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Confirmation That the United States Has Six Times Its Global Share of Public Mass Shooters, Courtesy of Lott and Moody's Data

Adam Lankford[1]

LINK TO ABSTRACT

John Lott and Carlisle Moody (2019) have unwittingly replicated a major finding from my study and confirmed its accuracy: the United States has far more than its global share of public mass shooters (Lankford 2016). To understand how they did this without realizing it, you have to know only one thing about this specific type of criminal—which as Lott and Moody acknowledge, is similar to "active shooters" or "rampage shooters" and traditionally defined by having killed four or more victims, along with several other criteria.

They almost always attack alone. This is such common knowledge that I am surprised it requires any comment. Most laypeople already know this without my needing to say so, and certainly all researchers with experience in this area recognize this simple fact. It is one of the things that makes public mass shootings so terrifying: they are one of the most vivid demonstrations of just how much death and destruction a single person can cause on his own.

How frequently do public mass shooters attack alone?

Of course, there are rare exceptions, such as the two Columbine shooters

1. The University of Alabama, Tuscaloosa, AL 35487.

who attacked in 1999. But independent reports published by the Federal Bureau of Investigation (Blair and Schweit 2014; FBI 2018), Congressional Research Service (Bjelopera et al. 2013), Rockefeller Institute of Government (Schildkraut, Formica, and Malatras 2018), and New York City Police Department (NYPD 2012) all show that 95–98% of these crimes are committed by solo perpetrators acting alone.

The same thing is demonstrated by open-source data hosted by the *Washington Post* (Berkowitz, Lu, and Alcantara 2019) and *Mother Jones* (Follman, Aronsen, and Pan 2019), which anyone can analyze for themselves, as well as previous research on these types of shootings in the United States (Capellan et al. 2018; Duwe 2016) and beyond (Böckler et al. 2013; Lemieux 2014).

In Table 1, I have listed the frequency with which public mass shootings, active shootings, and rampage school shootings have been committed by a single perpetrator, according to a dozen separate studies and data sources, including my own. I have also listed the corresponding frequencies from the list of cases that Lott (2018a) compiled in an attempt to justify his claims prior to co-authoring with Moody.

Readers are encouraged to peruse Table 1 and play a simple game. Ask yourself: What is wrong with this picture? Which one doesn't fit? Who seems to be counting some other type of crime?

Of course, if someone stretches the definition of a 'public mass shooter' beyond its established notion, then the nature of these incidents and perpetrators would be dramatically altered. At the extreme, someone could theoretically label many soldiers 'public mass shooters' based on their participation in armed conflict or war, because they do engage in public violence that results in more than four people being killed. Someone could also add other perpetrators of group violence, including paramilitary fighters, armed rebels, militia group members, and terrorist strike teams.

But that would distort the notion of this crime and defy common sense. In 2004, 300 rebels from the Lord's Resistance Army in Uganda attacked a camp for internally displaced people and killed at least 54 civilians and two enemy soldiers (GTD 2018). In 2007, one student at Virginia Tech university shot and killed 32 people. There are major differences in the psychology, behavior, weapons acquisition, underlying causes, and prevention strategies that apply to these distinct types of violence (see, for example: Duquet 2018; Eichstaedt 2009; Hoffman 1998; Lankford 2015; Moghaddam 2005; Silver, Simons, and Craun 2018; Stein 2017). Studying attacks by the Lord's Resistance Army will not help us understand and prevent the next Virginia Tech shooting, or vice versa.

If all participants in group violence were counted, that would also result in the inclusion of many people who were far less lethal than public mass shooters who personally killed four or more victims themselves. Should all 28 guardsmen

who were reportedly involved in four deaths at Kent State in 1970 be labeled public mass shooters, even though they averaged killing 0.14 victims each? Should they all be put in the same category as mass shooters from Parkland, Sandy Hook, and Las Vegas who personally killed 17, 27, and 58 victims, respectively? To analyze these distinct forms of violence together would be a textbook example of comparing apples and oranges.

TABLE 1. Frequency of public mass shootings, active shootings, and rampage school shootings committed by someone attacking alone

Source	Frequency of shootings committed by someone attacking alone	Number of shootings by someone attacking alone/ Number of total incidents
Federal Bureau of Investigation (Blair and Schweit 2014)	98.8%	158/160
Federal Bureau of Investigation (2018)	98.4%	246/250
New York City Police Department (2012)	95.4%	271/284
Congressional Research Service (Bjelopera et al. 2013)	96.2%	75/78
Rockefeller Institute of Government (Schildkraut, Formica, and Malatras 2018)	97.6%	332/340
Washington Post (Berkowitz, Lu, and Alcantara 2019)	97.6%	162/166
Mother Jones (Follman, Aronsen, and Pan 2019)	97.3%	107/110
Duwe (2016)	95.6%	153/160
Capellan et al. (2018)	98.1%	310/316
Lemieux (2014)	98.3%	117/119
Böckler et al. (2013)	97.5%	117/120
Lankford's (2016) U.S. cases	98.9%	88/89
Lankford's (2016) foreign cases	99.0%	198/200
Lankford's (2016) total cases	99.0%	286/289
Lott's (2018a) U.S. cases	95.3%	41/43
Lott's (2018a) foreign cases	**6.7%**	**97/1447**
Lott's (2018a) total cases	**9.3%**	**138/1490**

Notes: These studies and data sources all focused on public mass shootings or active shootings, except Böckler et al.'s (2013) study, which examined rampage school shootings. Data indexed by the *Washington Post* and *Mother Jones* are updated regularly; these results are current through March 1, 2019. Lankford (2016) included 292 public mass shooters from 289 incidents. One of Lott's (2018a) foreign cases was removed prior to these calculations because it was a duplicate of the same incident (#960, #961).

I believe this is one of the major reasons why the FBI (Blair and Schweit 2014; FBI 2018) and most other researchers have not included gang violence or

other group violence in their studies: group behavior is so profoundly different from that of individuals. I tried to follow their lead by similarly applying consistent criteria to all cases worldwide, and therefore excluded gang violence, along with sponsored acts of terrorism or genocide that did not appear self-initiated by the perpetrator, because group behavior plays such an important causal role in those other types of crimes.

Back in 2015, Lott claimed he also cared about the integrity of cross-national analyses. "To make a fair comparison with American shootings, I have excluded terrorist attacks that might be better classified as struggles over sovereignty, such as the 22 people killed in the Macedonian town of Kumanovo last month," he wrote at the time (Lott 2015). But now he has abandoned that pretense, without providing any justification. According to Lott's (2018a) own coding, and now that of Lott and Moody (2019), nearly 500 foreign attacks that stemmed from battles over sovereignty have been included in their dataset.

Lott and Moody (2019) lump seemingly everything into their list of incidents from other countries: attacks by militia groups, paramilitary fighters, terrorist cells, and more. They include the aforementioned 2004 Lord's Resistance Army attacks in Uganda, as well as hundreds of other acts of group violence. They even include attacks by "soldiers" in Nigeria (case #333) and by "a squad of uniformed troops" in Colombia (case #324). Here are a few more examples from their dataset:

- "300 heavily armed Pokot raiders attacked a village in the Suam sub-county, killing people, burning as many as 200 houses and stealing at least 300 head of cattle" (case #465).
- "Approximately 250 militants from Fuerzas Armadas Revolucionarias de Colombia (FARC) attacked the Alto de San Juan village, Colombia. Fifteen people died as a result" (case #264).
- "Over 200 gunmen of the Ogaden National Liberation Front (ONLF) attacked a Chinese-run oil field in Abole, Ethiopia. Seventy-four people were killed" (case #825).
- "Armed Arab militia members riding horses and camels attacked the Aro Sharow refugee camp in Sudan's West Darfur Province, killing at least 29 people and injuring 10 others. The perpetrators, numbering 300, burned 80 shelters and sent thousands of refugees fleeing into the countryside" (case #634).
- "The Democratic Karen Buddhist Army (DKBA) attacked the Huay Kaloke Myanmar Refugee Camp in the Mae Sot District of Thailand with guns and grenades, causing severe damage. Four people were killed and 39 were injured" (case #12).
- "Around 150 Taliban militants stormed a government building killing

> at least four policemen, wounding five, and abducting a tribal elder" (case #957).

Overall, more than 95 percent of the incidents Lott and Moody count from the United States were committed by a single perpetrator (41 out of 43). They do not count any U.S. incidents with more than two killers. But when it comes to foreign attacks, less than 7 percent of the incidents they count from other countries were committed by a solo attacker. In fact, they admit that they do not even know the number of shooters for all incidents they are counting. Those they do know about had an average of 22 perpetrators and a median of four perpetrators per incident (Lott and Moody 2019, 53 n.20).

What do Lott and Moody's own data show about public mass shooters who attack alone?

Fortunately, Lott and Moody's data can speak the truth they deny. Just focus on their list of public mass shooters who attacked alone. Of course, a few legitimate dual-perpetrator cases would not be included in that analysis, but previous research indicates that focusing on shooters who attack alone would account for 95–99% of the entire phenomenon (Bjelopera et al. 2013; Blair and Schweit 2014; Böckler et al. 2013; Capellan et al. 2018; Duwe 2016; FBI 2018; NYPD 2012; Lemieux 2014; Schildkraut et al. 2018). This is certainly sufficient for estimating how the United States compares to the rest of the world.

Of the 1,448 cases Lott and Moody (2019) compiled from foreign countries, 98 involved a single perpetrator. Readers can confirm this for themselves by sorting the "no. of perpetrators" column in Lott's original dataset (which I provide **here**, as Appendix A) and counting the results. Of these single perpetrator cases, two were duplicate entries of the same incident (#960 and #961), which leaves them with 97 foreign cases.

It is then simple arithmetic to calculate the American proportion. Lott and Moody's own data show that from 1998–2012, 41 of all 138 public mass shootings by single perpetrators worldwide were committed in the United States. That represents 29.7 percent. Because America had in those years approximately 4.5 percent of the world's population (according to Lott and Moody's calculations), this indicates that based on their own data, the United States had more than six times its global share of public mass shooters who attacked alone (29.7/4.5 = 6.6). Another way of understanding this is that, if the United States had its proportionate share of these mass shooters, it should have had 4.5 percent of the 138 total cases,

which would be 6. It actually had 41.

This finding clearly demonstrates the magnitude of America's mass shooting problem, but Lott's history suggests he will attempt to spin it anyway. For instance, Snopes, a fact-checking service, has had to warn people about Lott's mass shooting claims (MacGuill 2018). Yes—the same fact-checkers who warned consumers not to believe that the poltergeist curse is real or that food companies use aborted babies in their flavor additives also had to warn the public not to believe John Lott.

In that instance, it was because Lott calculated mass-shooting death rates in small countries that experienced only a single incident, and then used them "to create the false impression that mass shootings are less frequent and less deadly in the United States than in European countries" (MacGuill 2018). Lott "uses inappropriate statistical methods to obscure the reality that mass shootings are very rare in most countries, so that when they do happen they have an outsized statistical effect," Snopes concluded (ibid.).

Lott and Moody play the same game when they claim the Northern Mariana Islands has a mass shooting rate more than 100 times greater than that of the United States, even though the Northern Mariana Islands had only one qualifying incident from 1998–2012, according to their findings (2019, 66). By Lott and Moody's view, the smaller the population of the place where a mass shooting occurs, the larger the rate, and presumably the risk. The same logic would suggest that Sutherland Springs, Texas—which is the home of approximately 600 people but saw 26 killed in a terrible 2017 church shooting—must be one of the most dangerous places in the world, rather than the spot of a tragic aberration.

To get around these high variance challenges when calculating rates of rare events, it is most reliable to compare larger sample sizes (i.e., large population areas) to each other. Lott half-admitted this in 2015 when he stated, "If you are going to compare the U.S. to someplace else, if you are going to compare it to small countries, you have to adjust for population. Alternatively, compare the U.S. to Europe as a whole" (quoted in Lee 2015).

I have taken up this latter challenge, using Lott and Moody's own data, but they will not like the results. As shown in Table 2, their data indicate that from 1998–2012, the United States was the site of more public mass shooters who attacked alone than all of Europe, even though Europe has more than twice the U.S. population. In fact, the United States had more public mass shootings by perpetrators attacking alone than all of Europe, Africa, South America, or Oceania. Asia was the only *continent* with more of these crimes than the United States, and its population is over ten times as large.

TABLE 2. How the United States compares with five continents, according to Lott and Moody's data on public mass shooters who attacked alone

Location	Number of public mass shooters who attacked alone	Population (2010 est.)	Public mass shooters who attacked alone, per 10 million people
United States	41	310 million	1.323
Europe	25	739 million	0.338
Oceania	1	37 million	0.270
Africa	15	1,030 million	0.146
Asia	50	4,157 million	0.120
South America	4	391 million	0.102

Note: Data on 136 public mass shooters who attacked alone and killed four or more victims from 1998–2012 come courtesy of Lott and Moody (2019). Not included: two remaining cases of public mass shooters who attacked on the North American continent but outside of the United States. Population data come from the Population Reference Bureau.

Lott and Moody's unwitting replication and confirmation of Lankford's (2016) findings

I will not spend much time on Lott and Moody's (2019) attempts to rationalize their approach or discredit mine. Could a few phrases in my original study be rewritten for clarity? Sure: "is consistent" (Lankford 2016, 191) could be reworded as "appears consistent," "sponsored acts of genocide or terrorism" (ibid., 191) could be accompanied by a brief explanation of the differences between violence by self-directed individuals and group/organizational violence, and "complete data" (192) could be rewritten as "complete data on independent variables." As Lott and Moody (2019) acknowledge, I did include shooters with terrorist motives (like the 2009 Fort Hood shooter) as long as their behavior appeared self-initiated, even though some researchers do not count any terrorist shootings (e.g., Bjelopera et al. 2013, in their report for the Congressional Research Service).

Fortunately, the global distribution of public mass shooters has an objective reality that is not dependent on such issues. This is confirmed by the fact that, when we focus on the same thing, we have the same results.

As noted above, Lott and Moody's own data show that 29.7 percent of the entire world's public mass shootings by single perpetrators were committed in the United States, and that America had more than six times its share of the world's public mass shooters who attacked alone. This is remarkably similar to my original study's published result: I found that 30.8 percent of public mass shooters attacked

in the United States (Lankford 2016), which would also be more than six times our share of the world's public mass shooters (30.8/4.5 = 6.8).

Our results are not identical, and the accuracy of our conclusions diverges widely. But these findings are far closer than any independent replication would be expected to produce.

In Table 3, I demonstrate how strongly these findings persist, whether people use (a) my original dataset (Lankford 2016), (b) my original dataset's information on public mass shooters who attacked alone, (c) Lott and Moody's (2019) list of public mass shooters who attacked alone, (d) Lott and Moody's (2019) list of public mass shooters who attacked alone, not counting cases they coded as "battles over sovereignty" (which Lott claimed in 2015 should not be compared with American mass shootings), or (e) the combination of Lankford's (2016) and Lott and Moody's (2019) lists of public mass shooters who attacked alone. No matter which approach is selected, the United States had more than six times its global share of public mass shootings by single perpetrators.

TABLE 3. The United States' global share of public mass shooters worldwide

Data source	Time period	The United States' global share of offenders worldwide	Number of U.S. offenders/ Number of total offenders worldwide
Lankford's (2016) data on public mass shooters	1966–2012	30.8%	90/292
Lankford's (2016) data on public mass shooters who attacked alone	1966–2012	30.8%	88/286
Lott and Moody's (2019) list of public mass shooters who attacked alone	1998–2012	29.7%	41/138
Lott and Moody's (2019) list of public mass shooters who attacked alone, not counting cases they coded as "battles over sovereignty" (which Lott claimed in 2015 should not be compared with U.S. mass shootings)	1998–2012	31.3%	41/131
Combination of Lankford's (2016) and Lott and Moody's (2019) data on public mass shooters who attacked alone	1998–2012	28.3%	52/184
Note: The United States has approximately 4.5% of the world's population (according to Lott and Moody), so even by the most conservative finding listed above, the United States had more than six times its global share of public mass shootings by single perpetrators (28.3/4.5 = 6.3).			

So that anyone can see this evidence for themselves, I have attached my original study's data on public mass shooters and Lott and Moody's data on public mass shooters who attacked alone as Appendices B (**link**) and C (**link**), along with our combined lists on single perpetrator shootings from 1998–2012 as Appendix

D (link). My original dataset included 46 cases from 1998–2012 not on Lott and Moody's list, and their list includes 37 cases (of varying suitability) not on mine. I will not vouch for all of the cases on their list, because seven are "battles over sovereignty," at least eleven appear to be sponsored or group-influenced attacks where the shooter was not acting of his own volition, and several additional cases are questionable for other important reasons.

It is not only my empirical research and Lott and Moody's unwitting replication which show that the United States has a disproportionate number of these crimes. For instance, Nils Böckler and coauthors (2013) found that "more [rampage] school shootings have occurred to date in the United States than in all other countries combined. By the end of 2011, the U.S. total had reached 76 (63% of all recorded cases), while there had been 44 cases in the rest of the world (37%)." Similarly, Frederic Lemieux (2014) compared mass shootings in the United States with those in 24 other industrialized countries, and found that the U.S. had more than double the number of attacks in "all other 24 countries combined in the same 30-year period."

Lott finally admits some of this in *Econ Journal Watch*—seemingly for the first time ever. "It is true that the United States shows an outsized number of lone-wolf shooters," he and Moody confess (Lott and Moody 2019, 39), before scrambling to minimize the importance of this monumental fact. Perhaps Lott admits this now because he knows he has been undone by his own data, which he published in August 2018 before fully realizing what they showed.

Why does the United States have such a disproportionate number of public mass shooters who attack alone?

Like the findings from my original study (Lankford 2016), the findings I have presented from Lott and Moody's data have powerful implications. The United States has a disproportionate number of public mass shooters who attack alone, and this demands an explanation.

Of course, anyone can speculate about why some countries have more perpetrators than others. Lott and Moody quickly drum up a hypothesis: the United States "has more loners" than anywhere else (2019, 39, 47). They do not support this hypothesis with any citations on cross-cultural differences in loneliness; nor do they bother to test it. Does the United States have six times its global share of loners, and more loners than any entire continent except Asia? They do not say—probably because the answer is no.

Lott and Moody (2019, 46–49) then discuss what they call "magnets," suggesting that in the United States, dangerous individuals attack alone, but outside the United States, dangerous individuals are drawn to join groups before attacking. This is certainly true in some cases, and Lott and Moody cite my own research (Lankford 2013) as a source of the idea. The shape of violence varies across cultures, and individuals may be more prone to seek assistance or support in some contexts than in others. It is also clear that some countries have far more active and influential paramilitary organizations, rebel groups, and terrorist organizations than the United States has, and they do attract some people with violent intentions.

At the same time, Lott and Moody exaggerate the extent of these differences between the United States and the rest of the world. America does not have a domestic corollary for the Lord's Resistance Army, Ogaden National Liberation Front, Democratic Karen Buddhist Army, or United Self-Defense Units of Colombia, but nor do many other developed countries. Yet for some *other* reason, we suffer far more public mass shootings by single perpetrators than our peers. It is also not the case that mass killings are some sort of inevitability, and that the only question is what form they will take. There are many countries that almost never experience mass killings perpetrated by individuals or groups.

However, even if the magnet hypothesis is partially correct, this does not mean we should avoid studying public mass shooters who attack alone. It just means that using the number of public mass shooters who attack alone to measure the total number of dangerous individuals would provide some significant underestimates, because group actors would not be counted. But that seems obvious. I have never implied that my findings explained the variation in all dangerous individuals worldwide.

As to the question of why some countries have more attacks by soldiers, uniformed troops, paramilitary fighters, armed rebels, and terrorist organizations than others, I would not pretend to know. That was clearly beyond the scope of my study, and I have never suggested otherwise. But Lott and Moody have not answered that question, either. They claim to have tested the relationship between this particular type of violence and firearm ownership rates, and to have found no significant relationship. Perhaps they are correct—although I would not trust that without further verification. However, this merely clarifies what does *not* explain the type of mass shootings the United States does *not* have, anyway.

I am more interested in understanding and preventing the type of public mass shootings that have plagued America for more than 50 years, which is why I studied the types of attackers I did. So far, only one explanation for the cross-national variation in these mass shooters has been empirically demonstrated, and that is firearm ownership rate. As Lemieux (2014, 82) summarized based on his comparative analysis of the United States and 24 other industrialized nations,

"mass shootings and gun ownership rates are highly correlated ($r = 0.75$; $p < 0.01$) …the higher the gun ownership rate, the more a given country is susceptible to experience mass shooting incidents." My study independently found the same thing: firearm ownership rate appeared to be the most significant factor, even though I also tested homicide rates, suicide rates, urbanization, and sex ratios (Lankford 2016). Lemieux (2014) and I also both independently found that this association between mass shooters and national firearm ownership rates was so strong that it explained the variation across other countries, even when the United States was not considered.

This firearms explanation is also just common sense. By definition, firearms are needed for people to commit mass shootings, so in countries where it is easier for dangerous or disturbed individuals to legally purchase firearms—like the United States—there is an increased likelihood of an attack. That isn't rocket science.

In fact, it is the public mass shooters who attack alone—the students, office employees, factory workers, and so on—whose behavior is *most* likely to be explained by national firearm ownership rates. These perpetrators are civilians who usually gets their guns legally (Silver, Simons, and Craun 2018), so they are directly affected by national gun restrictions, or the lack thereof. By contrast, the participants in group violence who more commonly attack in other countries—the paramilitary fighters, armed rebels, militia group members, and terrorist strike teams—seem less likely to be affected by firearms legislation. Their groups often operate in open defiance of the local government and its laws, and they appear much more likely to obtain weapons through illegal methods, such as smuggling (Duquet 2018; Eichstaedt 2009).

The Lord's Resistance Army does not get its firearms by walking into a Sunrise Tactical Supply store and slapping down some cash or a credit card on the counter. But that is exactly what the Parkland school shooter did, and many public mass shooters who attack alone in the United States are unfortunately similarly enabled.

Conclusion

It might be easy to assume my disagreement with Lott and Moody is mostly about definitions. They have given that impression in their *EJW* comment, which contains none of the personal attacks or slanderous accusations that Lott has levied against me in other forums.

However, I believe this is actually the case of one researcher who conducted an honest study and let the empirical results guide his conclusions being opposed

by others who are primarily driven by ideological motives. My track record is clear: I published hundreds of thousands of words about crime and violence in two books and many articles before examining public mass shooters worldwide, but never had any interest in debating firearms or gun control. To this day, I am far more interested in studying behavior than weapons, and the latter occupies only a tiny portion of my research. There are certainly impassioned crusaders on all sides of this issue, but I am not one of them. I just followed the evidence where it led, and then was willing to speak publicly about what I found.

By contrast, Lott has a long track record of denying any consequences of the United States' world-leading firearm ownership rate, and this appears directly related to his repeated refrain that America's mass shooting problem is exaggerated (Lott 2014; 2015; 2018b). Before my study was even released, Lott published an op-ed entitled "Myths of American Gun Violence" in which he insisted that "many European countries actually have higher rates of death in mass public shootings" than the United States. This is the same line of research that the fact-checking service Snopes eventually lambasted for using "inappropriate statistical methods" and creating a "false impression" (MacGuill 2018). That was not solely a matter of definitions or semantics.

I suspect that ever since my findings were publicly reported, Lott has been looking for a way to discredit them. As a reminder, he even changed how he counted these attacks prior to posting his criticism of my work (Lott 2018a)—including nearly 500 battles over sovereignty, after claiming in his prior analysis that they should be excluded (Lott 2015).

Regardless of the crime or context, Lott always seems to come to the same conclusion: firearms are not part of the problem. In fact, he has long insisted they are the solution: "more guns, less crime" he has proclaimed for years, and "more guns, less terrorism" he and Moody assert now (2019, 47). However, their rush to turn this newest motto into a marketable "bumper sticker" (ibid.) reveals their willingness to prioritize ideology over accuracy. According to their own findings on mass shootings writ large (primarily group terrorist attacks and other group violence): "There is apparently no significant relationship internationally between firearms per capita and the number of shooters, number of incidents, number killed, or number wounded" (ibid., 60). So they simultaneously claim "more guns, less terrorism," and that guns are not statistically related to terrorism.

Is this simply a mistake, or something more telling? Am I wrong, or are they? Whose judgment, analysis, and findings can you trust? I hope other researchers will weigh in, but ultimately, people will have to decide for themselves.

Appendices

Appendix A: Lott (2018a) complete unedited dataset (**link**).
Appendix B: Lankford (2016) list of 292 public mass shooters, 1966–2012 (**link**).
Appendix C: Lott (2018a) list of 137 public mass shooters who attacked alone, 1998–2012 (**link**).
Appendix D: Lankford (2016) and Lott (2018a) combined list of 184 public mass shooters who attacked alone, 1998–2012 (**link**).
All four appendices also can be downloaded in one compressed file (**link**).

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About the Author

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. His research has examined perpetrators' psychological tendencies, mental health problems, suicidal motives, fame-seeking tactics, copycat behavior, and weapons acquisition—along with the strategies that might be used to prevent their attacks. His email address is adam.lankford@ua.edu.

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