurant, or other public settings), and the murders are not attributable to any other underlying criminal activity or commonplace circumstance (armed robbery, criminal competition, insurance fraud, argument, or romantic triangle).*
> (Krouse & Richardson, 2015, p. 10)

We acknowledge the limits of this definition. Every mass casualty event is a tragedy and many factors influence whether a threshold of four or more people killed is reached, including the accuracy of the shooter, the type and caliber of weapon used, the number of rounds fired, proximity to the nearest hospital, and if/how many bullets hit vital organs. However, the number of deaths is the strongest predictor of media coverage (Duwe, 2000), which is necessary to accurately track mass shootings.

By focusing only on public events, we exclude domestic mass shootings (if 50% or more of victims are non-relatives killed in public then we include them), which are the most common form of mass shootings (Krouse & Richardson, 2015). We also exclude mass shootings attributable to underlying criminal activity, and events where a firearm was not the primary means of death. A broader definition with a threshold of fewer deaths, non-fatal shootings, or any means or motive would certainly yield more cases. For examples, see The AP/USATODAY/Northeastern University Mass Killing database, the CHDS K-12 School Shooting Database, the Crime Prevention Research Center, Everytown for Gun Safety, The Gun Violence Archive, Mother Jones, Security Baron, Stanford University, Supplementary Homicide Reports (FBI), Vox, The Wall Street Journal, and The Washington Post.

Building the Database

Owing to small sample sizes and disputes about definitions, research conducted on mass shooters typically uses incomplete data and analyses of high profile select cases that may or may not be typical of all mass shooters (see Dowden, 2005). While scholars have collected extensive information on mass shooters, the focus is on mostly trend data, basic descriptors, and demographics (Duwe, 2007; Fox & DeLateur, 2014; Fox & Levin, 2012). Offender motivation is rarely examined, in part because many public mass shooters die at the scene (Lankford, 2015). Where motive has been studied, it is usually in the context of mass murderer typologies, which conceptualize motivation broadly and prioritize sociological over psychological explanations (Dietz, 1986; Fox & Levin, 1985).

To our knowledge, only one study (Taylor, 2018) has conducted a deeper dive into motivations and precipitating factors commonly excluded in research on mass shooters (e.g., mental health). However, that study used an arbitrary five-year sample interval (2007–11) and it did not exclusively focus on mass shooters (i.e., cases of arson, stabbing, choking, etc. were included, as were domestic homicides and gang-related killings). A recent comprehensive review of data sources for mass murder, including official data, concluded, "No existing databases provide information on the perpetrator's motivation or background, their family and occupational status, or recent losses, for example, job termination, academic failure, divorce, which may trigger a mass killing" (Huff-Corzine, et al. 2014, p. 119).

To address this sizable gap in the literature, the current study reports for the first time on findings from a new, purpose-built database of public mass shootings in America from 1966 to

2019. The study examines individual-level psycho-social life history variables of perpetrators of mass shootings, including detailed mental health history, trauma, family history, interest in past shootings, and situational triggers. The community database only goes back to 1995 and draws on U.S. Census data for the closest census year, FBI Uniform Crime Reports, Google Maps, and other data sources.

The database was constructed using open source data. Where available and applicable, we drew on first person accounts, such as the perpetrators' diaries, "manifestos," suicide notes, social media and blog posts, audio and video recordings, interview transcripts, and personal correspondence. We also used secondary sources such as existing mass shooter databases, media coverage, documentary films and podcasts, biographies, monographs and academic journal articles (e.g., the works of Grant Duwe, James Allen Fox, Louis Klarevas, Peter Langman, and Adam Lankford), court transcripts, federal, state, and local law enforcement records, medical records, school records, and autopsy reports. Newspaper and online media sources are commonly employed as data sources in this type of work (Duwe, 2007; Taylor, 2018; Petee, Padgett, & York, 1997) and have been found to be an accurate source of information on mass killings (Huff-Corzine et al, 2014), in part because public mass shootings receive intense media coverage (Duwe, 2000). Anything that could be requested or found on the internet was included.

We have taken every step possible to find and verify sources and to rigorously fact-check the data, but the end result is not perfect. Health Insurance Portability and Accountability Act of 1996 and other data privacy laws (rightly) limit full access to official records for validation. The

source data were originally gathered for purposes different from our own. Media outlets have their own agendas and biases. Some cases are well reported on, others not so much, resulting in missing data. There is also variability in how the media assign blame to mass shooters. A recent study found that holding all aspects of the crime equal, white mass shooters were far more likely to have their crimes attributed to mental illness than black mass shooters (Duxbury et al., 2018).

We also know more about the recent cases, which reflects better reporting over time and more advocacy and awareness around of the topic of mass shootings. The period of time at issue (1966–2019) spans enormous evolution in the nature of mass media, including the invention of the internet and social media, and associated changes in the nature of journalism; not to mention critical developments in politics, Second Amendment jurisprudence (e.g., a federal ban on assault weapons from 1994 and 2004), firearm technology, "routine activities" in public spaces, and so on. At the very least, the news coverage spans changes in diagnostic nomenclature, treatment practices, access to care, and other major changes in health care, law enforcement, and criminal justice. For these reasons, readers should interpret trends over time with caution.

These limitations notwithstanding, the database goes far beyond any existing databases in coding areas related to the psycho-social life histories of mass shooters. It is the most complete and comprehensive mass shooter database to date.

Work began in September 2017. On October 1, a gunman on the 32nd floor of the Mandalay Bay resort in Las Vegas opened fire on a crowd of people at a country music festival, killing 58 and injuring hundreds. It was the deadliest mass shooting in history. After that event, our undergraduate students began volunteering to work on the database — initially (before NIJ funding) for no pay and for no college credit, motivated solely by the need to do something, anything. Over the next two years, they helped us code every mass shooter on over 100 different pieces of life history information.

Any coding is a subjective and interpretive process. Informed by existing datasets, the research literature, and frequently asked questions about mass shooters, we generated a list of variables to be coded and created a codebook to define and detail how to code them. The codebook was then piloted on a small random sample of test cases and refined based on user-experience.

Once the codebook was finalized and coders were trained in its use, the database was populated as follows:

1. Each mass shooter meeting the inclusion criteria (see definition above) was investigated twice by two separate coders, working independently from each other.
2. The two resulting datasets were then merged and compared.
3. Any discrepancies were flagged and reconciled by consensus of the Principal Investigators, who did their own fact-checking and weighed the quality and quantity of the evidence, typically giving precedence to primary source material.
4. The database was then divided up among the original coders and independently checked again.

5. Finally, the Database Manager conducted a full and final check, scrutinizing each and every cell.
6. The Principal Investigators answered any queries resulting from the final check before approving publication. Responsibility for the contents of the database thus lies solely with the Principal Investigators.

The findings presented herein are based on a purposive sample and we present no comparison group. Comparisons are important. For example, 98% of mass shooters are men, but then 90% of all homicide offenders are men. Further, many of the factors correlated with mass shootings in the database are true of millions of people who never commit mass shootings. People may own guns, have traumatizing childhoods full of violence, reach a crisis point and want to die, think they've been victimized, even study other mass shooters, and still not commit a mass shooting. Personality and individual differences cannot be discounted.

The data obviously cannot promote factors that play a *causal* role in mass shootings, but they can be used to describe the prevalence of certain key variables in the sample, and, in a limited way, patterns such as clusters or significant associations between sets of variables. Mass shootings are extreme and rare events—discrete occurrences of infrequently observed phenomena. For this reason, we caution against using the data for predictive modeling or cherry-picking one variable at a time to tell a particular story.

For example, we see relatively high rates of mental illness among mass shooters—and rates of thought disorder that are considerably higher than those found in the general population. But

this doesn't mean mass shootings are exclusively caused or motivated by mental illness (Peterson et al., 2014)—the vast majority of people with mental disorders are never violent, and are more likely to be victims of violence than offenders (Monahan et al., 2001). Classifications in the database are based on the available evidence, which sometimes includes demonstrated signs of undiagnosed mental illness and mental health evaluations conducted either before or after the perpetrators committed their attacks.

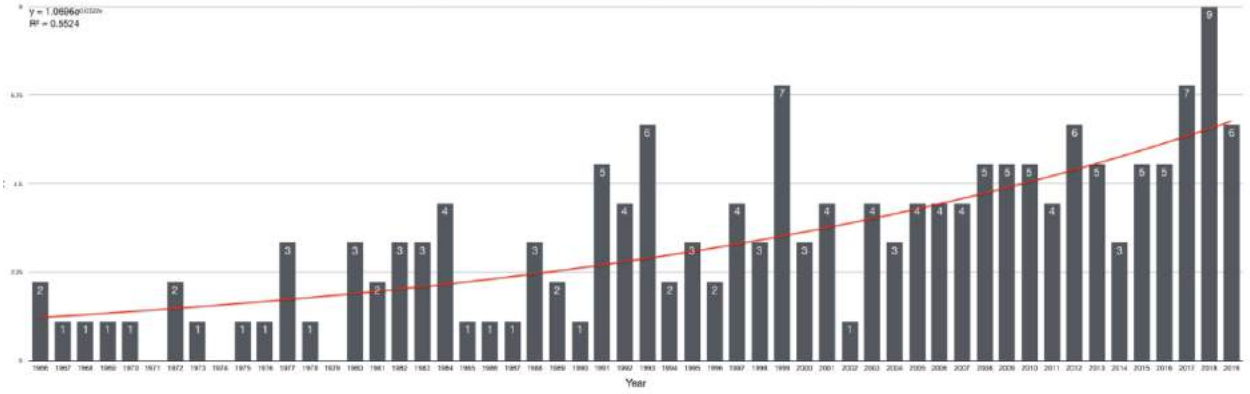
The section that follows provides some top-level findings and statistics from The Violence Project Database of Mass Shootings in the United States, 1966–2019. These are simple frequencies for public consumption. Please note that percentages may not equal 100 due to rounding and some categories are not mutually exclusive. Further, throughout this study, we do not name any mass shooters. This is intentional, to avoid giving them any additional notoriety and attention for their crimes (see Lankford & Madfis, 2017). The #NoNotoriety movement was founded by Tom and Caren Teves in the days after their 24-year-old son Alex was murdered in the 2012 Aurora movie theater shooting, while heroically shielding his girlfriend from gunfire.

Mass Shooting Trends

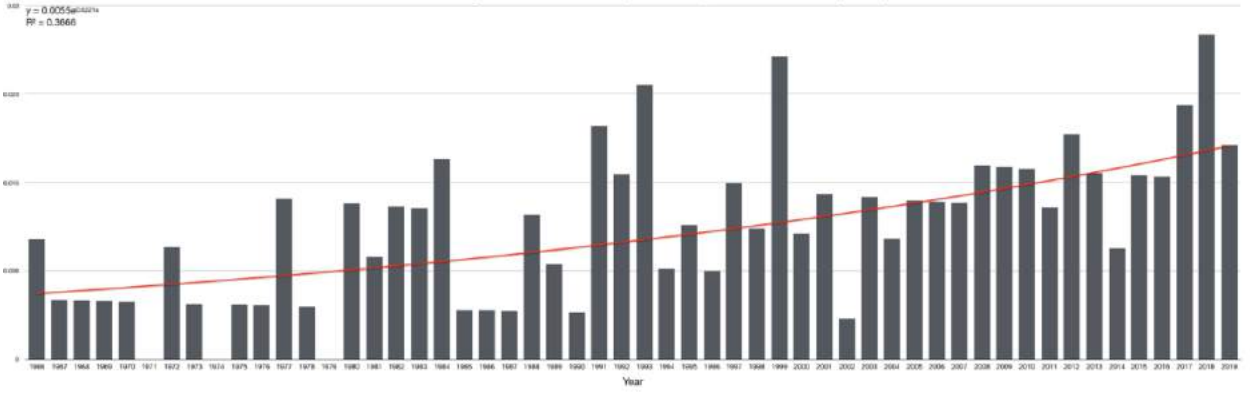
If you look at mass shootings over time, two things are clear: the attacks are becoming far more frequent, and they are getting deadlier. Our research spans more than 50 years, yet 20% of the 167 mass shootings in that period occurred in the last five years. More than half of the shootings have occurred since 2000 and 33% since 2010. The deadliest years were 1999 and 2017 with seven mass shootings each, and 2018 with nine. The death count per shooting is also rising dramatically. Sixteen of the 20 most deadly mass shootings in modern history occurred in the last 20 years, eight of them in the last five years: Las Vegas in 2017 (58 dead); Orlando in 2016 (49 dead); Sutherland Springs in 2017 (25 dead); El Paso in 2019 (22 dead); Parkland, Florida in 2018 (17 dead); San Bernardino in 2015 (14 dead); Thousand Oaks, California in 2018 (12 dead); and Virginia Beach in 2019 (12 dead).

Mass shootings have claimed 1,202 lives in 53 years. For decades, the toll of mass shootings has risen steadily. During the 1970s, mass shootings claimed an average of 8 lives per year. In the 1980s, the average rose to 15. In the 1990s it was 21 and 2000s it reached 24. This decade has seen a far sharper rise. Today, the average is 51 deaths per year.

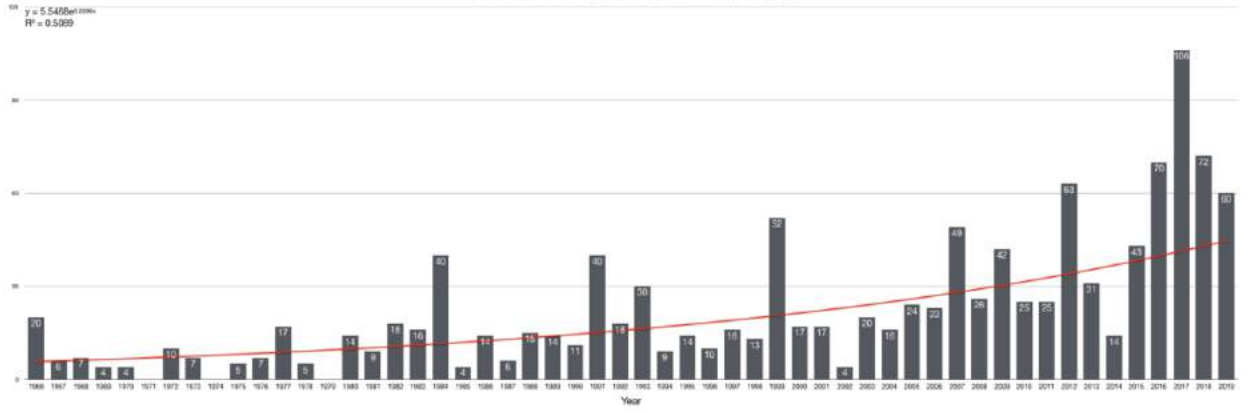
Mass Shootings in the United States by Year, 1966–2019 (N=167)



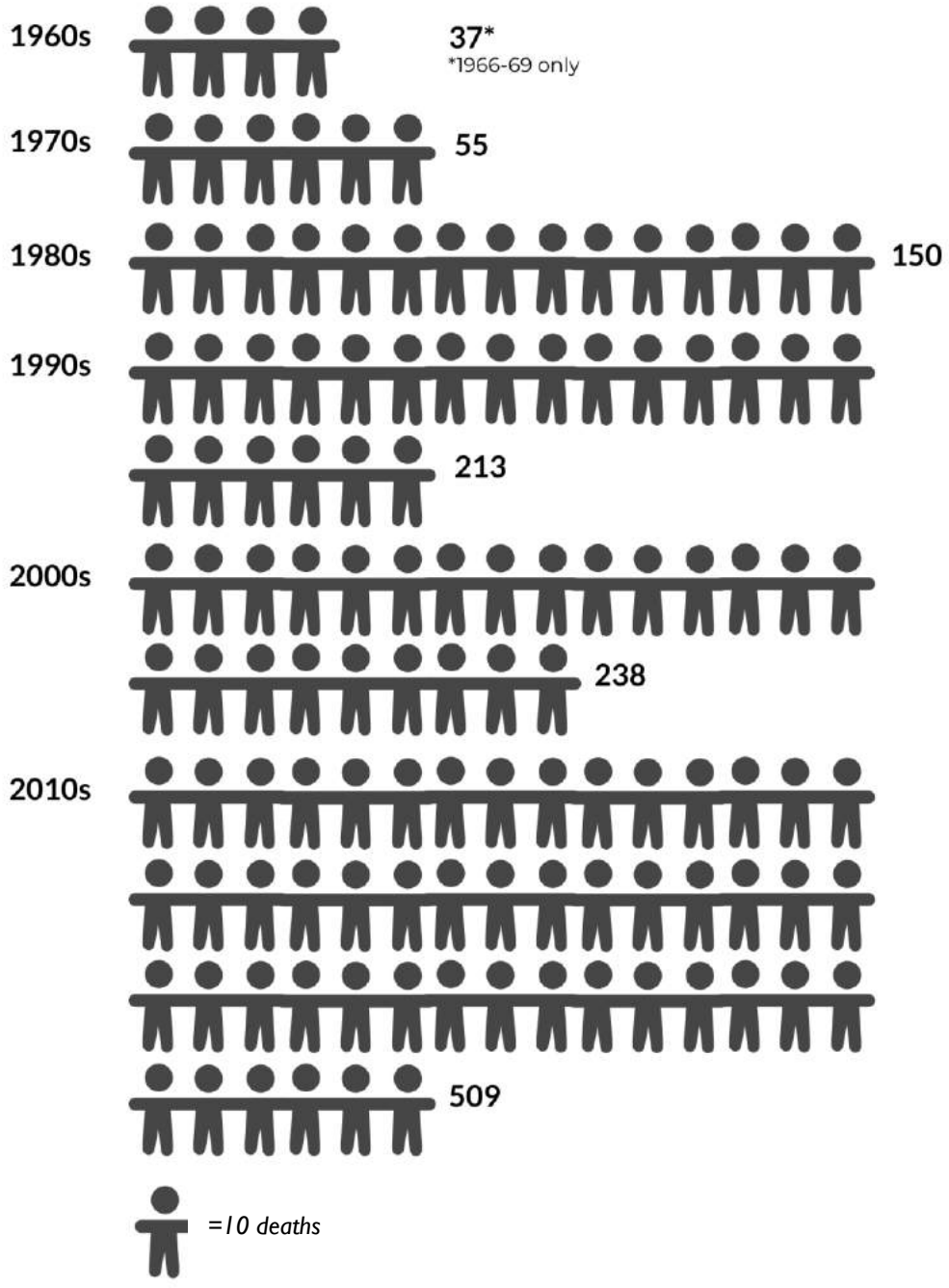
Mass Shootings in the United States, 1966–2019, Rate Per 1 Million (N=167)



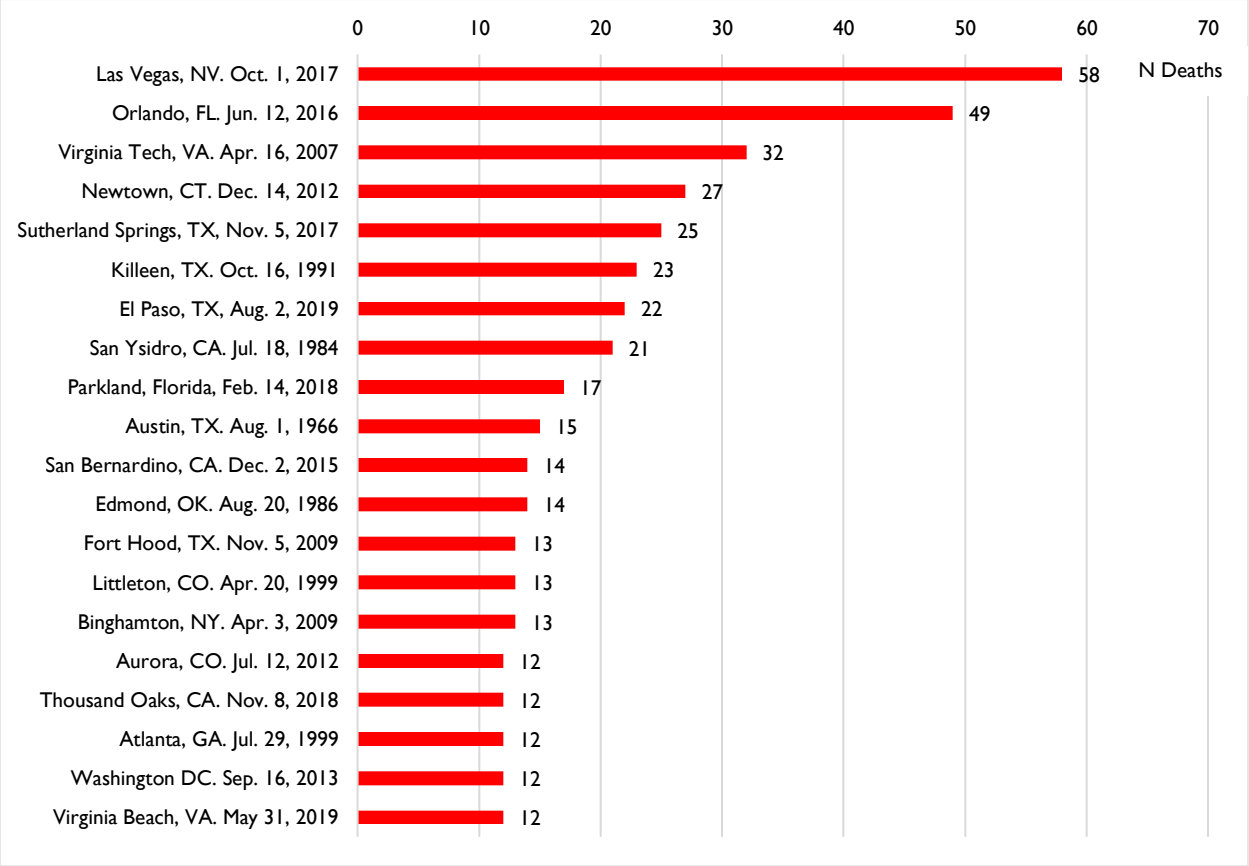
Total Mass Shooting Deaths, 1966–2019 (N=1,202)



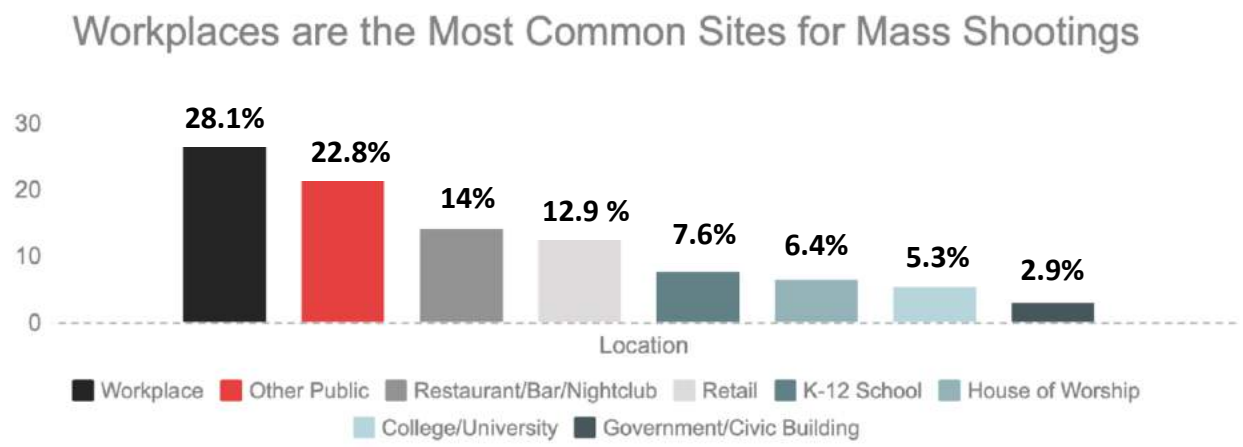
The Death Toll of Mass Shootings is Rising by the Decade (N= 1,202)



20 Deadliest Mass Shootings in the United States, 1966–2019

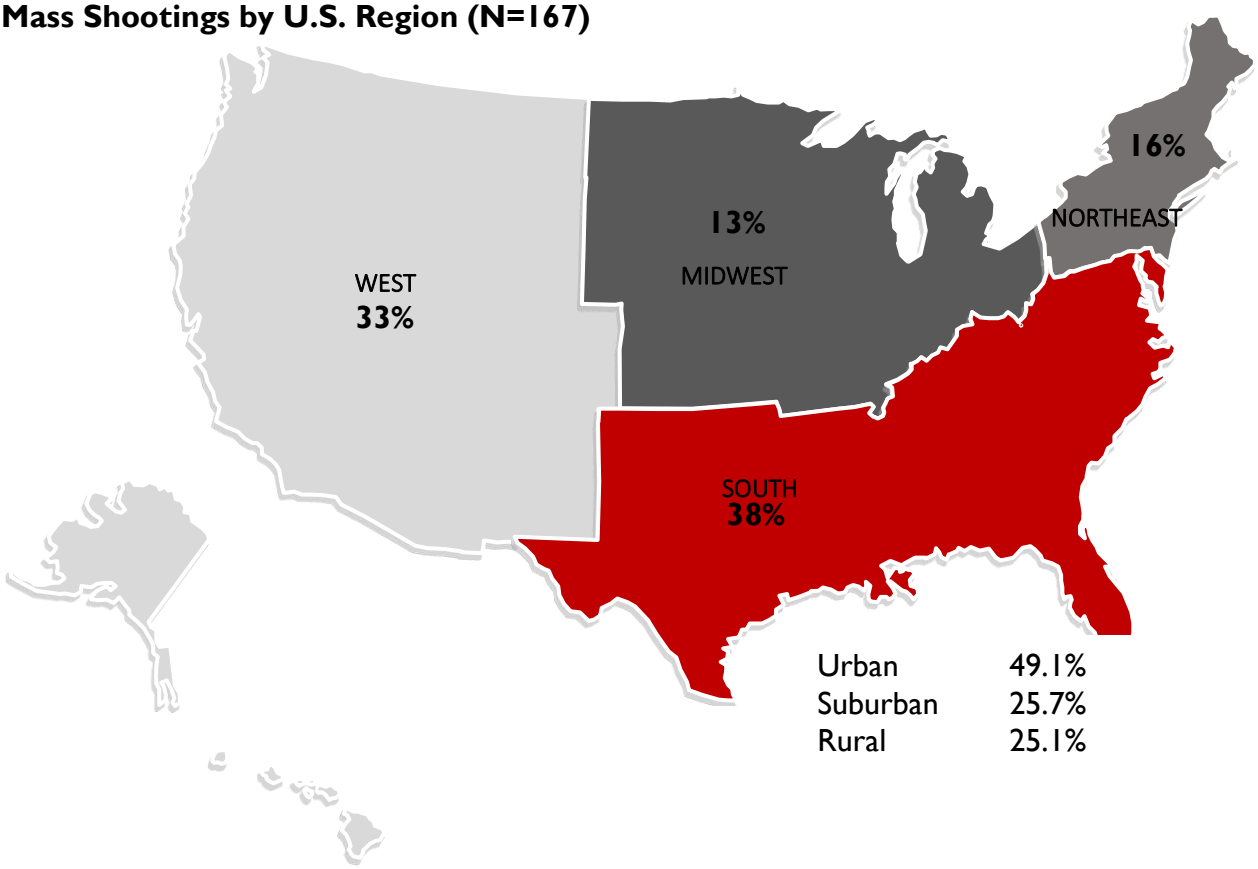


The most common mass shootings are in workplaces (28.1%), followed by restaurants/bars/nightclubs (14%), retail establishments (12.9%), houses of worship (6.4%), K-12 Schools (7.6%), colleges/universities (5.3%), government buildings/places of civic importance (2.9%). 22.8% are in other public spaces, like neighborhoods and campsites.



More mass shootings have occurred in the American South and West than in the Midwest or Northeast. About half occurred in urban areas, although population size and density is obviously a factor here.

Mass Shootings by U.S. Region (N=167)



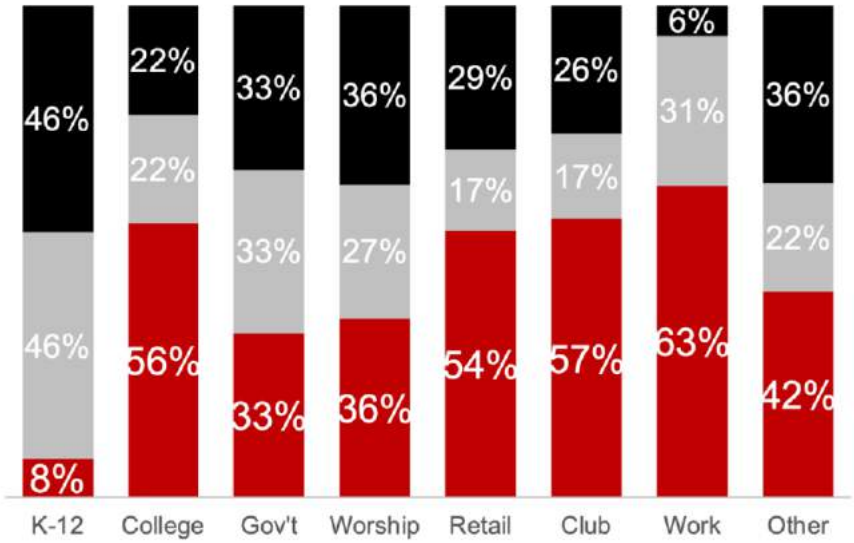
The Clustering of Mass Shootings, by Type

Full interactive Google Map available at www.theviolenceproject.org.

Shooting type by urbanicity

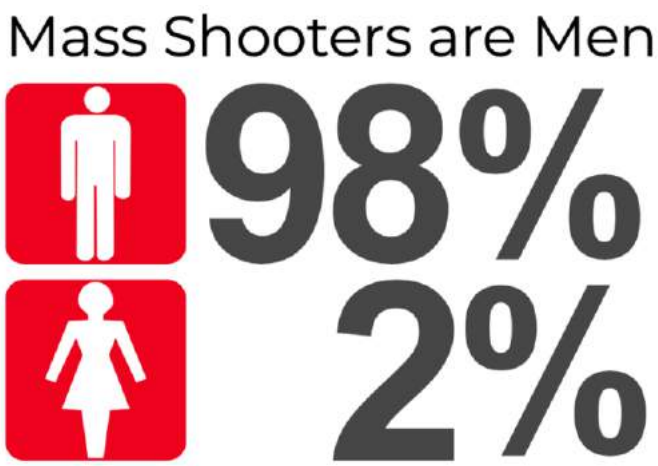
- Rural
- Suburban
- Urban

*Significant at p<.05



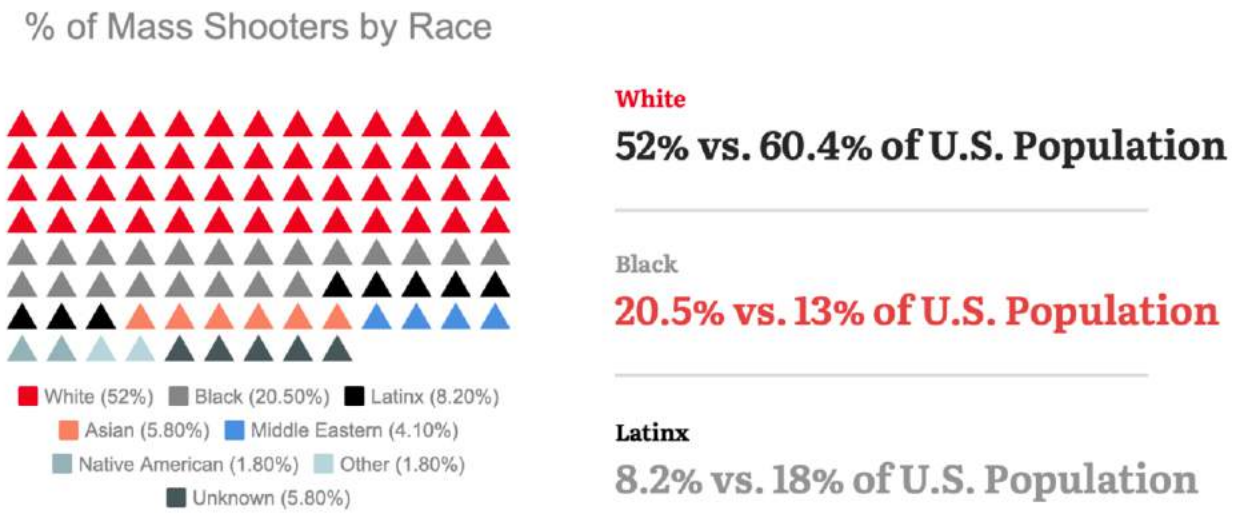
Who Are The Mass Shooters?

Demographics



There were 171 perpetrators of the 167 mass shootings in the database (four cases had two shooters each). Mass shooters were 98% male and their average age was 34 (range 11–70). 52% were white, 20.5% were African American, 8.2% were Latinx, and 5.8% were Asian. Compared to the demographics of the U.S. population overall, this means that African and Asian Americans were overrepresented among mass shooters by about the same proportion that whites were underrepresented—a challenge to the popular misconception that all mass shooters are white. Latinx were the most underrepresented group.

Almost half of all mass shooters (48%) leaked their plans in advance, and 23.4% left behind a legacy token such as a "manifesto". One in five mass shooters (21.6%) studied other mass shooters—the 1999 Columbine High School massacre, in particular, spawned an entire subculture of "Columbiners" and copycats (Raitanen & Oksanen, 2018; Peterson & Densley, 2019). 63.7% of mass shooters had a prior criminal record and 57.9% had a violent history. While mass shootings may appear random, moreover, about 70% of mass shooters knew at least some of their victims—K-12 school and workplace shooters in particular were "insiders", which has implications for our physical security and lockdown culture.



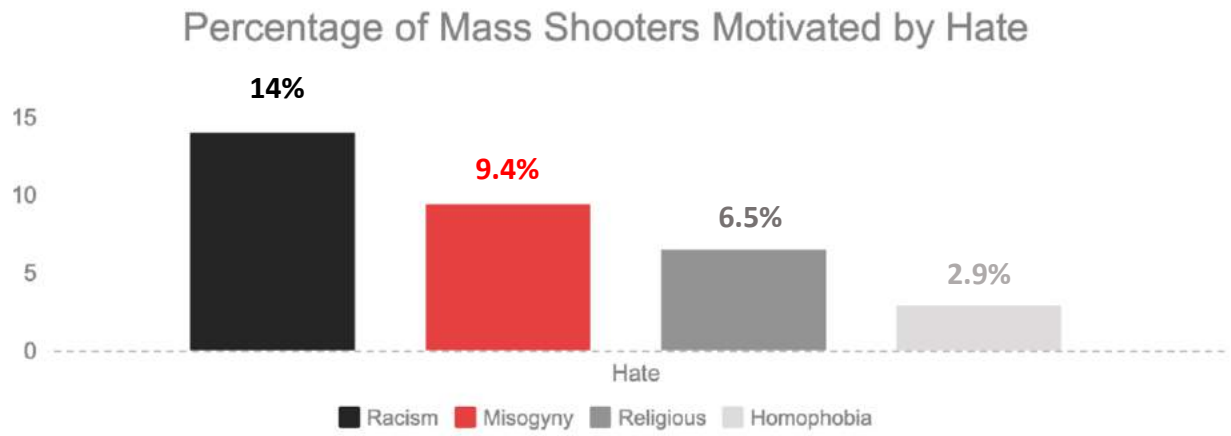
Mental Health and Mass Shootings

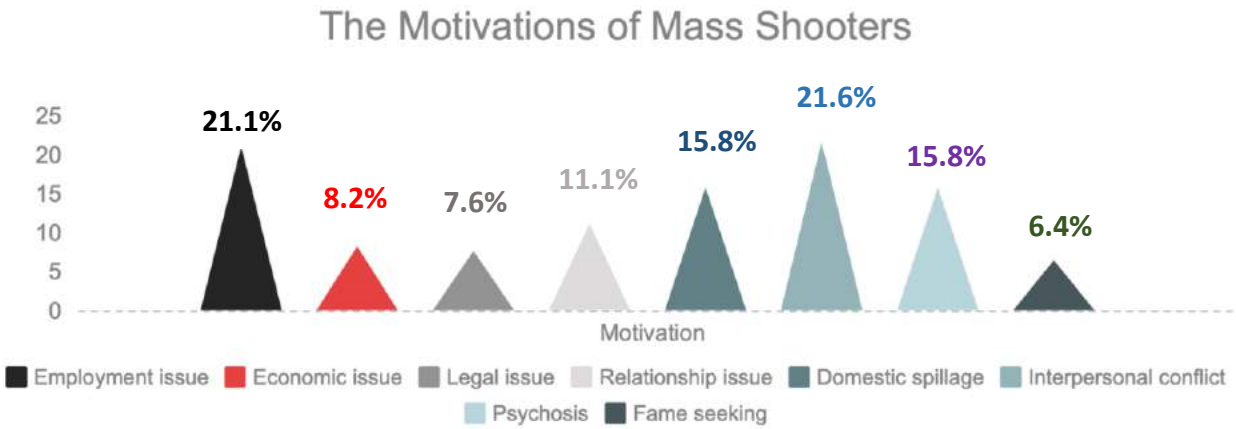
Mental illness is routinely cited in the media and by policy makers as the *cause* of mass shootings (see Duxbury et al., 2018). After the attacks in El Paso, Texas, and Dayton, Ohio, that killed 31 people in August 2019, President Donald Trump called mass shootings, "a big mental illness problem" (White House, 2019). We know the vast majority of people with mental illness are not violent (Monahan et al., 2001) and blaming mass shootings on "a sick mind", as the President did, risks stigmatizing the millions of Americans who are affected by mental illness each year. There is evidence that certain psychiatric symptoms increase violence risk for some people (Ullrich et al., 2014) and people with mental illness who are violent typically share other risk factors for violence beyond mental illness, like unemployment, substance use, and past trauma (Swanson et al., 2015). However, very little is known specifically about the role of mental illness in mass shootings (c.f., Dutton et al., 2013; Langman, 2009; Meloy et al., 2001).

Two thirds (67.7%) of the mass shooters in our database had a history of mental health concerns. Taken at face value, this is striking, but really only slightly higher than the 50% of

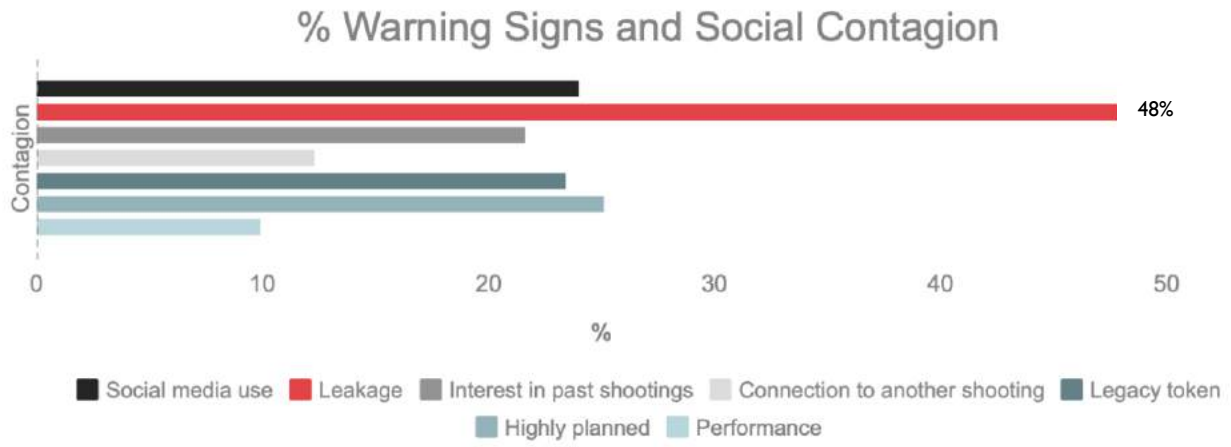
people in the general population who will meet criteria for a mental illness at some point in their lives (Kessler et al., 2005). Specifically, 19% of mass shooters in our study were hospitalized prior to their crimes for psychiatric reasons. A quarter had participated in counseling, and 20% used psychotropic medications—consistent with medication use among the general population (Moore & Mattison, 2017). In our data, 23% of mass shooters had a mood disorder, also consistent with lifetime prevalence rates among the general population, but 26% had a thought disorder, which is significantly higher than the general population levels (Kessler et al., 2005).

Variable	%	Variable	%
Military Service	26.9%	Mood Disorder	23%
Criminal Record	63.7%	Thought Disorder	26%
Violent History	57.9%	Psychiatric medication	20.5%
In Crisis	80.1%	Mental health concerns	67.7%





Other 17.5%; Missing 23.4%

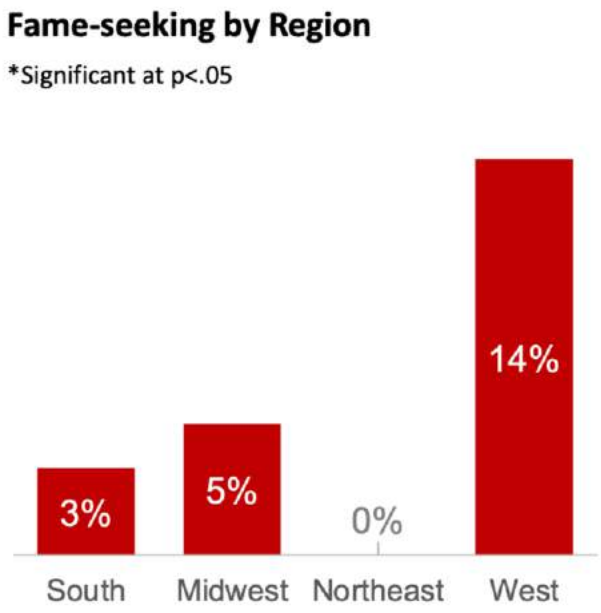


Motivations of Mass Shooters Over Time

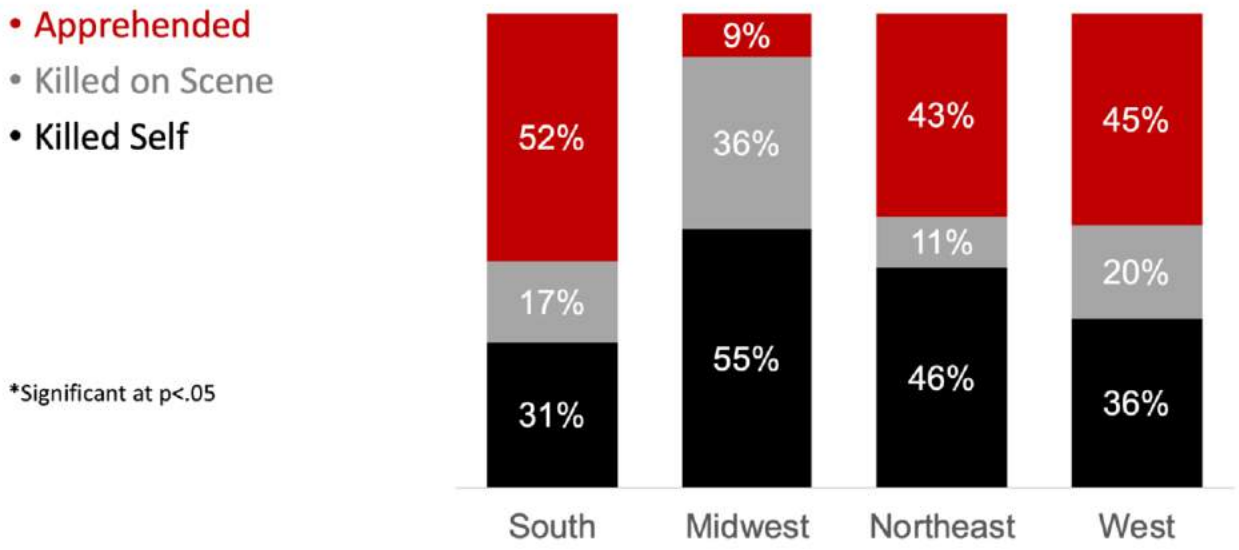
Race	1966-2000	9%	Domestic issue	1966-2000	13%
	2000-2014	17.5%		2000-2014	19%
	2015-2019	18%		2015-2019	15%
Religious Hate	1966-2000	1%	Psychosis	1966-2000	14%
	2000-2014	9%		2000-2014	25%
	2015-2019	15%		2015-2019	6%
Misogyny	1966-2000	6.5%	Fame	1966-2000	6.5%
	2000-2014	5%		2000-2014	3%
	2015-2019	21%		2015-2019	12%
Employment	1966-2000	31.2%	Unknown	1966-2000	21%
	2000-2014	17.5%		2000-2014	21%
	2015-2019	6%		2015-2019	35%

Interestingly, the prevalence of mental health concerns varied depending on the location of the mass shootings. For example, 89% of college/university mass shooters had a mental health history, while only 50% of restaurant shooters did. Just because someone has a mental health history, moreover, it does not mean that all of their actions are related to their symptoms (Peterson et al., 2014). Overall, 15.8% of mass shootings were at least partially motivated by psychosis. This is significant, but it is similar or less than the number motivated by employment issues, interpersonal conflict, and hate. It is worth noting that the motivations of mass shooters are shifting over time—psychosis has declined in the last five years, whereas misogyny, religious hatred, and fame-seeking motivations have increased. Also, 63% of those 27 psychotic shooters had a prior criminal record and 94% were in crisis prior to the shooting.

The Motivations of Mass Shooters Vary By Region



As do on-scene outcomes…

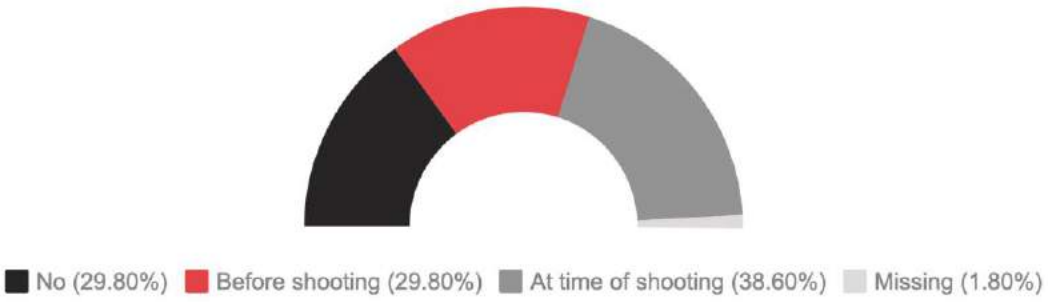


Childhood Trauma and Suicidal Ideation

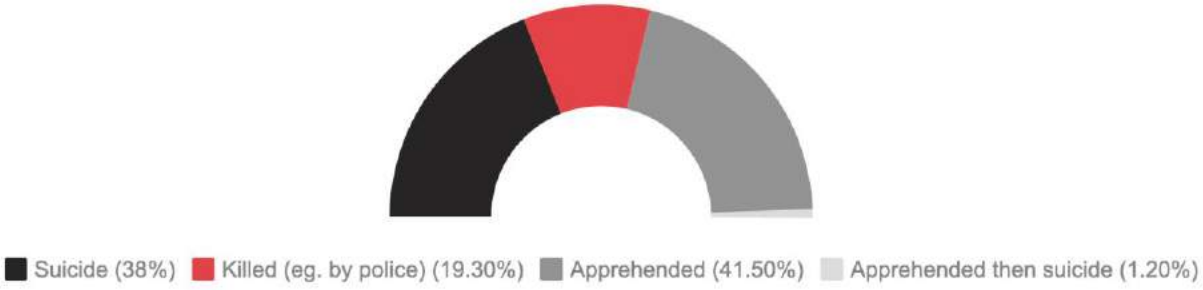
The life histories of mass shooters are complex. 31% of them experienced severe childhood trauma (in K-12 school shooters that number was 68%) and over 80% of mass shooters were in crisis prior to their crime, which was communicated to the people around them through a marked change in behavior. Mass shooters often commit suicide after their attacks, or at least provoke law enforcement to do it for them (known as "suicide by cop"; Lankford, 2015) and the data suggest that suicide (i.e., intentional self-inflicted death) and homicide (i.e., the deliberate and unlawful killing of another person) may be conceptually linked. 30% of mass shooters in our sample were suicidal prior to the shooting, and an additional 39% of mass shooters were suicidal during the shooting. These numbers were higher for K-12 school shooters (92%) and college/university shooters (100%), respectively.

The data also allow us to look closely at what firearms mass shooters used and how they obtained them. The majority of mass shooters used handguns (77.2%) and 25.1% used assault rifles in the commission of their crimes. Of the *known data* (32.5% of cases could not be corroborated), 77% of mass shooters purchased at least some of their guns legally, 13% made illegal purchases, and 19% stole guns.

Mass Shooters Often are Suicidal Before or During the Shooting



57% of Mass Shooters Die at the Scene. 38% By Their Own Hand



How Mass Shooters Got Their Guns

Legal Purchase (48.50%) Illegal Purchase (8.70%)
Theft (12.90%) Assembled (1.20%)
Gifted (2.90%) Unknown (32.50%)

Legal Sale, includes FFL, Unregulated Private Sales etc.

48.5%

Illegal Sale, includes Straw Purchases, Lying & Buying, System Failure

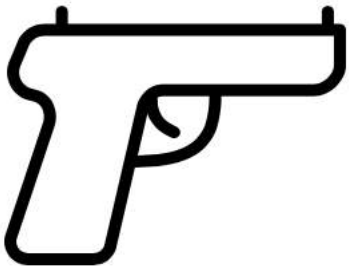
8.7%

Theft, includes "Borrowing" from family and friends

12.9%

Variable	%	Variable	%
Used 1 Firearm	48%	Handgun	77.2%
Used 2 Firearms	22.2%	Shotgun	22.8%
Used 3 Firearms	14.6%	Rifle	23.4%
Used 4 or more Firearms	15.2%	Assault Rifle	25.1%

(note: categories not mutually exclusive)



Mass shooters use handguns at more than three times the rate of shotguns, rifles, or assault rifles

Discussion of Findings

Prior research suggests there may be fundamental psychological and behavioral differences between offenders who commit murder and offenders who commit mass murder or murder-suicide (e.g., Lankford, 2015), or shooters who target their school or workplace versus those who kill indiscriminately in other public spaces (Fox & Levin, 2012). At the same time, other fields with small Ns and hidden populations, like terrorism studies, have transitioned away from early studies of "profiles" toward more complex studies of "pathways" (Horgan, 2008). Our data reveal that, like terrorism, a mass shooting is most definitely "a thin crust atop a very deep pie" (Jenkins, 1999, p. viii). First, there is no one profile of a mass shooter, but several, and characteristics vary depending on where the shooting took place:

1. **K-12 school shooter**: a white male student of the school with a history of trauma who is suicidal. Leaks his plans ahead of time, high degree of planning, and has an interest in guns. Uses multiple guns that he stole from a family member.
2. **College and university shooter**: a non-white male current student with a history of violence and childhood trauma who is suicidal. Uses handguns that he legally obtained and leaves something behind to be found (like a video or "manifesto").
3. **Workplace shooter**: a male in his 40s, no racial profile, but is an employee of the blue-collar shooting site and having trouble at work. Uses a handguns and assault rifles that he legally owns.
4. **House of worship shooter:** a white male in his 40s who is suicidal with a prior criminal record and violent history. Uses in a handgun in a Christian church where he knows victims. Low degree of planning, motivated by domestic spillage and hate.

5. **Retail/restaurant/bar shooter:** a white man, aged 30, with a criminal record and violent history and no connection to the location. Uses one legally owned handgun. One third show evidence of a thought disorder.

As imperfect as profiles are, we can use them to assess our current responses to mass shootings. For example, school shooters are nearly always students of the school — so building design strategies and active shooter drills are ineffective because the shooter is an insider, well-rehearsed in the security procedures. Same goes for workplace shooters who typically are employees.

In every category, over 80% of perpetrators are in crisis prior to the shooting. Investments in school or employment-based mental health services and training in crisis intervention and grievance mitigation will likely be more effective.

Age restrictions, Red Flag laws, waiting periods, and background checks for all firearm sales may especially help prevent college shootings where the majority of perpetrators are in a known crisis and legally purchase guns, even with a history of psychiatric hospitalization and a criminal record.

Investments in domestic violence programs and countervailing messaging, de-platforming, and the disruption of online hate groups may impact church shootings. Whereas target hardening and other situational crime prevention measures may be most important for retail establishments and restaurants because the perpetrator is a stranger.

Nearly All Mass Shooters Have Four Things in Common

Although mass shooters have different profiles, nearly all mass shooters have four things in common: (1) early childhood trauma and exposure to violence at a young age; (2) an identifiable grievance or crisis point; (3) validation for their beliefs, have studied past shootings to find inspiration; and (4) the means to carry out an attack. Each one of the four themes represents an inflection point — an opportunity for intervention.

First, mass shooters suffer early childhood trauma and exposure to violence at a young age. This includes parental suicide, physical or sexual abuse, neglect, domestic violence, and/or severe bullying. And this really is severe—in one case, someone was lit on fire by his classmates. Trauma often triggers mental health concerns in adolescence including depression, anxiety, hallucinations and delusions, self-harm, and suicidal ideation.

Next, mass shooters reach an identifiable crisis point in the weeks or months leading up to the shooting and this often results in a specific grievance. Crises typically are communicated to others through a marked change in behavior or specific threats of violence. For workplace shooters, the crisis point is getting fired, reprimanded, or demoted. For school shooters, it is bullying or suspension/expulsion from school. For other shooters it is relationship rejection or loss. Such crises often turn the shooter actively suicidal. Indeed, in many ways, mass shootings really are *suicide* events, or at least an acute form of murder-suicide that, consistent with Agnew's (1992) general strain theory (see also, Silver, Horgan & Gill, 2018), occur when positively valued goals are blocked (e.g., rejection by an intimate partner) and noxious stimuli are present (e.g., access to firearms).

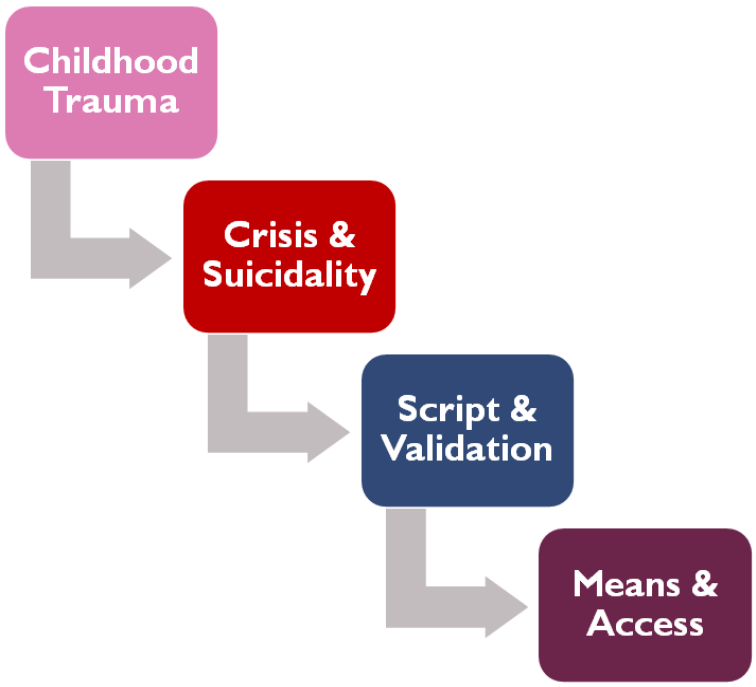
People in crisis have always existed. But in the age of 24-hour rolling news and social media, there are scripts to follow that promise notoriety in death. Shooters become famous – their pictures appear on magazine covers and their words and deeds go viral (Bushman, 2017; Lankford, 2016). Most mass shooters study the actions of other mass shooters and seek validation for their methods and motives. Some are radicalized online as they search for meaning. Shooters always find someone or something to blame for their troubles. School shooters blame the school, workplace shooters blame the workplace. House of worship shooters blame specific religious groups. Other shooters blame women, immigrants, or certain racial groups.

Finally, mass shooters have the means to carry out their plans. Once someone decides life is no longer worth living and that murdering others would be proper revenge, only means and opportunity stand in the way of another mass shooting. Beyond having access to their chosen target site, they need access to firearms – some steal them, some buy them legally at sporting goods or department stores, others obtain them illegally, or even build them themselves.

Our data indicate that the majority of shooters used handguns that they obtained legally, which has implications for gun safety policy and practice. For example, while banning high-capacity magazines would affect the number of bullets loaded into a semi-automatic handgun, this, and an assault weapons ban, would have no direct effect on the availability of a mass shooter's weapon of choice—the handgun. However, younger school shooters often procure guns from friends and family members. This, and the findings regarding the prevalence of what the threat

assessment literature describe as "warning behaviors" and "leakage" (Meloy & O'Toole, 2011; O'Toole, 2000), lend support to safe storage of firearms and so-called "red flag" laws that permit police or family members to petition a state court to order the temporary removal of firearms from a person who may present a danger to others or themselves—an idea that is associated more with suicide than homicide prevention (Kivisto & Phalen, 2018).

The Violence Project Conceptual Model of Why Mass Shootings Occur



Adapted from: Peterson, J. & Densley, J. (2019, Aug. 4). We have studied every mass shooting since 1966. Here's what we've learned about the shooters. Los Angeles Times.

Outputs based on this research

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TEDx Hamline University, April 2019

Jillian's TEDx Talk

James' TEDx Talk

Selected Media Coverage

Hamline, Metro State professors create a database to shed light on mass shooters, *Star Tribune*, November 15, 2019.

Mass shootings raise questions about security and training, *The Wall Street Journal*, November 13, 2019.

Years of research finds that most school shooters have 4 things in common, *Reader's Digest*, November 12, 2019.

A violent culture? The roots of radicalization run deep, *Pittsburgh Post-Gazette*, October 24, 2019.

Inside the mind of the American mass shooter, *WhoWhatWhy*, October 24, 2019.

Don't let the mass shooters win, *Vox*, September 6, 2019.

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Have police really thwarted more mass shootings since El Paso and Dayton, or are we just paying closer attention? *TIME*, August 23, 2019.

Can we prevent mass shootings by preventing suicide?, *FiveThirtyEight*, August 22, 2019.

Curb mass shootings with the "good politic", *Psychology Today*, August 22, 2019.

Why it's wrong to blame mass killings on mental illness, *Columbia Journalism Review*, August 16, 2019.

A common trait among mass killers: hatred toward women, *New York Times*, August 10, 2019.

Are researchers asking the right questions to prevent mass shootings?, *Science News*, August 9, 2019.

Violence project seeks to shift focus from reaction to prevention in mass shootings, *WCCO*, August 6, 2019.

Mass shootings can be contagious, research shows, *NPR*, August 6, 2019.

Sociologist: mass shooters' common traits offer clues for prevention, *Newsy*, August 6, 2019.

The Violence Project tracks common traits found in mass shooters, warning signs and how to stop them, *CBS News*, August 6, 2019.

Interview with Don Lemon, *CNN Tonight*, August 5, 2019.

From the UT Tower attack to El Paso: Most mass shooters have four traits in common, *KXAN*, August 5.

Why many mass shooters are 'loners', *The Atlantic*, August 5, 2019.

Mass shooters seek 'validation' for their murderous attacks, say experts for DOJ, *HuffPost*, August 5, 2019.

Politicians blame video games for the El Paso shooting. It's an old claim that's not backed by research, *Washington Post*, August 5, 2019.

Mass shootings: experts say violence is contagious, and 24/7 news cycle doesn't help, *NBC News*, August 5, 2019.

How can we prevent workplace shootings? *IA*, June 4.

Many campus shootings have similarities. Studying them might prevent more tragedy, researchers say, *Philadelphia Inquirer*, May 3, 2019.

Minnesota researchers say we're still getting school safety wrong, *Minnesota Public Radio*, March 27, 2019.

Appendix A: The Database Research Team

Principal Investigators

Jillian Peterson

James Densley

Project Coordinator

Amanda Jensen

Database Manager

Stasia Higgins

Research Associates

Gina Erickson

Elliot Fay

Hannah Klumb

Kyle Knapp

Jessica Lindgren

Hannah Peterson

Appendix B: List of Variables in the Dataset

NAME

1. Case number (1-171)
2. Last
3. First

DATE

4. Full date
5. Day of the week (e.g., Sunday)
6. Day
7. Month
8. Year

LOCATION

9. City
10. State
11. Urban / Suburban / Rural
12. Location type
    a. K-12 school
    b. College / University
    c. Government Building / Place of Civic Importance
    d. House of Worship
    e. Retail
    f. Restaurant / Bar / Nightclub
    g. Workplace
    h. Other
13. Bifurcated
14. Other location
15. Armed person on the scene

VICTIMS

16. Number killed
17. Number injured
18. Victims known or unknown
19. Specify known victims
20. Kidnapping / hostage element

OFFENDER DEMOGRAPHICS

21. Gender
22. Age
23. Race
24. Immigration status
25. Sexual orientation
26. Religion
27. Education

28. Relationship status (e.g., married, single, divorced, widowed)
29. Children (shooter was a parent)
30. Employment status
31. Employment type (e.g., white collar, blue collar)
32. Military
33. Military branch (e.g., Army, Navy)

CRIME AND VIOLENCE

34. Criminal record / prior police contact
35. Previous homicide(s)
36. History of violence
37. Notable / obsessive interest in firearms
38. Gang affiliation
39. Terror group affiliation
40. Bully (at school)

TRAUMA AND CRISIS

41. Bullied (at school)
42. Raised by single parent
43. Suicide of parent
44. Childhood trauma
    a. Abused by father
    b. Abused by mother
    c. Other trauma
    d. Abuse by other family member(s)
    e. Abuse by other party
    f. Abused by both parents
45. Adult trauma
46. Recent or traumatic breakup
47. Recent or traumatic change in work status / trouble at work
48. Signs of a crisis

HEALTH AND MENTAL HEALTH

49. Suicidality (before, during, or after shooting)
50. Hospitalization for psychiatric reasons
51. Prior counseling
52. Prescribed psychiatric medication
53. Mental illness
    a. Mood disorder
    b. Thought disorder
    c. Both mood and thought disorder
    d. Other psychiatric diagnosis
    e. Signs of mental illness but no diagnosis
54. Autism spectrum disorder
55. Drug and alcohol use
56. Health issues

GRIEVANCE AND MOTIVATION

57. Racial element
58. White supremacy / racism / xenophobia
59. Religious hate
    a. Antisemitism
    b. Islamophobia
    c. Angry with Christianity/Christian God
60. Misogyny
61. Homophobia
62. Employment issue (e.g., fired, lost promotion)
63. Economic issue (e.g., issues with money)
64. Legal issue
65. Domestic spillage
66. Relationship issues
67. Interpersonal conflict
68. Psychosis
69. Fame-seeking
70. Generalized anger

SOCIAL CONTAGION / WARNING SIGNS

71. Social media use related to shooting
72. Leakage prior to the shooting
73. Interest in past mass violence
74. Relationship with another shooting
75. Legacy token (left something behind)
76. Planning
77. Performance ("will to representation")

WEAPONS

78. Total weapons brought to the scene
79. Number of handguns used
80. Number of shotguns used
81. Number of rifles used
82. Number of assault rifles used
83. Number of submachine guns used
84. Legal purchase
    a. Federal Firearms Licensed (FFL) Dealer
    b. Unregulated private sale
    c. Legal but specific source unknown
    d. Legal purchase but modification to firearm was illegal
85. Illegal purchase
    a. System failure (background check missed something, records not reported)
    b. Straw purchase
    c. Lying and buying
86. Assembled with legal parts

87. Gifted
88. Theft
    a. "Borrowed" from family or friend
89. Other weapons or gear

RESOLUTION OF CASE

90. On scene outcome
91. Attempt to flee
92. Insanity defense at trial
93. Criminal sentence
    a. Death Penalty
    b. Life Without Parole
    c. Life Imprisonment (with Parole)
    d. Hospitalization
    e. Juvenile Detention

COMMUNITY FACTORS

94. Shooting start time
95. Shooting end time
96. Time of day
97. Zip code
98. Population
99. Median age
100. % white
101. % female head of household
102. % rental units
103. % employment
104. % high school graduates
105. % college graduates
106. % without medical insurance
107. Mental health providers in zip code
108. Gun stores in zip code
109. Size of police department
110. Homicide rate

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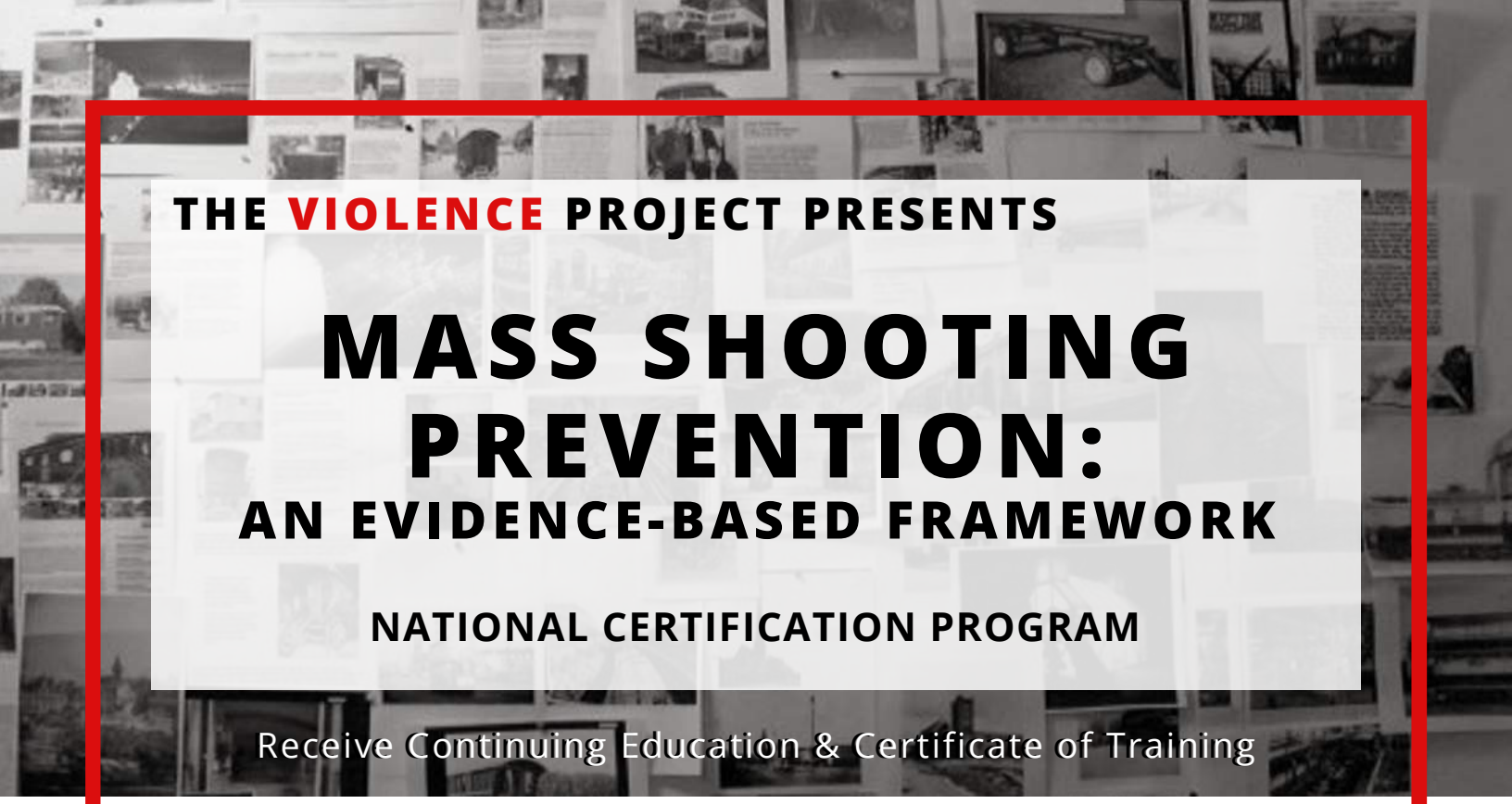

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