Are the Deadliest Mass Shootings Preventable? An Assessment of Leakage, Information Reported to Law Enforcement, and Firearms Acquisition Prior to Attacks in the United States

Adam Lankford[1], Krista Grace Adkins[1], and Eric Madfis[2]

Abstract

This study examined the 15 deadliest public mass shootings in the United States from March 1998 to February 2018 to assess (a) leakage of violent thoughts/intent, (b) leakage of specific interest in mass killing, (c) concerning behaviors reported to law enforcement, (d) concerning interest in homicide reported to law enforcement, and (e) firearms acquisition. We then compared our findings on the deadliest public mass shooters with the Federal Bureau of Investigation's (FBI) findings on active shooters in general. Overall, the results suggest that most incidents were indeed preventable based on information known about offenders in advance, and that the deadliest mass shooters exhibited more warning signs and were more often reported to law enforcement than other active shooters. Future prevention efforts should aim to educate, encourage, and pressure the public to report warning signs to law enforcement, educate and train law enforcement so that they can more effectively investigate potential threats, and limit firearms access for people who have admitted having homicidal or suicidal thoughts or being interested in committing a mass shooting. These relatively straightforward steps could significantly reduce the prevalence of future attacks.

[1]The University of Alabama, Tuscaloosa, AL, USA
[2]University of Washington Tacoma, WA, USA

Corresponding Author:
Adam Lankford, Department of Criminology & Criminal Justice, The University of Alabama, P.O. Box 870320, Tuscaloosa, AL 35487-0320, USA.
Email: Adam.Lankford@ua.edu

Introduction

Despite decades of research into the psychology, behavior, and life histories of mass shooters, many people remain skeptical that it will ever be possible to predict or prevent their attacks. For instance, recent media articles have insisted that "We Can't Predict Who Will Commit a Mass Shooting" and that "Predicting a Mass Shooting Is Impossible" (Resnick & Zarracina, 2018; Singal, 2015).

The phrase "mass shooting" is often used to refer to a more specific type of crime known as a public mass shooting or an active shooting. These are incidents in which perpetrators open fire in public places with the intent of harming multiple victims, and do not include gang conflicts, robberies, or other more conventional crimes (Blair & Schweit, 2014; Lankford, 2016b). The key distinction is that while public mass shootings are traditionally defined as cases resulting in four or more victims being killed, active shootings have no minimum threshold (Blair & Schweit, 2014; Fox & Levin, 2015b; Lankford, 2016b). Past attacks have occurred at schools and colleges, workplaces, malls, movie theaters, churches, government buildings, military facilities, and other public locations (Blair & Schweit, 2014; Kelly, 2012).

Part of the prediction and prevention challenge is that even in the United States—where these offenders are most common—there are more than 1 million people who will not commit a public mass shooting for every individual who does (Blair & Schweit, 2014; Kelly, 2012; Lankford, 2016b). This makes preemptively identifying possible offenders seem as hopeless as finding the proverbial needle in a haystack. Even if the search for potential mass shooters is narrowed to subsets of the population most likely to contain at-risk individuals, this is not nearly precise enough for successful risk assessment. For example, most public mass shooters are male, but the vast majority of men and boys would never consider committing a mass shooting (Madfis, 2014c). Similarly, most public mass shooters own guns and struggle with mental health problems, but the vast majority of gun owners and people with mental illness are also nonviolent (Madfis, 2014b; Schildkraut & Muschert, 2013; Schug & Fradella, 2014).

Leakage of Mass Shooters' Violent Thoughts and Intent

Fortunately, the challenge is not necessarily to identify public mass shooters among millions of law-abiding citizens, because in many cases they actually identify themselves. This is often referred to as "leakage." As O'Toole (2000) summarized in her threat assessment of school shooters, "'Leakage' occurs when a student intentionally or unintentionally reveals clues to feelings, thoughts, fantasies, attitudes, or intentions that may signal an impending violent act. These clues could take the form of subtle threats, boasts, innuendos, predictions, or ultimatums" (p. 16).

In some ways, this appears similar to the behavior of people who die through individual suicides. Crisis intervention guidelines state that "80% of people considering suicide give some sign of their intentions" (Giffords Law Center, 2018). Although it might seem irrational for mass shooters to signal their criminal intent, in many cases they are also suicidal, so they may have a conscious or unconscious desire to be stopped or saved before they end up dead or serving a life sentence in prison (Lankford, 2015).

Previous research has found that leakage is quite common among similar offenders (Bondü & Scheithauer, 2010; Hempel, Meloy, & Richards, 1999; Leuschner et al., 2011; Madfis, 2014a; Meloy, Hempel, Mohandie, Shiva, & Gray, 2001; Meloy & O'Toole, 2011; Silver, Horgan, & Gill, 2018; Silver, Simons, & Craun, 2018; Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002; White, 2017). For instance, Hempel et al. (1999) found that among 30 adult mass murderers who offended from 1949 to 1998, 67% made specific or general threats about their violent intentions. Similarly, Meloy et al. (2001) found that among 34 adolescent mass murderers who offended between 1958 and 1999, 58% of those for whom there was sufficient information made threats about committing mass murder. In addition, a 2002 study on school shooters by the U.S. Secret Service found that in 81% of cases, "at least one person had information that the attacker was thinking about or planning the school attack," and in 59% of cases, more than one person knew that the attacker was thinking about or planning an attack (Vossekuil et al., 2002, p. 25). More recently, a study of public mass murderers from 1990 to 2014 found that 58% engaged in some form of leakage (Silver, Horgan, & Gill, 2018), and a Federal Bureau of Investigation (FBI) study of active shooters from 2000 to 2013 found that 56% openly expressed their violent thoughts or intent prior to attacking (Silver, Simons, & Craun, 2018).

Some of these studies have looked more closely at other aspects of leakage. For instance, it appears that leakage is more common among younger offenders (Silver, Simons, & Craun, 2018; Vossekuil et al., 2002), that leakage is sometimes communicated directly to the targets themselves (Hempel et al., 1999; Meloy et al., 2001), and that leakage comes in many different forms, including verbal statements, written statements (letters, essays, etc.), online posts, and social media communications (Madfis, 2014b; Silver, Simons, & Craun, 2018).

However, questions remain about public responses to leakage. If mass shooters commonly tell someone that they are interested in committing violent crimes, why are these attacks still happening? Are members of the public not reporting this information to law enforcement?

Public Reporting of Potential Mass Shooters to Law Enforcement

Unfortunately, prior research suggests that people are often hesitant to report potential mass shooters to law enforcement, even if they observe concerning behavior (Madfis, 2014a; Silver, Simons, & Craun, 2018). This has primarily been explored in the context of school shootings, with emphasis placed on how school cultures and climates either

encourage or discourage reporting behavior and prevention strategies (see Madfis, 2014a, 2014b). However, more scholarship is needed to examine reporting of potential mass shooters in general (Meloy & O'Toole, 2011; Sarteschi, 2016).

The apparent reluctance of people to report concerning information about mass shooters appears consistent with research on barriers to bystander intervention, which shows that many people are uncomfortable speaking up against things that seem wrong, because doing so seems to put the burden of responsibility on them (Madfis, 2014a; Stueve et al., 2006). In addition, the perception of diffused responsibility, whereby people often assume that others will respond, also leads many to not come forward themselves (Mathes & Kahn, 1975). On a personal level, it can feel safer to do nothing. Research on bystander behavior also emphasizes the risks of ambiguity in a given situation (Latané' & Darley, 1969). People may not communicate their knowledge about leakage if they are uncertain about a person's intentions, and they may be more prone to interpret legitimate threats as innocent jokes or comments—which is why improved education about warning signs is particularly important (Hoffman, 2017; Madfis, 2014a, 2018).

An additional challenge is that many people seem to believe that calls to "see something, say something" primarily refer to the suspicious behavior of strangers. Although they may be willing to report a stranger, they appear more hesitant to report a family member, friend, or coworker. For example, in his research on averted school massacres, Madfis (2014a) found that students who observed leakage were more likely to report the threatening behavior of acquaintances than of close friends. More broadly, some people may believe that reporting a friend or family member would constitute betrayal (Lankford, 2018).

It should be noted, however, that similar interventions already occur in the area of suicide prevention. In that realm, some family members and friends have not only recommended that at-risk individuals voluntarily seek psychological treatment, but in extreme cases they have also called law enforcement to conduct welfare checks that can result in the individual being taken into custody. People typically do this because they realize it will protect the long-term health of the person they care about (National Alliance on Mental Health, 2018). When it comes to reporting potential mass shooters, calling the police could save both the at-risk individual's life and the lives of potential victims (Lankford, 2018).

An additional consideration is the relationship between law enforcement and community members. Because positive bystander behavior (such as reporting threats) is closely correlated with positive perceptions of police legitimacy and procedural fairness (Madfis, 2014a; Tyler & Fagan, 2008), the public's trust in criminal justice institutions may be associated with their reporting of potential mass shooters. People may be more likely to report warning signs to law enforcement if they are confident that they will be treated with respect, that the at-risk individual will be treated humanely, and that it will actually make a difference.

How often do members of the public actually report mass shooters to law enforcement? Although this seems like an extremely important question, only one study with relevant data could be found. A recently released FBI study (Silver, Simons, & Craun,

2018) indicated that 41% of active shooters who attacked in the United States from 2000 to 2013 were reported to law enforcement due to their concerning behaviors.

This raises other important questions. Why were offenders who were reported to law enforcement nevertheless able to attack? Is law enforcement responding effectively to information about potential threats?

Law Enforcement Investigation of Potential Threats

Recent history suggests that when law enforcement officials receive a warning about a potentially dangerous individual, they often respond by checking that suspect's criminal record and possible affiliations with other criminals, and/or interviewing the individual directly (Associated Press, 2015; Cullen, 2009; Webster Commission, 2012; Wilber, 2016). However, many public mass shooters do not have connections to other criminals and have not been convicted of violent crimes prior to their attacks (Fox & Levin, 2015a; Silver, Simons, & Craun, 2018). And when interviewed, many of these individuals can successfully fool law enforcement investigators into believing that they are not dangerous (Cullen, 2009; Wilber, 2016). This should not be surprising because even people with strong suicidal tendencies often deceive their own doctors about their plans to die (Nock et al., 2010). Potential mass shooters may similarly recognize that unless they convincingly deny their intentions, they will be prohibited from accomplishing their lethal goals.

Of course, law enforcement officers have a wealth of professional knowledge and field experience, and they are accustomed to being lied to. However, most public mass shooters are psychologically and behaviorally different from the criminals whom police deal with on a regular basis (Lankford, 2015; Newman, Fox, Roth, Mehta, & Harding, 2004). This suggests that law enforcement may be susceptible to some of the popular misconceptions about those likely to engage in mass murder. For instance, if they assume that someone intelligent, well educated, polite, articulate, or middle class could not pose a threat due to these particular traits, they would overlook many of the types of people who have committed public mass shootings in the past (Lankford, 2018).

In addition, it appears that most law enforcement training on active or mass shootings focuses on how to rapidly respond to an incident in progress (Advanced Law Enforcement Rapid Response Training, 2018; ALICE Training Institute, 2018; Department of Homeland Security, 2018; Federal Law Enforcement Training Centers, 2018), rather than how to identify potential perpetrators in advance. However, there is a lot of scholarship that might be useful for officers to learn. As just a few examples, Meloy, Hoffmann, Guldimann, and James (2012) have identified eight key warning behaviors for threat assessment: (a) pathways, (b) fixations, (c) identifications, (d) novel aggression, (e) energy burst, (f) leakage, (g) last resort, and (h) directly communicated threats. Similarly, Lankford (2018) has provided checklists of warning signs that law enforcement could use to help determine whether an at-risk individual appears to have (a) suicidal motives or life indifference that might eliminate fear of consequences, (b) perceptions of his or her own victimization that might rationalize

attacks against targets, and (c) desires to obtain fame or attention through killing. In addition, recent work by Geurts, Ask, Granhag, and Vrij (2018) makes important suggestions about law enforcement best practices for interviewing individuals who have threatened to cause serious harm.

A closer look at mass shooters who were known by law enforcement to be potential threats, but not stopped from attacking, might shed more light on this subject. Much may be learned from recent failures to prevent public mass shootings so that these offenders can be more effectively thwarted in the future.

Mass Shooters' Acquisition of Firearms

A final factor worth considering is mass shooters' acquisition of firearms. By definition, firearms are needed to commit mass shootings, and common sense suggests that easy access to weapons would increase the likelihood of an attack. There is also empirical evidence that globally, a country's number of civilian firearms per capita is associated with the number of public mass shooters who attack there (Lankford, 2016b). The United States is number one by both measures: It had the most public mass shooters from 1966 to 2012, and it has more firearms in circulation per civilian than any other nation (Lankford, 2016b).

Furthermore, multiple data sources indicate that many mass shooters and active shooters in the United States acquire their weapons legally (Buchanan, Keller, Oppel, & Victor, 2018; Follman, Aronsen, & Pan, 2018; Silver, Simons, & Craun, 2018). U.S. federal law currently prohibits people from possessing firearms if they have been involuntarily committed, adjudicated to be mentally defective, or met several other disqualifying criteria (Giffords Law Center, 2018). However, even though a large proportion of mass shooters struggle with mental health problems, very few have been involuntarily committed or adjudicated to be mentally defective (Silver, Fisher, & Horgan, 2018). This suggests that the current criteria for legal purchase of firearms may be insufficient.

Fortunately, many people on both sides of gun legislation debates in the United States agree that some high-risk individuals should not be allowed to purchase or possess firearms. In fact, the National Rifle Association's spokesperson recently supported "following up on red flags" and "making sure that people who are dangerous should not have access to firearms" (Tatum, 2018). Both the President and Vice President of the United States have also made similar statements (Breuninger, 2018).

However, prior research has not explored how these "red flags" affect access. For instance, is it primarily those mass shooters who have not engaged in leakage or been reported to law enforcement who are able to acquire their firearms legally? Or are even perpetrators who have clearly signaled their homicidal intent nevertheless able to purchase their guns without encountering legal barriers?

The Present Study

Past research on active and public mass shooters has typically prioritized either depth of analysis or breadth of analysis, but not both. For instance, some studies have focused

on close examinations of perpetrators and the psychological factors that drove them, and therefore employed relatively small sample sizes (Larkin, 2009; Mullen, 2004; Newman et al., 2004; O'Toole, 2000; Vossekuil et al., 2002). Other studies have looked for patterns in more easily coded elements of their attack behavior—such as offenders' age, sex, weapon use, attack location, and number of victims harmed—and thus included hundreds of cases (Kelly, 2012; Lankford, 2015, 2016b).

This study prioritized depth of analysis. Rather than selecting a random sample from the past half century that would result in cases of varying significance being analyzed, this study focused on the 15 deadliest incidents that occurred in the United States over a 20-year period, from March 1998 through February 2018.

The 15 qualifying cases were as follows: the 1999 Columbine school shooting, 2005 Red Lake school shooting, 2007 Virginia Tech shooting, 2009 Binghamton shootings, 2009 Fort Hood Army base shooting, 2012 Aurora movie theater shooting, 2012 Sandy Hook school shooting, 2013 Washington, DC Navy Yard shooting, 2015 Charleston church shooting, 2015 Umpqua Community College (UCC) shooting, 2015 San Bernardino attack, 2016 Orlando nightclub shooting, 2017 Las Vegas shooting, 2017 Sutherland Springs church shooting, and 2018 Parkland school shooting. Because public mass shootings have grown more deadly over time, this sample also happens to include the five deadliest incidents in U.S. history as of January 2019. (No names of mass shooters are included in this text, in line with the "No Notoriety" campaign and Lankford and Madfis's (2018) proposal to deny offenders the attention they often seek.)

Data Sources and Collection

Information on each case was drawn from official reports and records, primary source documents, prior scholarship, and media reports, which have been the most commonly used data sources in prior studies of mass shooters (Huff-Corzine, McCutcheon, Corzine, Weller, & Landon, 2014). Whenever possible, we relied on official government reports and records, but not all mass shootings are followed by retrospective investigations and public reports of the type that were demanded after Columbine, Virginia Tech, Fort Hood, Sandy Hook, and Las Vegas, and for some incidents, additional evidence was released following the publication of an official report. In cases where we drew some data from media reports, it was almost always information that the media had received from government or law enforcement officials.

This study focused on three primary concepts: leakage, information reported to law enforcement, and firearms acquisition. It appears that only one other study has jointly analyzed all three of these measures: the FBI's analysis of active shooters in the United States from January 2000 to December 2013 (Silver, Simons, & Craun, 2018). Our study differs from the FBI report in several key ways. For instance, our study period (March 1998-February 2018) is longer and includes more recent cases. In addition, we focused on a smaller sample of the most lethal perpetrators, whereas the FBI focused on a larger sample of perpetrators who averaged far fewer victims killed.

We also added several new measures that the FBI study did not analyze. For instance, we coded for both (a) leakage of violent thoughts/intent in general (which the FBI included) and (b) leakage of specific interest in mass killing (which the FBI did not). We believe the latter measure sheds additional light on the severity of leakage by identifying perpetrators who specifically signaled their interest in extreme violence. If there was evidence of either type of leakage for a given case, it was coded "yes"; if not, it was coded "no."

In addition, we coded each case for (a) whether the mass shooter's concerning behavior had been reported to law enforcement prior to the attack (which is a variable the FBI included in their analysis) and (b) whether concerns about the mass shooter's specific interest in homicide (i.e., killing people) had been reported to law enforcement (which the FBI did not include). Although the FBI researchers used a broad definition of "concerning behaviors" that included leakage, threats, anger, aggression, mental health concerns, and use of illicit drugs (Silver, Simons, & Craun, 2018), people rarely report these behaviors to law enforcement unless they are perceived to be very serious—and even then, they may not report. By adding a variable for whether the perpetrator's specific interest in killing people had been reported, we hope to better understand what information was known by law enforcement prior to each attack. Each case was coded as "yes" if there was evidence that this type of information had been reported, and "no" if there was not.

Firearms were coded as being acquired illegally only if the offender stole them or convinced someone else to commit a crime to obtain them. If the shooter purchased a firearm "over the counter" just like any other civilian could, that was classified as legal, even if there were postattack questions about whether some basis could have existed for prohibiting the purchase. This appears consistent with the FBI report's coding method for which perpetrators obtained firearms without stealing them or purchasing them illegally (Silver, Simons, & Craun, 2018). In the FBI's sample of active shooters, the legal status of some firearms was unknown; in our sample, that information was known for all cases.

Finally, another important difference between our study and the FBI report is that we provide details on each individual case and how it was coded, rather than publishing only aggregate-level results.

Analysis

In the text of this article, we summarize the leakage, information reported to law enforcement, and firearms acquisition. Whenever possible, we tried to include direct quotes from the perpetrators, so readers will be able to see for themselves exactly what the mass shooter said or wrote. In Table 1, we provide aggregate results from the 15 incidents, and in the appendix, we list how all cases were coded. Our hope is that by providing this level of detail, we offer a resource for other scholars and practitioners while also assisting any researchers interested in replicating or extending this work.

We also compared our findings on the deadliest public mass shooters with the FBI's findings on active shooters in general (Silver, Simons, & Craun, 2018). Previous research has shown that mass/active shooters who kill many victims appear to differ

Table 1. Frequency of Leakage, Information Reported to Law Enforcement, and Legal Firearms Acquisition for the Deadliest Public Mass Shooters in the United States.

Factor	Frequency (%)
Leakage of violent thoughts/intent	87
Leakage of specific interest in mass killing	80
Concerning behavior was reported to law enforcement	80
Concerning interest in homicide was reported to law enforcement	47
All firearms used in the mass shooting were acquired legally	80

Note. Sample included perpetrators of the 15 deadliest incidents from March 1998 to February 2018. Firearms were coded as being acquired illegally if the offender stole the weapon or convinced someone else to commit a crime to obtain the weapon.

from those who kill fewer victims in several ways. For instance, deadlier offenders appear more likely to seek fame and more likely to commit suicide or "suicide by cop" (Kelly, 2012; Lankford, 2015, 2016a). Our comparison will help clarify whether there are also differences regarding their leakage, information reported to law enforcement, and firearms acquisition.

For each variable, we provide our findings on the deadliest public mass shooters, the FBI's findings on active shooters in general, and the FBI's findings on active shooters with potentially overlapping cases from the current study removed. The seven potentially overlapping cases were included in the FBI's initial report on active shootings from 2000 to 2013 (Blair & Schweit, 2014) and were the 2005 Red Lake school shooting, 2007 Virginia Tech shooting, 2009 Binghamton shootings, 2009 Fort Hood shooting, 2012 Aurora theater shooting, 2012 Sandy Hook school shooting, and 2013 Washington, DC Navy Yard shooting.

Results

As presented in Table 1, this study found that the deadliest public mass shooters commonly displayed serious warning signs prior to their attacks. In 87% of the studied cases, the offenders had previously told others that they had violent thoughts or intentions, and in 80% of cases, there was leakage of perpetrators' specific interest in mass killings. Furthermore, before 80% of incidents, the perpetrators' concerning behavior had been reported by law enforcement, and before nearly half of incidents (47%), law enforcement had been informed of the offender's specific interest in homicide or mass killings. Despite the frequency of these warning signs, however, 80% of the public mass shooters in this study were able to acquire all of the firearms for their attack legally.

Below, more details are provided on each case.

1999 Columbine School Shooting

Leakage prior to attack. One offender posted online threats that included the assertion,

I'm coming for EVERYONE soon and I will be armed to the fucking teeth and I WILL shoot to kill . . . All I want to do is kill and injure as many of you . . . as I can.

The other offender submitted a creative writing essay about a fictional mass shooting of "preps" that ended with the assertion, "I understood his actions" (Columbine Review Commission, 2001; Cullen, 2009).

Concerning behavior reported to law enforcement. Law enforcement was shown evidence from one offender's website that he threatened to kill others, including a classmate, and had acquired weapons (Columbine Review Commission, 2001). Law enforcement had made contact with the offenders at least 15 times prior to the school shooting (Office of the Attorney General, 2004).

Firearms. The offenders legally received two shotguns and a rifle from a friend who had purchased them at a gun show on request. They also illegally bought handguns from two acquaintances (Columbine Review Commission, 2001).

2005 Red Lake School Shooting

Leakage prior to attack. The offender was expelled a year earlier after threatening to "shoot up the school" on the anniversary of Columbine. He had also emailed several friends about his intent to commit a Columbine-type shooting at Red Lake (Meloy & O'Toole, 2011). In an online forum, he repeatedly posted about mass shootings, including an animated film he created that ended in the shooter's suicide. He also drew pictures of "bloodied bodies and guns" and apparently shared them with classmates, along with a story about a mass shooting at a school (Davey & Wilgoren, 2005). At one point, he admitted that things were "kind of rocky right now so I might disappear unexpectedly." The offender had also previously been hospitalized for suicidal behavior (Davey & Wilgoren, 2005).

Concerning behavior reported to law enforcement. The offender's grandfather was a police officer in the small community of Red Lake, so would have known about the offender's threats that led to his expulsion and hospitalization. It was also widely known that years earlier, the offender's father had fatally shot himself in the chest during a standoff with police (Davey & Wilgoren, 2005).

Firearms. The offender killed his grandfather and then stole his grandfather's firearms to commit the school shooting (Langman, 2016b).

2007 Virginia Tech Shooting

Leakage prior to attack. Years earlier, the offender had expressed interest in suicide and homicide in a school writing assignment and suggested that "he wanted to repeat Columbine." In college, he gave a class presentation that referred to fellow students

as "despicable human beings who are all disgraces to [the] human race" and concluded that "I hope y'all burn in hell." In 2005, he was court-ordered to seek outpatient care at a mental health facility after telling a roommate, "I might as well kill myself." He also submitted multiple creative writing assignments to teachers that focused on mass killing, including a story in which his main character plans a mass shooting "to kill every god damn person in this damn school" (Virginia Tech Review Panel, 2009).

Concerning behavior reported to law enforcement. The offender was reported to campus police multiple times—for stalking female students, for his antisocial behavior in class, and for his suicidal remarks—but law enforcement was apparently not given his disturbing writing assignments that signaled his interest in committing a mass shooting (Virginia Tech Review Panel, 2009).

Firearms. Legally purchased from a gun store and a pawnbroker, although his having been court-ordered to receive mental health treatment could have prohibited the purchase (Virginia Tech Review Panel, 2009).

2009 Binghamton Shootings

Leakage prior to attack. The offender had told a coworker that he would like to shoot the President. The coworker took the threat seriously and said he would report it to the FBI, but changed his mind after the offender said he had been joking (Rivera & Schwerber, 2009).

Concerning behavior reported to law enforcement. Years earlier, law enforcement had received a tip that he was planning a bank robbery (that he never committed) and that he had a crack cocaine addiction (Rivera & Schwerber, 2009). He also had another unspecified "criminal incident" in his past and had at least five contacts with law enforcement since 1990 (Buchanan et al., 2018).

Firearms. Legally purchased from a gun store (Buchanan et al., 2018).

2009 Fort Hood Army Base Shooting

Leakage prior to attack. Despite enlisting in the U.S. military, the offender told peers he considered Sharia law a higher calling than the U.S. constitution. During his fellowship at an Army medical center, he openly expressed support for violent Islamic attacks in class presentations and written assignments. He made repeated claims that oppression of Muslims justifies suicide bombings and that suicide bombers are rewarded in heaven. He also posted online that suicide attacks that kill enemy soldiers should be considered heroic. Two military officers described him as a "ticking time bomb" (U.S. Senate Committee on Homeland Security and Governmental Affairs, 2011; Webster Commission, 2012).

Concerning behavior reported to law enforcement. The FBI obtained a series of emails between the offender and a foreign Islamic extremist in which he suggested that suicide attacks that kill innocent civilians are heroic and that "Muslims in the U.S. military" who have "killed or tried to kill other U.S. soldiers in the name of Islam" should be considered holy martyrs. However, the officials believed the offender's communications were not a matter of concern (U.S. Senate Committee on Homeland Security and Governmental Affairs, 2011; Webster Commission, 2012).

Firearms. Legally purchased from a gun store (Buchanan et al., 2018).

2012 Aurora Movie Theater Shooting

Leakage prior to attack. In an online chat with a female friend, the offender said he wanted to "kill people of course" and suggested the way to avoid prison is to "kill many people." He also had conversations with a classmate about wanting to kill people ("Prosecutors," 2012). In addition, he told one psychiatrist that he would like to kill people and thinks about it often. When asked, he refused to provide details on his plans because "you'd lock me up." He similarly informed another psychiatrist that he had a Plan A of suicide and a Plan B of mass murder-suicide. This psychiatrist believed the offender was careful in his statements and probably "filtering a lot [of his answers]" to avoid getting in trouble (Metzner, 2013).

Concerning behavior reported to law enforcement. The university's police department was contacted by one of the offender's psychiatrists, who expressed concerns and inquired whether he had a criminal history. However, the offender dropped out of school before much further action was taken (Associated Press, 2015).

Firearms. Legally purchased from gun stores (Buchanan et al., 2018).

2012 Sandy Hook School Shooting

Leakage prior to attack. According to FBI reports, the offender had made threats to kill his mother and some children at Sandy Hook, which were overheard and reported by another person (Associated Press, 2017).[1] In addition, a fellow video game player knew that the offender kept a spreadsheet with details on past mass murders and killing sprees, and that he was "'depressed' and 'isolated' and someone who viewed death as an 'escape from his joyless existence'" (Associated Press, 2017). The offender also made many posts in an online forum of people who were fascinated by school shootings and mass shootings.

Concerning behavior reported to law enforcement. Police were notified of the offender's threats, but claimed there was nothing they could do and that the state police should be notified instead (Associated Press, 2017).

Firearms. The offender broke the law when he stole his mother's firearms and used them to kill her and commit the school shooting (Langman, 2016b).

2013 Washington, DC Navy Yard Shooting

Leakage prior to attack. No evidence of leakage pertaining to violent intentions has been found; however, the offender reportedly told friends that "he suffered from depression and post-traumatic stress disorder" (Goode, Nir, & Fernandez, 2013).

Concerning behavior reported to law enforcement. Years earlier, he explained to police that he had shot out someone's tires after experiencing a "blackout fueled by anger," and he was arrested and charged with a felony. In a separate incident, police believed he slashed the tires of five vehicles near his apartment. He was also arrested for illegally discharging a firearm in public (Department of the Navy, 2013). However, in all of these cases, criminal charges were dropped. More recently, police were called by a hotel clerk who feared that the offender would hurt someone and found the offender paranoid and delusional. He had "taken apart his bed, believing someone was hiding under it," "taped a microphone to the ceiling to record the voices of people that were following him," and complained about a computer chip in his head and being controlled by microwave signals. Police contacted the U.S. Navy to report their concerns: "FYI on this . . . Just thought to pass it on to you in the event this person escalates" (Department of the Navy, 2013).

Firearms. Legally purchased a shotgun from a gun store after being prohibited from purchasing an assault rifle because he was an out-of-state resident (Buchanan et al., 2018; Department of the Navy, 2013).

2015 Charleston Church Shooting

Leakage prior to attack. The offender told a neighbor that "he wanted to open fire on a school" or shoot up a local college (Reuters, 2015). He later told a friend "that he wanted to kill black people at a historic African Methodist Episcopal church in Charleston in order to start a race riot," that he had been planning his attack for 6 months, and that he would kill himself afterward (Dixon & Sack, 2017). He also posted a manifesto online, stating that he had "no choice" but to commit an attack against black people.

Concerning behavior reported to law enforcement. The offender had been arrested for drug possession, banned from the shopping mall where the arrest occurred, and then rearrested 2 months later for trespassing (Buchanan et al., 2018).

Firearms. Legally purchased from a gun store, although his drug possession charge could have prohibited the purchase (Buchanan et al., 2018).

2015 UCC Shooting

Leakage prior to attack. The offender had been discharged from the Army after a suicide attempt, had once threatened his mother with a shotgun, and had shown his mother videos he watched of people being killed. His mother said he was "angry at the world" and "said she thought about calling police. But she didn't want him to go to jail . . . worrying that an arrest would make a life already full of challenges all the more difficult" (Schmidt, 2017). One month before his attack, he posted online about his excitement from seeing a video of the 2015 Roanoke shooter killing a journalist and cameraman: "if anyone gets the chance, go on youtube and see the footage of him shooting those people. It's a short video but good nonetheless" (Langman, 2016a).

Concerning behavior reported to law enforcement. No evidence found.

Firearms. Legally purchased through a federally licensed firearms dealer (Buchanan et al., 2018).

2015 San Bernardino Attack

Leakage prior to attack. The male offender had made previous plans with a neighbor "to launch deadly attacks on the college they had attended and on a busy California freeway," and the neighbor had purchased weapons for them before deciding not to participate (Nagourney, Perez-Peña, & Lovett, 2015).

Concerning behavior reported to law enforcement. No evidence found.

Firearms. Legally purchased at gun stores by the male offender and his neighbor (Buchanan et al., 2018).

2016 Orlando Nightclub Shooting

Leakage prior to attack. The offender told coworkers he had connections to Al Qaeda and Hezbollah and "that he wanted to die as a martyr." He told a member of his mosque that he had been watching extremist sermons online. He also watched violent terrorist recruiting videos in front of his wife and asked her, "How bad would it be if a club was attacked?" (Lotan, 2017; Wilber, 2016).

Concerning behavior reported to law enforcement. The FBI had investigated the offender for 10 months and interviewed him multiple times after coworkers and a member of his mosque reported their concerns. However, the FBI found that the offender had no terrorist connections and limited ideological knowledge. The offender said he lied about his terrorist connections to scare coworkers and denied watching extremist videos (Wilber, 2016).

Firearms. Legally purchased at gun stores (Buchanan et al., 2018).

2017 Las Vegas Shooting

Leakage prior to attack. No evidence of leakage pertaining to violent intentions has been found, and his girlfriend claims that he told her nothing about his thoughts or plans. However, he "made numerous claims to friends and family that he consistently felt ill, in pain or fatigued." His doctor thought he may have bipolar disorder, but the offender refused to discuss the possibility. He declined a prescription for antidepressants but accepted one for anxiety medication (Las Vegas Metropolitan Police Department, 2018).

Concerning behavior reported to law enforcement. No evidence found.

Firearms. Legally purchased at gun stores and from licensed firearms dealers (Las Vegas Metropolitan Police Department, 2018).

2017 Sutherland Springs Church Shooting

Leakage prior to attack. According to a coworker, the offender "displayed a fascination with mass murders" and was inspired by the 2015 Charleston church shooting. "He would say 'isn't it cool? Did you watch the news?' . . . He would say he wished he had the nerve to do it, but all he would be able to do is kill animals." The coworker warned supervisors "back off or he would shoot the place up." She also recounted that the offender "threatened to kill himself one time if I didn't let him go see a chaplain" (Kravarik, 2017). In addition, the offender showed interest in mass shootings on social media and sent his mother-in-law threatening text messages up to the day of the shooting.

Concerning behavior reported to law enforcement. The offender was court-martialed and convicted for assaulting his wife and breaking his infant stepson's skull while in the Air Force and was eventually discharged for "bad conduct." He was also charged with a misdemeanor count of animal cruelty for repeatedly punching a dog (Buchanan et al., 2018).

Firearms. Legally purchased from gun stores, although his domestic violence conviction could have prohibited the purchase (Buchanan et al., 2018).

2018 Parkland School Shooting

Leakage prior to attack. The offender introduced himself to an acquaintance by saying, "Hi . . . I'm a school shooter." On social media he responded to a mass shooting in New York by posting, "Man I can do so much better." In other online posts, he stated, "I wanna shoot people with my AR-15" and "I'm going to be a professional school shooter" (Griffin, Glover, Pagliery, & Lah, 2018; "Red flags," 2018).

Concerning behavior reported to law enforcement. Both the FBI and local law enforcement were contacted by neighbors, relatives, and other individuals who were concerned that the offender was suicidal, depressed, self-destructive, angry, violent, a threat who "could be a school shooter in the making," and someone who showed a "desire to kill people." Neighbors reported the offender would sometimes point a gun at their window. Law enforcement officers had responded to calls from his home many times in previous years and were specifically told that the offender was in possession of firearms, although he might try to hide them (Griffin et al., 2018; "Red flags," 2018).

Firearms. Legally purchased at a gun store (Buchanan et al., 2018).

Comparisons Between the Deadliest Public Mass Shooters and Other Active Shooters

As shown in Table 2, beyond its case-by-case analyses, this study also found that perpetrators of the deadliest public mass shootings appeared quite different from active shooters who killed fewer victims. Once potentially overlapping cases from the FBI report were removed, we found that the deadliest mass shooters engaged in leakage about their violent thoughts/intentions far more often (87%) than other active shooters (52%). In fact, the most severe form of leakage (signaling specific interest in mass killing) was more common among the deadliest mass shooters (80%) than even the baseline level of leakage (signaling violent thoughts/intentions) was among other active shooters (52%).

In addition, the deadliest perpetrators' concerning behavior had been reported to law enforcement prior to the attack much more frequently (80%) than other active shooters' concerning behavior had been reported (34%). In fact, for the deadliest mass shooters, concerns about their specific interest in homicide or mass killing had been reported to law enforcement more often (47%) than any form of concerning behavior had been reported for other active shooters (34%).

Finally, there was a small difference in the proportion of perpetrators who were able to acquire all of their firearms legally: 80% of the deadliest mass shooters and 93% of other active shooters met this criterion.

Discussion

Lesson 1: Prevention Appears Possible in the Vast Majority of Cases

As this study's findings have shown, the vast majority of the deadliest public mass shootings in the United States over the past two decades appear to have been preventable, based on the information known about offenders in advance. This assertion is consistent with the FBI's conclusions in their aforementioned report (Silver, Simons, & Craun, 2018), although the warning signs among their sample of active shooters were far less common than those preceding the deadliest

Table 2. Comparisons Between the Deadliest Public Mass Shooters and Active Shooters in the United States According to Leakage, Information Reported to Law Enforcement, and Firearms Acquisition.

Factor	Current study's findings on the deadliest public mass shooters, 1999-2018 (%)	FBI study's findings on active shooters, 2000-2013 (%)	FBI study's findings on active shooters, 2000-2013, with potentially overlapping cases from the current study removed (%)
Leakage of violent thoughts/intent	87	56	52
Leakage of specific interest in mass killing	80	No data collected	No data collected
Concerning behavior was reported to law enforcement	80	41	34
Concerning interest in homicide was reported to law enforcement	47	No data collected	No data collected
All firearms used in the mass shooting were acquired legally (% of known cases)	80	90	93

Note. The current study's sample included perpetrators of the 15 deadliest incidents from March 1998 to February 2018. The FBI study's sample included 63 active shooters from January 2000 to December 2013 and was authored by Silver, Simons, and Craun (2018). The seven potentially overlapping cases all appeared in the FBI's initial report on active shootings from 2000 to 2013 (Blair & Schweit, 2014) and were the 2005 Red Lake school shooting, 2007 Virginia Tech shooting, 2009 Binghamton shootings, 2009 Fort Hood shooting, 2012 Aurora theater shooting, 2012 Sandy Hook school shooting, and 2013 Washington, DC Navy Yard shooting. FBI = Federal Bureau of Investigation.

incidents studied here. As those researchers summarized, "There is cause for hope because there *is* something that can be done . . . these observable behaviors may represent critical opportunities for detection and disruption" (Silver, Simons, & Craun, 2018, pp. 6, 27).

This hope is even more warranted in the deadliest cases because leakage is so much more common than among active shooters who kill fewer victims. One potential explanation for this difference may be the longer planning periods that deadlier mass shooters typically engage in (Bondü & Scheithauer, 2015). While only approximately 18% of active shooters in the FBI sample planned their attacks for more than 6 months (Silver, Simons, & Craun, 2018), nearly all of the deadliest public mass shooters in this study planned for that long or longer. In turn, longer planning times may be associated with more leakage from potential perpetrators, along with more opportunities to prevent their attacks.

Even in the unusual cases where the offenders' violent intentions were apparently unknown (the DC Navy Yard and Las Vegas shootings), the individuals had admitted struggling with mental health problems and shown other reasons for concern. The Navy Yard shooter exhibited signs of schizophrenia, told police he had a "blackout fueled by anger," and had repeated encounters with law enforcement over his disturbing behavior (Department of the Navy, 2013). The Las Vegas shooter had been complaining about his health, was believed by his doctor to have bipolar disorder, had been prescribed anti-anxiety medication, had recently purchased bump stocks and a large number of firearms, and had sent his girlfriend away to another country for no explicable reason (Las Vegas Metropolitan Police Department, 2018). Overall, it seems that serious warning signs are often observed prior to the deadliest public mass shootings and are not only visible in hindsight.

Lesson 2: The Public Should be Educated, Encouraged, and Pressured to Report Leakage and Warning Signs to Law Enforcement

Although most of the mass shooters in this study were reported to law enforcement, it does not mean that the FBI or police departments knew everything the public did. In many cases, law enforcement only received a portion of the concerning information that was known prior to an attack. For example, in the Virginia Tech case, the offender was reported to campus police multiple times—for stalking female students, for his antisocial behavior in class, and for his suicidal remarks—but law enforcement was apparently not given the writing assignments that signaled his interest in committing a mass shooting (Virginia Tech Review Panel, 2009). As this shows, even though some members of the public have successfully reported mass shooters to law enforcement in the past, more progress is needed.

The public needs to be reminded that they are the first line of defense against mass shootings, and they should be more effectively educated, encouraged, and pressured to serve as the eyes and ears of law enforcement. Not only do regular citizens outnumber police officers in the United States by a ratio of more than 300:1—which means they are often present in situations where law enforcement is not—but they also hear leakage, threats, and attack intentions that offenders might not express in front of a police officer.

Many of this study's cases highlight the aforementioned challenges of getting people to report their own friends and family. As noted earlier, the UCC shooter's mother did not report her son because she worried that an arrest would make his life more difficult (Schmidt, 2017). Similarly, the Red Lake shooter and Charleston church shooter were not reported by their friends, despite making explicit threats about mass shootings (Davey & Wilgoren, 2005; Dixon & Sack, 2017; Meloy & O'Toole, 2011; Reuters, 2015), and the Orlando shooter's wife did not report him even though he apparently discussed attacking a nightclub (Lotan, 2017).

Public information campaigns should emphasize that failure to report a potential mass shooter is not only a violation of one's public and social responsibility, but it can

also have serious personal consequences. Far too many families, friends, and coworkers have had to live with traumatic guilt after they saw something, but said nothing. In addition, people who have heard critical information but failed to report it are increasingly facing lawsuits and criminal charges. Families, schools, and government agencies have all been sued for their inaction, and friends of the 2005 Red Lake shooter and 2015 Charleston church shooter, a neighbor of the 2015 San Bernardino shooters, and the wife of the 2016 Orlando shooter were each arrested after failing to report clear signs of those impending attacks (Dixon & Sack, 2017; Lotan, 2017; Meloy & O'Toole, 2011; Wilber, 2016).

Retrospective testimonials should be widely disseminated featuring people who now regret having not reported their friends or family when it could have prevented a tragic attack. This would help increase public awareness and could promote social change. Similarly, every effort should be made to foster the kind of positive climates and police/community relationships which encourage reporting behavior (see, for example, Bobo & Thompson, 2006; Desmond, Papachristos, & Kirk, 2016; Kidd & Chayet, 1984; Madfis, 2014b).

Lesson 3: Law Enforcement Needs to be Educated and Trained on How to More Effectively Investigate Potential Threats

Although in some of the deadliest mass shootings the public failed to report all concerning information to the authorities, there were also some cases where law enforcement failed to effectively investigate potential threats.

For example, although a psychiatrist for the 2012 Aurora movie theater shooter contacted both the university's police department and its behavioral evaluation and threat assessment team with her concerns, no one appeared to push for more action beyond checking to see whether this individual had a criminal record and limiting his access to campus (Associated Press, 2015). If police had looked closer into his case, they might have discovered that he exhibited many of the key warning signs outlined by Meloy et al. (2012) and Lankford (2018). In turn, this could have justified further investigations that would have revealed he was acquiring weapons, building homemade explosives, and running surveillance on potential targets (O'Neill & Weisfeldt, 2015), all of which would warrant significant cause for concern when evaluated from a threat assessment perspective (Madfis, 2014b; O'Toole, 2000; White, 2017). This information could have been used to prevent his eventual attack.

Law enforcement officers should be better educated and trained on identifying the common warning signs in offenders' lives and evaluating potential threats. Because not all threats are equally dangerous, the threat assessment approach (Cornell & Sheras, 2006; O'Toole, 2000) may offer great utility in distinguishing the characteristics of the most serious and potentially devastating threats from those which may never result in violence of any kind. These forms of knowledge could give law enforcement a more scientific basis for their investigations, so they would know what types of evidence are most important to look for and what types of questions are most

important to ask. As the aforementioned FBI report states, "a shared awareness of the common observable behaviors demonstrated by the active shooters . . . may help to prompt inquiries and focus assessments at every level of contact and every stage of intervention" (Silver, Simons, & Craun, 2018, p. 27).

Lesson 4: People Who Have Admitted Homicidal or Suicidal Thoughts or Interest in Committing Mass Shootings Should be Prohibited From Purchasing or Possessing Firearms

As noted earlier, federal law prohibits people from possessing firearms if they have been involuntarily committed, adjudicated to be mentally defective, or met several other disqualifying criteria (Giffords Law Center, 2018). However, as this study has shown, these standards are insufficient, because most of the public mass shooters examined here were able to obtain their weapons legally despite engaging in leakage and having their concerning behavior or interest in homicide reported to law enforcement.

Looking forward, the best legal mechanism for keeping firearms out of their hands might be risk protection orders (also known as "gun violence restraining orders" or "gun violence protective orders"), which have been recently adopted in several states. As the Giffords Law Center (2018) summarizes, these orders "allow families, household members, or law enforcement officers to petition a court directly for an order temporarily restricting a person's access to guns."

This study's findings provide further clarity on which warning signs should be considered when making the determination of risk. More specifically, if people who engaged in the most extreme form of leakage—admitting their homicidal thoughts or interest in committing a mass killing—were prevented from acquiring firearms, many of the deadliest incidents of the past 20 years may have been avoided. It seems hard to imagine that most Americans would argue that people have a right to possess firearms after they have made such overtly concerning statements about harming themselves or others.

From the perspective of both members of the public who are considering reporting leakage and law enforcement officers who are investigating potentially dangerous people, keeping at-risk individuals from obtaining weapons may stop them from doing something terrible, without requiring them to be imprisoned or institutionalized. False positives will continue to be a challenge, but at least people who are inaccurately perceived to be threats by those "erring on the side of caution" would only lose their firearms, not their freedom.

Conclusion

Based on its analysis of the deadliest public mass shooters in the United States over a 20-year period, this study has shown that such offenders often admit that they have homicidal thoughts or intentions, including specific interest in committing a mass

killing. It has also offered a series of recommendations for how this information could be used to improve policy and prevention strategies.

However, the frequency of these types of leakage among the general population remains unknown. For example, if someone says "I wanna shoot people with my AR-15" and "I'm going to be a professional school shooter," as the 2018 Parkland shooter did (Griffin et al., 2018; "Red flags," 2018), does that mean he is extremely likely to follow through on such threats or only moderately likely? Future studies of people who made similar statements but did not harm anyone could enhance scholarly understandings of these warning signs and their predictive power.

In addition, more research is needed on the cases where public mass shootings have been successfully thwarted (Madfis, 2018). Those cases garner far less attention than the deadly incidents examined in this study, but they could be quite instructive. Perhaps the best practices from those cases could provide a template for national policy and prevention efforts.

Finally, it must be acknowledged that even when warning signs are reported by the public and taken seriously by law enforcement, it does not guarantee that a potential offender will be stopped. More research should be conducted on how to turn information into action so that the prevalence of these lethal incidents can be significantly reduced.

Appendix

Incident Coding for Leakage, Information Reported to Law Enforcement, and Legal Firearms Acquisition for the Deadliest Public Mass Shooters in the United States.

Incident	Leakage of violent thoughts/ intent	Leakage of specific interest in mass killing	Concerning behavior was reported to law enforcement	Concerning interest in homicide was reported to law enforcement	All firearms used in the mass shooting were acquired legally
1999 Columbine school shooting	Yes	Yes	Yes	Yes	No
2005 Red Lake school shooting	Yes	Yes	Yes	Yes	No
2007 Virginia Tech shooting	Yes	Yes	Yes	No	Yes
2009 Binghamton shootings	Yes	No	Yes	No	Yes
2009 Ft. Hood shooting	Yes	Yes	Yes	Yes	Yes
2012 Aurora theater shooting	Yes	Yes	Yes	Yes	Yes
2012 Sandy Hook school shooting	Yes	Yes	Yes	Yes	No
2013 Washington, DC Navy Yard shooting	No	No	Yes	No	Yes
2015 Charleston church shooting	Yes	Yes	Yes	No	Yes

(continued)

Appendix (continued)

Incident	Leakage of violent thoughts/ intent	Leakage of specific interest in mass killing	Concerning behavior was reported to law enforcement	Concerning interest in homicide was reported to law enforcement	All firearms used in the mass shooting were acquired legally
2015 Umpqua Community College shooting	Yes	Yes	No	No	Yes
2015 San Bernardino attack	Yes	Yes	No	No	Yes
2016 Orlando nightclub shooting	Yes	Yes	Yes	Yes	Yes
2017 Las Vegas shooting	No	No	No	No	Yes
2017 Sutherland Springs church shooting	Yes	Yes	Yes	No	Yes
2018 Parkland school shooting	Yes	Yes	Yes	Yes	Yes
Total	87%	80%	80%	47%	80%

Note. Sample included perpetrators of the 15 deadliest incidents from March 1998 to February 2018. A description of the leakage and information reported to law enforcement for each incident appears in the text. Firearms were coded as being acquired illegally if the offender stole the weapon or convinced someone else to commit a crime to obtain the weapon.

Declaration of Conflicting Interests

Funding

Note

1. This information was not included in 2013 "Report of the State's Attorney for the Judicial District of Danbury" or the 2014 "Report of the Office of the Child Advocate," and the Federal Bureau of Investigation did not release it publicly until 2017.

References

Advanced Law Enforcement Rapid Response Training. (2018). *Course catalog*. Retrieved from https://alerrt.org/Course-Catalog

ALICE Training Institute. (2018). *ALICE training police/LE program*. Retrieved from https://www.alicetraining.com/our-program/alice-training/law-enforcement/

Associated Press. (2015, September 2). Psychiatrist, campus police officer knew James Holmes wanted to kill. *USA Today*. Retrieved from https://www.usatoday.com/story/news/nation/2015/09/02/james-holmes-university-records/71603148/

Associated Press. (2017, October 24). FBI: Police were told Sandy Hook shooter threatened to kill mom, students. *CBS*. Retrieved from https://www.cbsnews.com/news/sandy-hook-shooting-investigation-fbi-documents/

Blair, J. P., & Schweit, K. W. (2014). *A study of active shooter incidents, 2000-2013*. Washington, DC: Texas State University and Federal Bureau of Investigation, U.S. Department of Justice.

Bobo, L., & Thompson, V. (2006). Unfair by design: The war on drugs, race, and the legitimacy of the criminal justice system. *Social Research*, *73*, 445-472.

Bondü, R., & Scheithauer, H. (2010). Explaining and preventing school shootings: Chances and difficulties of control. In W. Heitmeyer, H. Haupt, A. Kirschner, & S. Malthaner (Eds.), *Control of violence: Historical and international perspectives on violence in modern societies* (pp. 295-314). New York, NY: Springer.

Bondü, R., & Scheithauer, H. (2015). Kill one or kill them all? Differences between single and multiple victim school attacks. *European Journal of Criminology*, *12*, 277-299.

Breuninger, K. (2018, February 28). Trump: Take guns "early" without going to court first. *CNBC*. Retrieved from https://cnb.cx/2FG9tqT

Buchanan, L., Keller, J., Oppel, R., & Victor, D. (2018, February 16). How they got their guns. *The New York Times*. Retrieved from https://nyti.ms/2nutvOd

Columbine Review Commission. (2001). *The report of governor Bill Owens' Columbine Review Commission*. Retrieved from http://hermes.cde.state.co.us/drupal/islandora/object/co%3A2067

Cornell, D. G., & Sheras, P. L. (2006). *Guidelines for responding to student threats of violence*. Longmont, CO: Sopris West.

Cullen, D. (2009). *Columbine*. New York, NY: Twelve.

Davey, M., & Wilgoren, J. (2005, March 24). Signs of danger were missed in troubled teenager's life. *The New York Times*. Retrieved from https://nyti.ms/2lTQ8cB

Department of Homeland Security. (2018). *Active shooter preparedness*. Retrieved from https://www.dhs.gov/active-shooter-preparedness

Department of the Navy. (2013). *Investigation into the fatal shooting incident at the Washington Navy Yard on September 16, 2013 and associated security, personnel, and contracting policies and practices*. Retrieved from https://archive.defense.gov/pubs/Navy-Investigation-into-the-WNY-Shooting_final-report.pdf

Desmond, M., Papachristos, A., & Kirk, D. (2016). Police violence and citizen crime reporting in the black community. *American Sociological Review*, *81*, 857-876.

Dixon, C., & Sack, K. (2017, March 21). A friend lied about Dylann Roof's massacre plan. Now he'll go to prison. *The New York Times*. Retrieved from https://nyti.ms/2nxd5ES

Federal Law Enforcement Training Centers. (2018). *Active shooter threat instructor training program*. Retrieved from https://www.fletc.gov/training-program/active-shooter-threat-instructor-training-program

Follman, M., Aronsen, G., & Pan, D. (2018, February 23). U.S. mass shootings, 1982-2018: Data from Mother Jones' investigation. *Mother Jones*. Retrieved from https://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data/

Fox, J. A., & Levin, J. (2015a). *Extreme killing: Understanding serial and mass murder*. Thousand Oaks, CA: SAGE.

Fox, J. A., & Levin, J. (2015b). Mass confusion concerning mass murder. *The Criminologist*, *40*, 8-11.

Geurts, R., Ask, K., Granhag, P. A., & Vrij, A. (2018). Interviewing to manage threats: Exploring the effects of interview style on information gain and threateners' counter-interview strategies. *Journal of Threat Assessment and Management*, *5*, 189-204.

Giffords Law Center. (2018). *Extreme risk protection orders*. Retrieved from https://lawcenter.giffords.org/gun-laws/policy-areas/who-can-have-a-gun/extreme-risk-protection-orders/

Goode, E., Nir, S., & Fernandez, M. (2013, September 19). Signs of distress multiplied on killer's path to Navy Yard. *The New York Times*. Retrieved from https://nyti.ms/2Ga2Koe

Griffin, D., Glover, S., Pagliery, J., & Lah, K. (2018, February 16). From "broken child" to mass killer. *Cable News Network*. Retrieved from https://www.cnn.com/2018/02/16/us/shooter-profile-invs/index.html

Hempel, A. G., Meloy, J. R., & Richards, T. C. (1999). Offender and offense characteristics of a nonrandom sample of mass murderers. *Journal of the American Academy of Psychiatry and the Law*, *27*, 213-225.

Hoffmann, J. (2017). The Virginia Tech massacre as a starting point for threat assessment programs in European universities. *Journal of Threat Assessment and Management*, *4*, 112-117.

Huff-Corzine, L., McCutcheon, J. C., Corzine, J., Weller, M., & Landon, M. (2014). Shooting for accuracy: Comparing data sources on mass murder. *Homicide Studies*, *18*, 105-124.

Kelly, R. (2012). *Active shooter: Recommendations and analysis for risk mitigation*. New York: New York City Police Department.

Kidd, R. F., & Chayet, E. (1984). Why do victims fail to report? The psychology of criminal victimization. *Journal of Social Issues*, *40*, 39-50.

Kravarik, J. (2017, November 9). Texas shooter claimed to buy animals on Craigslist for "target practice," former colleague says. *Cable News Network*. Retrieved from http://cnn.it/2AnScPg

Langman, P. (2016a). Chris Harper-Mercer's blog. Retrieved from https://schoolshooters.info/sites/default/files/harper-mercer_blog_1.0.pdf

Langman, P. (2016b). *The origins of firearms used in school shootings in the United States*. Retrieved from https://schoolshooters.info/sites/default/files/origins_of_firearms_1.1.pdf

Lankford, A. (2015). Mass shooters in the USA, 1966–2010: Differences between attackers who live and die. *Justice Quarterly*, *32*, 360-379.

Lankford, A. (2016a). Fame-seeking rampage shooters: Initial findings and empirical predictions. *Aggression and Violent Behavior*, *27*, 122-129.

Lankford, A. (2016b). Public mass shooters and firearms: A cross-national study of 171 countries. *Violence and Victims*, *31*, 187-199.

Lankford, A. (2018). Identifying potential mass shooters and suicide terrorists with warning signs of suicide, perceived victimization, and desires for attention or fame. *Journal of Personality Assessment*, *100*, 471-482.

Lankford, A., & Madfis, E. (2018). Don't name them, don't show them, but report everything else: A pragmatic proposal for denying mass killers the attention they seek and deterring future offenders. *American Behavioral Scientist*, *62*, 260-279.

Larkin, R. (2009). The Columbine legacy: Rampage shootings as political acts. *American Behavioral Scientist*, *52*, 1309-1326.

Latané, B., & Darley, J. M. (1969). Bystander "apathy." *American Scientist*, *57*, 244-268.

Las Vegas Metropolitan Police Department. (2018). *LVMPD criminal investigative report of the 1 October mass casualty shooting*. Retrieved from https://www.lvmpd.com/en-us/Documents/1-October-FIT-Criminal-Investigative-Report-FINAL_080318.pdf

Leuschner, V., Bondü, R., Schroer-Hippel, M., Panno, J., Neumetzler, K., Fisch, S., . . .Scheithauer, H. (2011). Prevention of homicidal violence in schools in Germany: The Berlin Leaking Project and the Networks against School Shootings Project (NETWASS). *New Directions for Youth Development*, *129*, 61-78.

Lotan, G. T. (2017, March 10). Judge: Pulse shooter Omar Mateen's widow, Noor Salman, will stay in jail. *Orlando Sentinel*. Retrieved from http://www.orlandosentinel.com/news/pulse-orlando-nightclub-shooting/os-noor-salman-pulse-details-20170310-story.html

Madfis, E. (2014a). Averting school rampage: Student intervention amid a persistent code of silence. *Youth Violence and Juvenile Justice*, *12*, 229-249.

Madfis, E. (2014b). *The risk of school rampage: Assessing and preventing threats of school violence*. New York, NY: Palgrave Macmillan.

Madfis, E. (2014c). Triple entitlement and homicidal anger: An exploration of the intersectional identities of American mass murderers. *Men and Masculinities*, *17*, 67-86.

Madfis, E. (2018). Insight from averted mass shootings. In J. Schildkraut (Ed.), *Mass shootings in America: Understanding the debates, causes, and responses* (pp. 79-84). Santa Barbara, CA: Praeger.

Mathes, E. W., & Kahn, A. (1975). Diffusion of responsibility and extreme behavior. *Journal of Personality and Social Psychology*, *31*, 881-886.

Meloy, J. R., Hempel, A. G., Mohandie, K., Shiva, A. A., & Gray, B. T. (2001). Offender and offense characteristics of a nonrandom sample of adolescent mass murderers. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*, 719-728.

Meloy, J. R., Hoffmann, J., Guldimann, A., & James, D. (2012). The role of warning behaviors in threat assessment: An exploration and suggested typology. *Behavioral Sciences & the Law*, *30*, 256-279.

Meloy, J. R., & O'Toole, M. E. (2011). The concept of leakage in threat assessment. *Behavioral Sciences & the Law*, *29*, 513-527.

Metzner, J. (2013). *Case Number 12CR1522: Sanity evaluation [Copy Obtained by the Authors]*.

Mullen, P. E. (2004). The autogenic (self-generated) massacre. *Behavioral Sciences & the Law*, *22*, 311-323.

Nagourney, A., Perez-Peña, R., & Lovett, I. (2015, December 17). Neighbor of San Bernardino attackers faces terrorism charges. *The New York Times*. Retrieved from https://nyti.ms/2kxhkLY

National Alliance on Mental Health. (2018). *Calling 911 and talking with police*. Retrieved from https://www.nami.org/find-support/family-members-and-caregivers/calling-911-and-talking-with-police

Newman, K. S., Fox, C., Roth, W., Mehta, J., & Harding, D. (2004). *Rampage: The social roots of school shootings*. New York, NY: Basic Books.

Nock, M. K., Park, J. M., Finn, C. T., Deliberto, T. L., Dour, H. J., & Banaji, M. R. (2010). Measuring the suicidal mind: Implicit cognition predicts suicidal behavior. *Psychological Science*, *21*, 511-517.

Office of the Attorney General. (2004). *Report of the investigation into the 1997 directed report and related matters concerning the Columbine High School shootings in April 1999*. Retrieved from https://schoolshooters.info/sites/default/files/1997_1998_columbine_report.pdf

O'Neill, A., & Weisfeldt, S. (2015, June 17). Psychiatrist: Holmes thought 3-4 times a day about killing. *Cable News Network*. Retrieved from http://cnn.it/1BhGQvr

O'Toole, M. E. (2000). *The school shooter: A threat assessment perspective*. Federal Bureau of Investigation. Retrieved from https://www.fbi.gov/file-repository/stats-services-publications-school-shooter-school-shooter

Prosecutors: Theater shooting suspect told classmate he wanted to kill people. (2012, August 24). *Cable News Network*. Retrieved from https://www.cnn.com/2012/08/24/justice/colorado-shooting/index.html

Red flags: The troubled path of accused Parkland shooter Nikolas Cruz. (2018, March 10). *The Washington Post*. Retrieved from http://wapo.st/cruztimeline

Resnick, B., & Zarracina, J. (2018, February 22). This cartoon explains why predicting a mass shooting is impossible. *Vox*. Retrieved from https://www.vox.com/science-and-health/2018/2/22/17041080/predict-mass-shooting-warning-sign-research

Reuters. (2015, June 20). Charleston shooter originally planned to attack a college. *New York Post*. Retrieved from https://nypost.com/2015/06/20/charleston-shooter-originally-planned-to-attack-a-college/

Rivera, R., & Schwerber, N. (2009, April 4). Before killings, hints of plans and grievance. *The New York Times*. Retrieved from https://nyti.ms/2IUXtl4

Sarteschi, C. (2016). An examination of thwarted mass homicide plots and threateners. *Aggression and Violent Behavior*, *30*, 88-93.

Schildkraut, J., & Muschert, G. W. (2013). Violent media, guns, and mental illness: The three ring circus of causal factors for school massacres, as related in media discourse. *Fast Capitalism*, *10*, 23-43.

Schmidt, B. (2017, September 9). UCC mass shooting: Killer "angry at the world," mom told detectives. *Oregon Live*. Retrieved from http://www.oregonlive.com/pacific-northwest-news/index.ssf/2017/09/ucc_shooting_shooters_mom.html

Schug, R. A., & Fradella, H. F. (2014). *Mental illness and crime*. Thousand Oaks, CA: SAGE.

Silver, J., Fisher, W., & Horgan, J. (2018). Public mass murderers and federal mental health background checks. *Law & Policy*, *40*, 133-147.

Silver, J., Horgan, J., & Gill, P. (2018). Foreshadowing targeted violence: Assessing leakage of intent by public mass murderers. *Aggression and Violent Behavior*, *38*, 94-100.

Silver, J., Simons, A., & Craun, S. (2018). *A study of the pre-attack behaviors of active shooters in the United States between 2000 and 2013*. Federal Bureau of Investigation. Retrieved from https://www.fbi.gov/file-repository/pre-attack-behaviors-of-active-shooters-in-us-2000-2013.pdf

Singal, J. (2015, October 2). We can't predict who will commit a mass shooting. Gun control is the only way out. *New York Magazine*. Retrieved from https://www.thecut.com/2015/10/gun-control-is-the-only-way-out.html

Stueve, A., Dash, K., O'Donnell, L., Tehranifar, P., Wilson-Simmons, R., Slaby, R., & Link, B. (2006). Rethinking the bystander role in school violence prevention. *Health Promotion Practice*, *7*, 117-124.

Tatum, S. (2018, February 22). NRA spokesperson: "Insane monster" shouldn't have been able to get a firearm. *Cable News Network*. Retrieved from http://cnn.it/2CeT3qg

Tyler, T., & Fagan, J. (2008). Legitimacy and cooperation: Why do people help the police fight crime in their communities? *The Ohio State Journal of Criminal Law*, *6*, 231-275.

U.S. Senate Committee on Homeland Security and Governmental Affairs. (2011). *A ticking time bomb: Counterterrorism lessons from the U.S. government's failure to prevent the Fort Hood attack*. Retrieved from https://www.hsgac.senate.gov/imo/media/doc/Fort_Hood/FortHoodReport.pdf

Virginia Tech Review Panel. (2009). *Mass shootings at Virginia Tech: Addendum to the report of the review panel*. Retrieved from https://scholar.lib.vt.edu/prevail/docs/April16ReportRev20091204.pdf

Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the safe school initiative: Implications for the prevention of school attacks in the United States*. Washington, DC: U.S. Secret Service.

Webster Commission. (2012). *Final report of the William H. Webster Commission on The Federal Bureau of Investigation, counterterrorism intelligence, and the events at Fort Hood, Texas, on November 5, 2009*. Retrieved from https://www.hsdl.org/?view&did=717443

White, S. G. (2017). Case study: The Isla Vista campus community mass murder. *Journal of Threat Assessment and Management*, *4*, 20-47.

Wilber, D. Q. (2016). The FBI investigated the Orlando mass shooter for 10 months—And found nothing. Here's why. *Los Angeles Times*. Retrieved from http://www.latimes.com/nation/la-na-fbi-investigation-mateen-20160712-snap-story.html

Author Biographies

Adam Lankford is an associate professor of criminology and criminal justice at The University of Alabama. He is the author of two books and many peer-reviewed journal articles on various types of criminal behavior, including mass murder, mass shootings, and terrorism.

Krista Grace Adkins is a former graduate from The University of Alabama and a current law enforcement officer. Her research interests include terrorism, homeland security, and addiction and recovery.

Eric Madfis is an associate professor of criminal justice at The University of Washington Tacoma. He has published numerous articles and book chapters about the causes and prevention of mass murder in schools and other settings. His book, *The Risk of School Rampage: Assessing and Preventing Threats of School Violence* (2014, Palgrave Macmillan), explores how threats of multiple-victim rampage shootings are assessed and prevented in American public schools.