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Is the United States an Outlier in Public Mass Shootings? A Comment on Adam Lankford

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[LINK TO ABSTRACT](#)

In 2016, Adam Lankford published an article in *Violence and Victims* titled “Public Mass Shooters and Firearms: A Cross-National Study of 171 Countries.” In the article he concludes: “Despite having less than 5% of the global population (World Factbook, 2014), it [the United States] had 31% of global public mass shooters” (Lankford 2016, 195). Lankford claims to show that over the 47 years from 1966 to 2012, both in the United States and around the world there were 292 cases of “public mass shooters” of which 90, or 31 percent, were American. Lankford attributes America’s outsized percentage of international public mass shooters to widespread gun ownership. Besides doing so in the article, he has done so in public discourse (e.g., Lankford 2017).

Lankford’s findings struck a chord with President Obama:

“I say this every time we’ve got one of these mass shootings: This just doesn’t happen in other countries.”—President Obama, news conference at COP21 climate conference in Paris, Dec. 1, 2015 ([link](#))

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“The one thing we do know is that we have a pattern now of mass shootings in this country that has no parallel anywhere else in the world.”—President Obama, interview that aired on CBS Evening News, Dec. 2, 2015 ([link](#))

“You don’t see murder on this kind of scale, with this kind of frequency, in any other advanced nation on Earth.”—President Obama, speech at U.S. Conference of Mayors, June 19, 2015 ([link](#))

The Obama administration justified these and similar claims by citing the then-unpublished version of Lankford’s paper (Lee 2015).

Lankford’s study was also a big hit with the media. Beginning in the summer of 2015, it received uncritical coverage in hundreds of news stories, in at least 35 different countries.³ Headlines accepted his findings as fact. Here are a few prominent examples:

- *Wall Street Journal*: “U.S. Leads World in Mass Shootings” (Palazzolo and Flynn 2015)
- *Wall Street Journal* (subheading): “U.S. produces more mass shootings than other countries” (Palazzolo and O’Connell 2015)
- *Los Angeles Times*: “Why the U.S. is No. 1—in mass shootings” (Healy 2015a)
- *Sydney Morning Herald*: “Why the U.S. is No. 1 in Mass Shootings” (Healy 2015b)
- *Time* magazine: “Why the US has 31% of the World’s Mass Shootings” (Basu 2015)
- *Newsweek* magazine: “Study Sees Mass Shootings as ‘Exceptionally American Problem’” (Oumanski 2015)
- *Washington Post*: “American exceptionalism and the ‘exceptionally American’ problem of mass shootings” (Kaplan 2015)

When Lankford’s research began to receive news coverage in the summer of 2015, one of us (Lott) asked to see the paper, but without success. Lankford’s paper was published at the end of January 2016. Lankford has refused many requests to share his data. His dataset of 292 cases (90 U.S., 202 non-U.S.) remains unavailable.

Worldwide, from 1966 through 2012, the number of non-U.S. shooters killing at least four people (not including the perpetrators) that today the English-

3. For example: Australia, Austria, Argentina, Armenia, Brazil, Canada, China, Colombia, Costa Rica, Denmark, Egypt, Finland, France, Germany, Hungary, India, Indonesia, Iran, Ireland, Japan, Malaysia, Mexico, Peru, Portugal, Russia, Slovenia, South Africa, Spain, Sweden, Turkey, UK, Venezuela, Vietnam, and Cuba. The information on the worldwide coverage for Lankford’s work is available on his website ([link](#)).

speaking world could aptly identify as “public mass shooters” is vastly more than 202, as we show below. The number is very hard to determine with any accuracy. However, we are comfortable saying that the number is *upwards of 2,000*. Yet Lankford reports a mere 202 non-U.S. public mass shooters. How did he arrive at that number?

Only very recently, in February 2019, did we begin to get some clarification of Lankford’s definitions, of what his 292 cases are *cases of*. The chief editor of *Econ Journal Watch*, Daniel Klein, wrote to Lankford, requesting the data and replies to 13 questions of clarification. Although Lankford declined to release his data, he provided replies to the 13 questions, with permission to post them online ([link](#)). We shall refer to that document containing Lankford’s replies as “the Q&A” (and cite it as Lankford 2019). Even with the Q&A, it is still unclear how Lankford arrived at his numbers.⁴

Our assessment of Lankford (2016) comes to the conclusion that Lankford *implicitly* defined a concept of a *lone-wolf* public mass shooter (see Lankford’s answer A1 in the Q&A). It is true that the United States shows an outsized number of lone-wolf shooters. But once a concept of lone-wolf shooter is made explicit, one would naturally ask whether there might be explanations *other than gun prevalence* for why the United States has an outsized number of lone-wolf shooters.

Another explanation presents itself: Magnets for dangerous individuals are much more commonly found in other countries, magnets which then make *packs of wolves*, as it were—magnets such as terrorist networks, ethnic and clan groups, insurgency groups, and so on. Around the world, mass shootings occur pervasively, but fewer of the *lone-wolf* sort. Understanding the dynamics of social conflict around the world exposes the irresponsibility of saying that the United States has more lone wolves because it has more guns. Rather, maybe the United States has more lone shooters because *it has more loners in general*. The United States is less clannish and less rooted; it is more ethnically diverse and less kin-based; its culture and social structure is more oriented, even exceptionally so, toward autonomy and individuality.

In this article, we suggest that Lankford has misled readers by defining and using terms in unconventional ways. While Lankford’s paper includes terrorist shooters in the United States such as the Islamic extremist Nidal Hasan of the 2009 Fort Hood massacre, he strips out almost all—we do not know how much—*of the entire spectrum of terrorism-related shootings* outside the United States. Even though Hasan had had, for example, extensive communications with the radical Islamist

4. In the time up to the completion and publication of the present paper we did not actually see Lankford’s answers in the Q&A, but rather have heard some of them read to us by the editor Daniel Klein. Where Lankford’s answers are quoted in the present paper, Klein mediated by inserting the exact text.

imam Anwar al-Awlaki, who, according to U.S. government officials, has planned terrorist operations of al-Qaeda, Hasan was included by Lankford apparently because Hasan's attack was not "sponsored."

However, established, official definitions of 'public mass shooting' and similar terms do *not* exclude any incidents of terrorism, irrespective of whether they are 'sponsored.' Despite claiming that he followed standard definitions, Lankford's semantic move to exclude "sponsored acts of...terrorism" was made cryptically—only in those few words, found at the top of page 191 of his 2016 article. The exclusion is especially hard to understand given that Lankford consistently claims that cases such as the Columbine and Sandy Hook shootings are "functionally similar to terrorism" (p. 188). Virtually all of the media coverage simply missed or neglected that exclusion of terrorism, and its significance. In none of the seven media articles bulleted above does the word *terror* or its variants appear—and that is typical of the news coverage of his study.⁵

Non-problematic aspects of Lankford's "public mass shooter"

Lankford calls his unit of investigation, that is, the thing to be counted, "public mass shooter." Lankford takes some aspects of the definition directly from the New York City Police Department's (NYPD) 2012 Active Shooter report. Lankford (2016, 190) aptly notes that "active shooters" are also known as "rampage shooters" or "public mass shooters." In defining that creature which goes by several names, Lankford (*ibid.*) first of all follows the NYPD report, saying: "According to the formal definition, their attacks must have (a) involved a firearm, (b) appeared to have struck random strangers or bystanders and not only specific targets, and (c) not occurred solely in domestic settings or have been primarily gang-related, drive-by shootings, hostage-taking incidents, or robberies (Kelly, [NYPD] 2012)." On that, we have no quarrel. Furthermore, Lankford (2016, 191) says that he will count only shooters who shot and killed at least four (other) persons. We have no quarrel with that, either. But before turning to the problematic matter of Lankford's treatment of terrorism, let's look at the established and conventional definitions of 'public mass shooter.'

5. [Here](#) is video of Lankford (2015) being asked how he did his study and saying absolutely nothing about terrorism.

Established definitions do not exclude terrorism

Conventional and official sources, including all those that Lankford cites, do not exclude any kind of terrorism from their definitions of ‘active shooter’ or ‘public mass shooter.’⁶ Lankford (2016, 190) says: “Data for this study were drawn first from the New York City Police Department’s (NYPD) 2012 Active Shooter report.” That report states quite clearly its unit of investigation:

The NYPD included only those incidents carried out by attackers that met the DHS [Department of Homeland Security] definition of an active shooter: an individual actively engaged in killing or attempting to kill people in a confined and populated area. The NYPD further restricted this definition to exclude: gang-related shootings, shootings that solely occurred in domestic settings, robberies, drive-by shootings, attacks that did not involve a firearm, and attacks categorized primarily as hostage-taking incidents. (NYPD 2012, 10)

The NYPD thus does not exclude terrorism.

Lankford (2016, 191) goes on to say that, for his study, “the NYPD report was therefore supplemented with additional data from the FBI’s 2014 active shooter report (Blair & Schweit 2014) and with data gathered on incidents from other countries. All efforts were made to ensure that the same data collection methodology employed by the NYPD was used to obtain this information.” The FBI report contains a lengthy clarification of its unit of investigation, which we need to quote extensively:

The agreed upon definition of an active shooter by U.S. government agencies—including the White House, U.S. Department of Justice/FBI, U.S. Department of Education, and U.S. Department of Homeland Security/Federal Emergency Management Agency—is ‘an individual actively engaged in killing or attempting to kill people in a confined and populated area.’ The FBI extends this definition to include individuals, because more than one shooter could be involved in some incidents. Implicit in the definition is that the subject’s criminal actions undertaken include the use of a firearm. Though the federal definition includes the word confined, the FBI excluded this word when considering active shooter incidents. This is because the term confined

6. Lott and Landes (2001; 2003) and Lott (2010; 2018) are other studies on public mass shootings that also include terrorism cases and are in agreement with Lankford (2016, 188) that attacks such as Columbine are “functionally similar to terrorism.”

could be interpreted to omit incidents that occurred outside a building, when in actuality, many incidents originated outside or progressed from indoors to outdoors, or vice-versa, or occurred entirely along a route of travel or at various locations.

The FBI developed discriminating factors to further differentiate potential active shooter incidents, considering for inclusion:

- Shootings in public places;
- Shootings occurring at more than one location;
- Shootings where the shooters' actions did not appear to be another criminal act;
- Shootings resulting in a mass killing;
- Shootings indicating an apparent spontaneity by the shooter;
- Shootings where the shooters appeared to methodically search for potential victims; or
- Shootings that appeared focused on injury to people, not buildings or objects.

Because the risk to civilians in active shooter incidents appears to do with the apparent randomness of so many victims, for purposes of this study, an event was excluded if research established it involved primarily the following factors:

- Conflicts arising from self-defense;
- Gang violence;
- Contained residential or domestic disputes;
- Controlled barricade/hostage situations;
- Crossfire as a byproduct of another ongoing criminal act; or
- Drug violence. (Blair and Schweit 2014, 44)

Thus, the FBI does not exclude terrorism.

Besides the NYPD and FBI sources that Lankford relies on, we can further bolster the claim that 'public mass shooter' does not exclude terrorism. In a short article at *Vox* titled "The Debate Over How to Define Mass Shootings Is Ridiculous," German Lopez (2015) refers to criminologists and considers fine points over whether to "exclude domestic, gang, and drug violence," how many killed, etc. Nowhere in Lopez's article does the word *terror* or any of its variants appear—excluding terrorism is not even considered. Likewise, articles in *Mother Jones* (Follman et al. 2019), *Politifact California* (Nichols 2017), the *Washington Post* (Ingraham 2015), and elsewhere do not exclude terrorism. We know of only one source (Bjelopera et al. 2013) that excludes terrorism from its definition of 'active shooter'

or ‘public mass shooter.’⁷

What Lankford says about his handling of terrorism

In explaining his unit of investigation, Lankford provides the NYPD definition. But he then adds the following sentence:

For this study, attackers who struck outdoors were included; *attackers who committed sponsored acts of genocide or terrorism were not.* (Lankford 2016, 190–191, our emphasis).

The “outdoors” clause is insignificant;⁸ what matters is the “sponsored acts” clause. Lankford provides no clarification or elaboration. Casual readers in the United States might not take note of the importance of this additional feature, because terrorist mass shootings have been very uncommon in the United States. But Lankford’s study is an *international comparison*. In other countries terrorism-related mass shootings have been much more common—and Lankford has quietly excluded most of them from his non-U.S. count, under the cover of the cryptic sentence just quoted.

That sentence appears on the fifth page of his 14-page article. After that sentence, “terror” never again appears. As in his title, abstract and elsewhere, Lankford goes on to speak of public mass shooters/shootings as though his unit of investigation is the same as the NYPD/FBI (with the clarification of four or more people shot and killed). Thus, not only does Lankford fail to clarify the “sponsored acts” condition, he fails to call attention to its critical significance of excluding all but lone-wolf incidents.

What does Lankford mean when he says that he excluded “sponsored acts”? What does it mean for an act to have been “sponsored”? In his article Lankford

7. Bjelopera et al. (2013, 1) says, “this report uses its own definition for public mass shootings. These are incidents occurring in relatively public places, involving four or more deaths—not including the shooter(s)—and gunmen who select victims somewhat indiscriminately. The violence in these cases is not a means to an end—the gunmen do not pursue criminal profit or kill in the name of terrorist ideologies, for example” (see also *ibid.*, 6–7). We consider this definition to be unworkable, since any such act can be seen as a means to an end. Moreover, the example given at the end of quotation would clearly exclude the 2009 Fort Hood shooting, which Lankford includes.

8. From the Q&A (see Q9 and Q10), it is clear that Lankford included the “outdoors” clause merely to clarify that the word “confined” in the NYPD’s expression “a confined and populated area,” quoted in Lankford (2016, 190), was *not* to be understood as meaning that the research counted only those acts that occurred indoors (Lankford 2019, 4).

says absolutely nothing to address that critical question. In the Q&A, Klein asked him to clarify (Q8); Lankford's answer (2019, 3–4) confirms that some such line is being drawn but it does not address the issue of what constitutes the line between sponsored and not-sponsored acts of terrorism.

For any given act of mass shooting, one might guess at a broad range of interaction that might be deemed sponsorship, from encouraging to informing to training to equipping to planning and funding. Furthermore, researchers have imperfect information about the preparations of an act, which requires further clarification of how the researchers classify acts. One might argue, for example, that if a terrorist organization claims credit for the act, as al-Qaeda did for Hasan's Fort Hood massacre, that is evidence of sponsorship. One has to draw a line between sponsored and not sponsored, explain it, and then apply it consistently.

Lankford's response to Q8 amounts to saying that the 2012 Sandy Hook elementary school shooting falls on one side of his line, while the 2008 Mumbai attacks fall on the other (Lankford 2019, 3–4). It is as though a researcher said that he did an analysis that separated the United States into two regions, and, when asked to clarify the line between the two regions he replies only that New York is in one region and Los Angeles is in the other. Obviously, the way to clarify Lankford's line would be to cite, not cases *far* from the line, but cases *close* to it. Lankford declined to do so.

But it gets worse. Now we quote the sentence just quoted, but also the one right after it:

For this study, attackers who struck outdoors were included; attackers who committed sponsored acts of genocide or terrorism were not. *This is consistent with the criteria* employed by the Federal Bureau of Investigation (FBI) in its 2014 active shooter report (Blair & Schweit, 2014). (Lankford 2016, 190–191, our emphasis)

The “This is consistent with...” sentence gives the impression that Lankford's criterion—which excludes “sponsored acts”—is the same as the FBI's—which does not involve any such exclusion. Klein queried Lankford about the matter in the Q&A. Here is Q4 and Lankford's full response:

Q4: In the quotation above, I have put the pronoun “This” in boldface. Please clarify what it is that we should understand to be the antecedent of “This”. That is, *what* is it that is consistent with the criteria employed by the FBI in its 2014 active shooter report?

A4: The FBI list also included attackers who struck outdoors and did not include cases where individuals, rather than killing of their own volition, were engaging in sponsored (or commissioned, if you prefer that word) acts of

genocide or terrorism. (Lankford 2019, 3)

The domain of the FBI report is limited to the United States. Notice how Lankford chose to say “[t]he FBI list...did not include cases where,” and not: *the criterion was such-and-such*. One may say that the application of Lankford’s criteria on the domain of the FBI report yields a list “consistent with” the application of the criteria actually used by the FBI. But what Lankford says is untrue: The two sets of *criteria* (Lankford’s, FBI’s) are *not* consistent; they are importantly different. What are consistent are *their respective applications on the particular domain*. Notice how he speaks of the FBI and not the NYPD report, which includes non-U.S. cases. If he had included the NYPD report in the sentence there would not be a smoke-screen interpretation for what he had written.

After the “sponsored acts” and “This is consistent” sentences, in the next paragraphs Lankford *does* shift back to focusing on the NYPD report, saying that he supplemented that information with his own searches for mass shootings abroad. He writes: “All efforts were made to ensure that the same data collection methodology employed by the NYPD was used to obtain this information” (2016, 191). But without qualifying that statement by adding the clause excluding “sponsored acts” of terrorism/genocide, that sentence is terribly misleading. The NYPD method does not exclude terrorism, and their list includes many obvious cases of terrorism. For example, in addition to the 2008 Mumbai attack, they include the following:

May 15, 1974: Terrorists from the Popular Front for the Liberation of Palestine opened fire at an elementary school in a series of attacks that killed 26 people and wounded 70 others. (NYPD 2012, 147)

December 27, 1985: Three gunmen belonging to the Abu Nidal Organization opened fire at the El-Al ticket counter at Vienna’s Schwechat Airport, killing three people and wounding 30 others. (*ibid.*, 203)

March 6, 2008: Alaa Abu Dhein opened fire in a crowded library at the Mercaz Harav Yeshiva in Jerusalem, killing eight teenage students and wounding 11 others. (*ibid.*, 102)

December 13, 2011: Nordine Amrani opened fire and threw four stun grenades into a crowd at Saint-Lambert square in Liege, Belgium, killing six people and wounding 125 others. (*ibid.*, 34)

Thus, directly after slipping the belated “sponsored acts” condition into his description of method, Lankford immediately talks in a way that, at best, obscures it and, at worst, aims at erasing any awareness the reader may have snatched from

the terse “sponsored acts” clause.

Lankford claims that his paper’s findings are “based on its quantitative analysis of *all known public mass shooters* who attacked anywhere on the globe from 1966 to 2012 and killed a minimum of four victims (N=292)” (2016, 188, our emphasis). That sounds authoritative, but apparently “all known” means simply ‘all the cases known to me that are not sponsored terrorism according to my idiosyncratic definition.’ Likewise, Lankford says, “Complete data were available for 171 countries, and they averaged 1.7 public mass shooters per country from 1966 to 2012” (ibid., 192). This average indicates that Lankford is focusing primarily on ‘lone wolf’ attacks.⁹ It also sounds very precise, but it is unlikely that he could have found data on mass shootings in, say, Mozambique in 1977. For less developed parts of the world such as Africa or Latin America, it can be very difficult to obtain news stories from even a decade ago. It is virtually impossible to obtain news stories on all of the cases of four or more people being killed in the 1960s or 1970s.¹⁰ Finally, Lankford makes no use of the obvious best source for terrorist mass shootings, the University of Maryland’s Global Terrorism Database (GTD).

Is it sensible to exclude terrorism? The importance of magnets for dangerous individuals

Would it be sensible to exclude all terrorist incidents except when deemed by Lankford not to have been “sponsored”? Would there then be sense in an international comparison of public mass shooters so qualified? We will use the Greek letter lambda to designate Lankford’s concept, thus *λ-shooters*, conveniently indicating both Lankford as creator of the concept and ‘lone wolf’ as the type of shooter that Lankford implicitly means when he says “public mass shooter.”

Lankford finds that *λ-shooters* are much more common in the United States and that is because of its relatively liberal gun policy and widespread gun ownership. That is why the media hyped his study.

9. Lankford mentions Columbine as an example of a public mass shooting (Lankford 2016, 187). It was perpetrated by two shooters, and hence not a lone wolf. So Lankford’s shooters are not lone wolves, strictly speaking, but his answer A1 in the Q&A says that in his data set the ratio of shooters to shootings is “approximately 1:1” (Lankford 2019, 1).

10. The U.S. has computerized databases of news stories, but even these are greatly limited prior to 1991. For 1991, there are at least 389 newspapers included in the Nexis database. Just prior to 1991, there are only 31 newspapers. The number quickly gets smaller and smaller as one goes further back in time. And, of course, the English-language news media of decades ago couldn’t be counted on to cover public mass shootings in Europe, let alone Africa or other parts of the world.

Having created the concept of a λ -shooter, Lankford makes international comparisons—most notably, a U.S./non-U.S. comparison—to draw a lesson about U.S. gun policy. We see big problems in using international comparisons of λ -shooters to address gun policy, even assuming that the idea is well-defined and accurately measured for both the U.S. and the rest of the world.

It is important to emphasize that terrorist mass shootings are much *less* common in the United States than in the rest of the world. Counting only λ -shooters removes most of the terrorist mass shooters, a maneuver that alters the non-U.S. picture much more than it alters the U.S. picture.

We have two points against drawing a lesson as Lankford does from the U.S./non-U.S. comparison of λ -shooters. First, it is plausible that there is a causal mechanism from gun policy, gun ownership, and gun carrying to the prevalence of terrorist mass shootings. If terrorists open fire in the United States, it is more likely, relative to, say, in Europe, that those fired on, or someone else, will fire back. That hazard has a deterrent effect before the fact; it also means that when a terrorist starts shooting, he is less likely to kill four victims. A bumper sticker for the point would be: More guns, less terrorism.

But there is a more important causal mechanism that vitiates the lesson that Lankford and others draw from λ -shooter comparisons. Suppose that every national population, on every continent, has its share of angry, violence-prone, even suicidal individuals, most of whom are young men. In many parts of Europe, Asia, Africa, the Middle East, and South America, such a dangerous individual is likely to find a welcome, and an outlet, in a terrorist network. Terrorist groups are magnets for dangerous individuals.

If a dangerous individual enters a terrorist network abroad and then commits a mass shooting, that shooter is removed by Lankford because he is deemed “sponsored.” That angry young shooter is not a λ -shooter. A parallel young man in the United States, who does not readily find a terrorist welcome and outlet, proceeds, let’s say, to commit a mass shooting—as a ‘lone wolf’ and a λ -shooter. He is counted by Lankford, but his counterpart abroad is not. Here the bumper sticker is: More magnets for dangerous individuals, fewer λ -shooters.

Around the world, mass shootings occur pervasively, but many fewer as *lone-wolf* mass shootings. Understanding the dynamics of social conflict around the world exposes the irresponsibility of saying that the United States has more lone wolves because it has more guns. Perhaps because the United States has more lone shooters because it has more loners in general; it is less clannish and less rooted; more ethnically diverse and less kin-based; its the culture and social structure is more oriented toward autonomy and individuality.

Support for that idea—more magnets for dangerous individuals, fewer λ -shooters—comes from Lankford himself. He has done ample research with that

implication, including his book *The Myth of Martyrdom: What Really Drives Suicide Bombers, Rampage Shooters, and Other Self-Destructive Killers* (Lankford 2013). Here is the book description:

For decades, experts have told us that suicide bombers are the psychological equivalent of America's Navy SEALs—men and women so fully committed to their cause or faith that they cease to fear death. In *The Myth of Martyrdom*, Adam Lankford corrects this misconception, arguing that terrorists are driven to suicide for the same reasons any civilian might be: depression, anxiety, marital strife, or professional failure. He takes readers on a journey through the minds of suicide bombers, airplane hijackers, 'lone wolf' terrorists, and rampage shooters, via their suicide notes, love letters, diary entries, and martyrdom videos. The result is an astonishing account of rage and shame that will transform the way we think of terrorism forever. Lankford convincingly demonstrates that only by understanding the psychological crises that precipitate these acts can we ever hope to stop them. (Lankford 2013, dust jacket)¹¹

The point is made again in the 2016 article, when Lankford says that public mass shootings “are typically premeditated attacks that strike random, innocent victims. *This makes them functionally similar to terrorism*” (p. 188, our emphasis). We agree with Lankford that premeditated attacks that strike innocent victims with the desire to get media attention are a lot like terrorism. In the U.S. we might be worried about a lone wolf who wants to kill as many innocent people as possible in a public place, whereas in France we might be worried about a terrorist who wants to kill as many innocent people as possible in a public place. Being shot in a public place by a terrorist in London or Paris is, to use Lankford's expression, “functionally similar” to being shot by a λ -shooter in Los Angeles or New York City.

Lankford has made similar comments to the press, arguing that all the mass shooters in his data set share a common set of traits such as “a sense of victimization, a pattern of seeking negative attention, and being suicidal or not caring whether they live” (Barrett and Berman 2018, paraphrasing Lankford). He also argues that these shared psychological traits may be more important than their agendas (*ibid.*).

Lankford's insights about psychological preconditions have profound implication for any U.S./non-U.S. comparison. Most importantly, it casts doubts on the usefulness or reasonableness of excluding terrorist acts. However, if one is going to exclude some terrorist acts one should explain why. If the researcher

11. This exact text can be found at, e.g., the Amazon.com page for the book ([link](#)), while a longer variant is found at the site of the publisher, Macmillan ([link](#)).

decides to exclude some, he should explain his reasoning on which to exclude. Once the researcher has decided on a line for excluding some terrorist acts, he should try to make clear the line used and how it was implemented in relation to source information. Lankford (2016) does none of this: He does not explain why any terrorist acts should be excluded nor, given that some are excluded, the issues involved in making that decision. All he tells the reader is that “sponsored” acts were excluded, and even that statement is made fleetingly and given none of the prominence it deserves.

We have suggested that magnets for dangerous individuals reduce the number of λ -shooters. Because such magnets are generally much more prevalent outside the United States, the ‘magnet factor’ represents a major possible explanation for why the United States has an outsized number of lone-wolf shooters. One type of magnet is terrorist groups and networks, which we focus on because terrorist shooters are not excluded from standard definitions of ‘public mass shooter.’ But it is important to realize that the magnet factor *goes beyond terrorism*. There are other sorts of magnets that *are* excluded from the standard definitions, such as insurgent groups, genocidal actions, state-sponsored violence, kidnapping rings, and gang violence. With the possible exception of gang violence, these types of shootings, too, are more prevalent outside the United States. As a rival explanation for differential rates of lone wolf shooters, then, the magnet factor extends well beyond terrorism.

Our empirical investigation

Moving from shooters to shootings

Whereas Lankford’s unit of investigation is shooter (with four or more killed, excluding perpetrators), our unit of investigation is cases/incidents of shootings (with four or more killed, excluding perpetrators).

We choose to work primarily with shootings, rather than shooters, for a number of reasons. First, the official definition of public mass shooting does not exclude terrorist acts, which often involve multiple shooters. Investigators often do not know exactly who was killed by whom, and reports often do not specify all that investigators might know. The information on attacks worldwide, reaching back decades, are often unclear on the number of shooters, and typically will not include the detailed knowledge required to determine the exact number of shooters and how many people were killed by each. Second, news and other sources usually report by incident, and describe the overall event. Third, criminologists and other

researchers typically quantify cases or incidents, not shooters.

As we turn to our own empirical investigation, then, the unit is “shootings.” One issue that was relatively common among cases in Africa and some other less developed countries is that many news stories only reveal the total killed and the number of places attacked. Without more information, we cannot determine whether each target meets the criterion of four or more people being killed. Twenty people may have been killed on different days in three different towns that are many miles apart; while it is possible that all three attacks satisfy our definition, we took the more conservative route and counted this as only one attack. This causes a slight underestimate of the total number of shootings.

How we collected our data

Our primary source is the GTD, which has data on over 170,000 attacks from 1970 to 2016 (Global Terrorism Database 2018; LaFree et al. 2015). The GTD defines terrorist attacks as “the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation.” The database lists attacks that were carried out using firearms, incendiary, knives, bombs, vehicles, chemical, biological, or radiological weapons. We included only those cases that indicated firearms as the principal weapon used in the incident.

GTD divides its list of attacks into six categories:¹²

1. Terrorism
2. Insurgency/Guerilla Action
3. Other Crime Type
4. Intra/Inter-group Conflict
5. Lack of Intentionality
6. State Actor

Excluded entirely from all our metrics are: Insurgency/Guerilla Action, Lack of Intentionality, and State Actor (categories 2, 5, and 6). As for Intra/Inter-group Conflict (category 4), we excluded all but ten cases because our investigation of the reporting of those ten cases found little indication of intra- or inter-group conflict in the sense of two groups engaged in mutual hostilities. This leaves us with two categories: Terrorism (category 1) and Other Crime Type (category 3), plus the ten cases from Intra/Inter-group Conflict (category 4). But we also exclude individual

12. The five categories other than Terrorism are the designations for the coding of GTD’s “Doubt Terrorism Proper” field (see GTD 2018, 11).

cases within those categories if the criteria of the NYPD and FBI would exclude them; thus for example we exclude robberies and gang violence.

Lankford's study period was 1966 through 2012. Since we know it is almost impossible to find information on all mass shooting incidents before the advent of the World Wide Web, we examined the last 15 years of Lankford's period of study: 1998 to 2012.¹³ We started with the GTD list of cases for that period. We then reviewed each case using Nexis ([link](#)) and general web searches to determine whether they met our definition (which is the same as the NYPD/FBI definition, except that we excluded insurgency-related shootings). More than 50 percent of the shooting cases identified by the GTD fell in categories 2, 4, 5, or 6, and thus less than 50 percent met our definition of public mass shootings.¹⁴

We included 66 cases that involved kidnapping that satisfied our criteria for a public mass shooting.¹⁵ At one extreme, attackers start killing people and then take hostages when the police or military arrive—a type of case clearly within the purview of this data. At the other extreme, attackers kidnap people and then kill them—a type that is less obvious, though the NYPD includes two cases where a kidnapping preceded a shooting and in one of those cases the kidnapping clearly precipitated the shooting.¹⁶

Focused as it is on terrorism, the GTD does not have a complete list of shootings. For the 1998 to 2012 period, we found 43 attacks in the U.S. whereas the GTD lists just three: the 1999 Columbine High School shooting, the 2009 Fort Hood massacre, and the 2012 Sikh Temple attack in Oak Creek, Wisconsin. The Columbine attack is classified as Other Crime Type, and the other two are classified as Terrorism. But the GTD readily admits that they do not have a comprehensive list of 'other crime types,' causing them to miss cases such as the 2012 Sandy Hook Elementary School attack that would fall into that category.

Over the fifteen years studied here, the GTD also misses 29 cases in Europe, presumably because the GTD does not identify them as terrorist attacks. In Germany, there were two school massacres.¹⁷ Finland, a country with less than 1/

13. We start in 1998 in part because the GTD, in their data for years starting in 1998, includes a variable that indicates whether there is some doubt that the primary motivation for the attack in question could be the result of an insurgency, a guerilla operation, an inter- or intragroup conflict, etc. We exclude those cases.

14. If we had included insurgency-related shootings identified by GTD, it would have increased the number of foreign public mass shootings by 208, from 1,448 to 1,656, and would have reduced the United States share of these attacks accordingly.

15. The cases are denoted "Hostage taking (kidnapping)" in the Excel file ([link](#) to download our data and code).

16. The one case where the kidnapping and sexual assault clearly precipitated the shooting was the NYPD's case 276 (NYPD 2012, 177), where the police officers were shot while investigating the crime.

17. These two school shootings in Germany were at Erfurt, Germany, April 26, 2002, when 18 were killed, and Winnenden, Germany, March 11, 2009, when 15 were killed.

50th of the U.S.'s population, suffered ten people shot to death at a college in 2008 and five people fatally shot at a mall in 2009.¹⁸ Also, for some countries outside of Europe, such as the Solomon Islands (three cases 1998–2012), the GTD misses all of the cases.

To obtain cases missed by the GTD, we used our own Nexis and web searches for mass shootings in Europe and the United States and for large-scale public mass shootings where at least 15 people were killed. For some parts of the world we found Wikipedia entries on rampage killers ([link](#)) and mass shootings ([link](#)). We also employed researchers to conduct searches in Chinese, French, Polish, Russian, and Spanish in an attempt to reduce an English-only reporting bias.

Neither the NYPD report nor Lankford discuss what search terms they used. We employed Nexis to search for cases by year and our search terms were “mass W/10 shooting,” “mass W/10 firearm*,” “mass W/10 gun,” “multiple W/10 shooting*,” “multiple W/10 firearm*,” and “multiple W/10 gun.”¹⁹ All told, we found 114 cases not included in the GTD.

We likely missed many public mass shootings around the world 1998 to 2012. Consider the numbers found for Central America. The GTD has listed only six Central American and Caribbean public mass shootings (2 for Haiti, 1 for Honduras, and 3 for Mexico), and we only picked up two more cases for Mexico with Nexis. Many Central American countries have very high homicide rates. While it is possible that countries with high homicide rates could have low rates of public mass shootings, it is also possible that the news media in these countries don't provide much coverage of a shooting with four fatalities.

We are confident that we have all the public mass shootings for the U.S. and perhaps for Europe, but we do not have all of the cases for the rest of the world. No incidents are identified in 91 countries, but that might simply be because we missed them, due to language challenges and poor information sources. While we will show that the rate of public mass shootings in the rest of the world is much higher than in the U.S., we do so even while almost certainly significantly *underestimating* the prevalence of gun violence in the rest of the world.

Main results, 1998–2012: U.S. vs. non-U.S.

The list of all of our 1,491 cases from 1998 to 2012 is provided in Appendices 1 and 2. The main results are presented in Table 1.

18. These two attacks in Finland were at a vocational college in Kauhajoki, Finland, Sept. 23, 2008 and the Sello shopping center in Espoo, Finland, Dec. 31, 2009.

19. “W/10” is a Nexis operator that finds items if the search terms are within 10 words of each other ([link](#)).

TABLE 1. Mass shootings, U.S. vs. non-U.S.

Measure	U.S.	Non-U.S.	Total	Percent U.S.
Lankford's numbers:				
λ-shooters (1966–2012)	90	202	292	31%
Our numbers (1998–2012)				
Incidents	43	1,448	1,491	2.88%
Killed	331	15,095	15,426	2.15%
Shooters	45	10,699	10,774	0.42%
Population (thousands)	295,156	6,253,801	6,548,957	4.5%
<i>Notes:</i> The shooters for our data are the number of shooters involved in incidents in which four or more people are killed, excluding perpetrators. If the number of shooters is unknown, we assume that there were two shooters. ²⁰ Population is the average, in thousands, for 1998–2012, from the United Nations (link).				

While the U.S. had about 4.5 percent of the world's population during this period, it had just 2.9 percent of the public mass shootings—or even less, since our non-U.S. data is surely missing many cases. The United States was host to a still smaller share of people killed in these attacks (2.1 percent). Finally, with respect to the number of shooters, the U.S. has a minuscule 0.4 percent. Again, these percentage-U.S. numbers are upper bounds.

Calculating shooters/killers

Although we excluded cases for which the reporting indicated means other than firearms, such as bombs, trucks, knives, etc., we acknowledge that in the included cases some of the killing may have been by means other than firearms. So our shooters are killers in attacks that were primarily gun attacks.

The NYPD list that Lankford used contains 32 attacks outside of the U.S., perpetrated by at least 56 killers from 1966 to 2012, the same period that Lankford studied, an average of 1.8 killers per attack. The 2008 Mumbai attack tops the list with 10 killers. It isn't possible to determine the exact number of attackers in the NYPD list, because in one case—Israel in 1974—we only know that there was more than one killer. If there were two killers in that Israeli attack, and the NYPD average held for Lankford's entire sample, 202 shooters would amount to at most 112 attacks. We have over *12 times* the number of cases for 15 years than Lankford had for *47 years*.

Out of our 1,491 cases, news reports provide the number of killers involved in the attack in only 380 instances. In 98 cases, a lone killer was identified, and that

20. The usual procedure is to replace the missing values with the mean of the observed values so as not to affect the mean. However, the number of shooters is highly skewed (the mean is 22). An alternative is to use the median (4 shooters), in which case the number of shooters is 12,803.

is 26 percent of the cases that list a number of attackers. Another 42 attacks had two killers and 27 had three, indicating that 44 percent of the cases where the number of killers was identified had between one and three shooters. Meanwhile, 107 cases were identified as having more than 10 killers, which is 28 percent of the cases with the number of killers stated. In larger-scale attacks, numbers of perpetrators are virtually always reported as multiples of ten, making their accuracy doubtful. Witnesses and reporters are most likely just making rough guesses. News reports for 1,068 of the cases simply indicate that there were multiple attackers, with no specific number provided.

In the U.S., just 45 shooters perpetrated the 43 public mass shootings between 1998 and 2012. If we take the conservative estimate that there were only two shooters in each of the attacks outside the U.S. with an indeterminate number, our list shows that there would have been 10,699 shooters worldwide from 1998 to 2012.²¹ So the most conservative estimate is that the number of shooters is *37 times* greater than Lankford's over *less than a third of his time period*, and the U.S. would account for less than one percent of shooters.

Results per capita

Per capita, public mass shootings occur with 35 percent less frequency and result in 41 percent fewer casualties in the U.S. compared with the rest of the world.

Appendix 3 lists the per capita attack and murder rates in the 89 countries where we identified public mass shootings. The U.S. ranks 58th in attack rate and 62nd in murder rate. Norway, Finland, Switzerland, and Russia are major European countries with rates of murder from public mass shootings that are at least 45 percent higher than the United States. The rates in Pakistan and India are respectively 555 percent and 76 percent higher than the U.S. rate. Appendix 4 shows the absolute number by country.

Breakdown by geographic region

Breaking down the cases by geographic regions, we find that the United States ranks roughly in the middle in terms of the number of public mass shootings (see Figures 1A to 1D). We use the sixteen geographic regions provided by the Population Reference Bureau ([link](#)). Not surprisingly, Western Asia ranks first since it is largely comprised of Middle Eastern countries such as Iraq, which has per

21. The NYPD list does not include any public mass shootings with more than 10. If we ignore such cases then the number of shooters would be $3,121 + 45 = 3,166$, of which the United States would account for 1.4 percent.

capita rates of attacks and deaths that are respectively 702 percent and 858 percent higher than those of the United States. Both Northern Africa and sub-Saharan Africa also have dramatically higher rates than the United States. While attacks occur more frequently in Northern Africa, they are more deadly in sub-Saharan Africa (the average number of people killed per attack is 16.1 in sub-Saharan Africa and 9.3 in Northern Africa).

Of particular interest are comparisons between Europe and the United States. There are huge differences in public mass shooting rates across Northern, Western, Eastern, and Southern Europe. While the attack rate in Northern Europe is only 36 percent of the rate in the U.S., 20.4 people were killed per attack in Northern Europe versus 7.6 in the United States. Consequently, the fatality rate from public mass shootings is the same in both Northern Europe and the United States. The fatality rates in the other parts of Europe were lower than the United States.

Attacks in the United States are less deadly than in most of the rest of the world (see Figure 2). There are a number of possible explanations for this. Consistent with our reasoning about magnets for dangerous individuals, attacks by multiple gunmen are more common in the rest of the world. On the other hand, better medical care in the U.S. could cause the death rate for people wounded in mass attacks to be lower here. And again, maybe victims and others start shooting back sooner in the United States.

Figure 1A. Public mass shooting murders by geographic region (per 100,000 people)

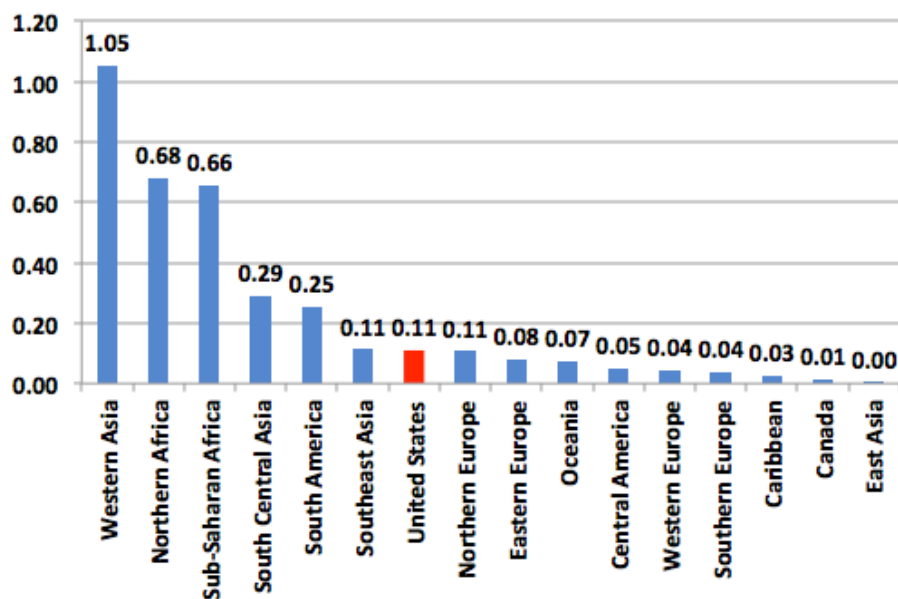


Figure 1B. Public mass shooting woundings by geographic region (per 100,000 people)

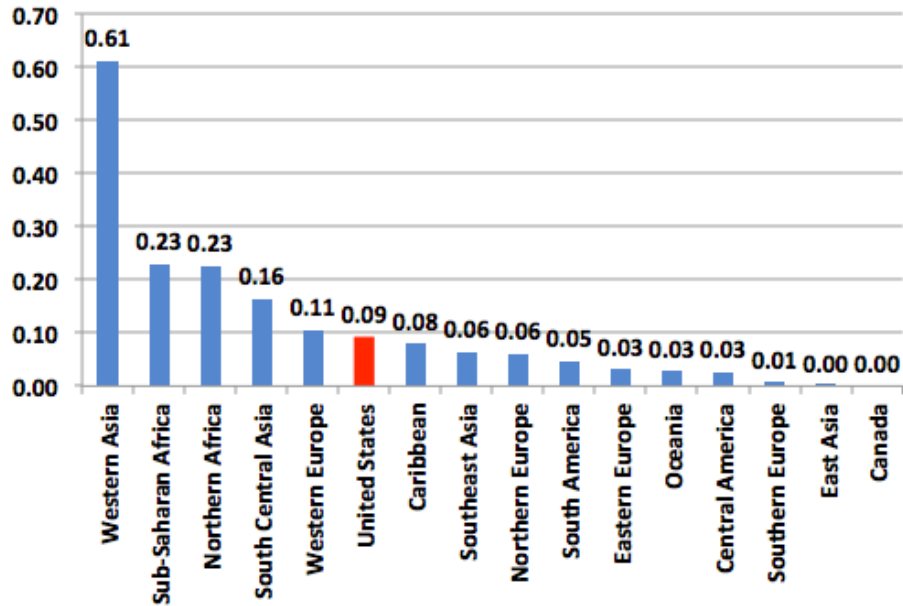


Figure 1C. Public mass shooting casualties by geographic region (per 100,000 people)

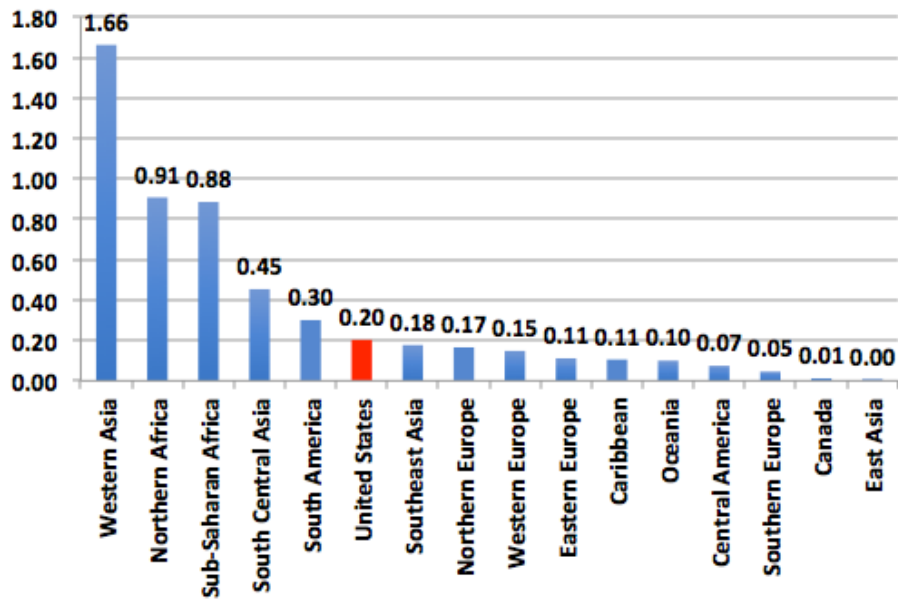


Figure 1D. Public mass shooting attacks by geographic region (per 1 million people)

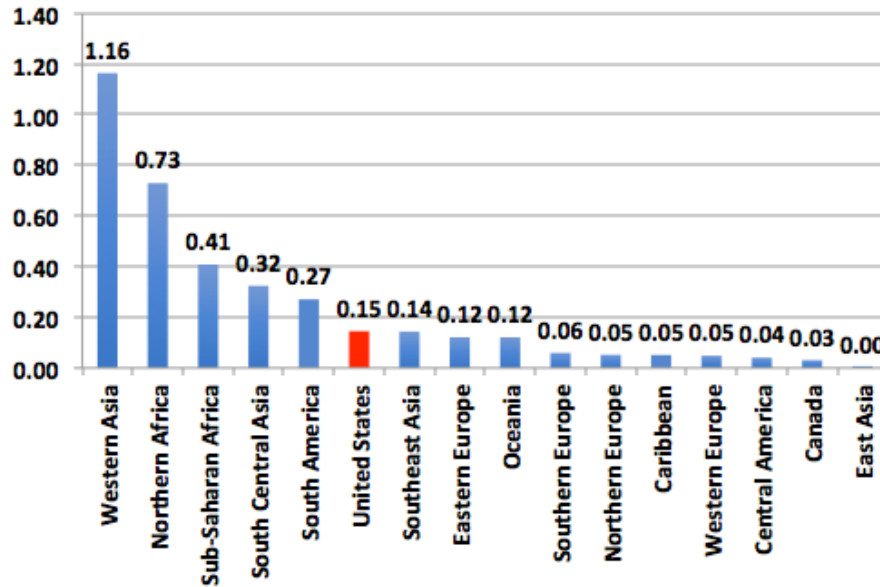
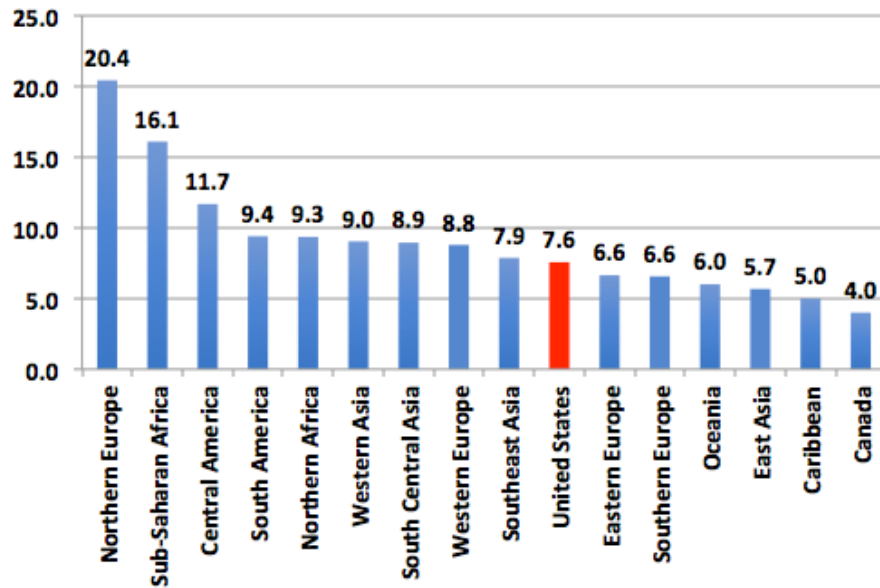


Figure 2. How deadly are public mass shootings in different parts of the world?: Number of people killed per attack



Reason to believe that non-U.S. shootings are significantly under-reported

In South America, people are more than twice as likely to die from public mass shootings, and attacks occur 87 percent more frequently, despite what appears to be a serious lack of news coverage of crime. For example, in Venezuela, not only was the official homicide rate 9.6 times higher than the U.S. rate, but the government has gone to great lengths to prevent the media from reporting on murders. The newspaper *El Universal* reported in 2010 that the Venezuelan police were supposed to tell “relatives of victims who are in the morgue of Caracas not to make statements to the press in exchange for expediting the procedures to recover the bodies” (*Mundo* 2010, our translation).²²

There is evidence of this also happening in China. We have found three large-scale public mass shootings in China in years outside of the 1998 to 2012 period: 1994, 28 killed; 1981, 21 killed; and 1979, 16 killed.²³ We know of no other country that exhibited such large public mass shootings, yet reported no incidents in the 1998–2012 period. Victor Mair, a University of Pennsylvania professor who specializes in China, told us:

I’m almost certain that they had mass public shootings of all sizes up to the three big ones, but such things just don’t get recorded in the media. ... The Chinese government is very good about hiding the news. Of course, it’s easier to hide the news for smaller incidents, but much harder for larger incidents, because more people would have noticed them.²⁴

As an example, Mair claims that friends of his in China have been “forbidden to talk about” a recent knife attack on school children.²⁵

Does gun prevalence explain mass shootings?

Lankford reports four negative binomial regressions based on a cross section of the countries in his data set.²⁶ The dependent variable is the number of shooters,

22. This is a quotation of an article in the Madrid newspaper *ElMundo*, which cited the Venezuelan daily *El Universal* for the reporting.

23. Beijing and Jianguomen, China, September 9, 1994; Fudong, China, February 17, 1981 ([link](#)); and Qingyang, China, September 24 and 25, 1979 ([link](#)).

24. Email correspondence, Victor Mair to John Lott, May 1, 2018. Mair contacted other academics who made similar statements.

25. Email correspondence, Victor Mair to John Lott, June 30, 2018.

26. See also Lott (2018) for further regressions that explain variations in public mass shooters across

the independent variable of interest is gun prevalence—the number of firearms per capita—as measured by the Small Arms Survey (SAS).²⁷ Lankford's control variables are the country's homicide rate, suicide rate, sex ratio, and percent urban, none of which are significant (at the .05 level two-tailed). The only significant variables are the SAS gun prevalence measure and population.

We estimate negative binomial regressions on the number of shooters, the number of incidents, the number of people killed, and the number of people wounded in mass shooting incidents summed over the years 1998–2012 for the 175 countries for which SAS firearm prevalence data are available.²⁸ Since Lankford finds that none of his control variables are significant, we estimate simple negative binomial models with no controls, except that we include population as an exposure variable with coefficient equal to unity. The data are summarized in Table 2.

TABLE 2. Summary statistics

Variable	N	Mean	Variance
Number of shooters	175	52.25	44764
Number of incidents	175	6.91	684
Number killed	175	68.70	64077
Number wounded	175	34.03	18996
Guns per capita	175	10.10	145
<i>Note.</i> Entries refer to the totals for each country over the period 1998–2012.			

The variance for all of the dependent variables is much larger than the mean, indicating overdispersion and the need for the negative binomial regression model. The data are graphed in Figure 3. There does not appear to be any obvious pattern. The regression results are presented in Table 3. None of the coefficients in Table 3 are significant at the .05 level, although the coefficient for guns per capita in the model for the number wounded has a p-value of .09.

countries.

27. We are very concerned about the accuracy of the SAS data. They refuse to provide their sources for the data from the vast majority of countries. The firearms data for the countries that they do have are for years quite different from what they report them as being for. Finally, they don't explain what adjustments are made and how they made those adjustments to get the values for other years.

28. We do this fully aware of all the problems that could plague such regressions, i.e., endogeneity, unobserved heterogeneity, measurement errors, etc.

Figure 3. Scatter diagrams

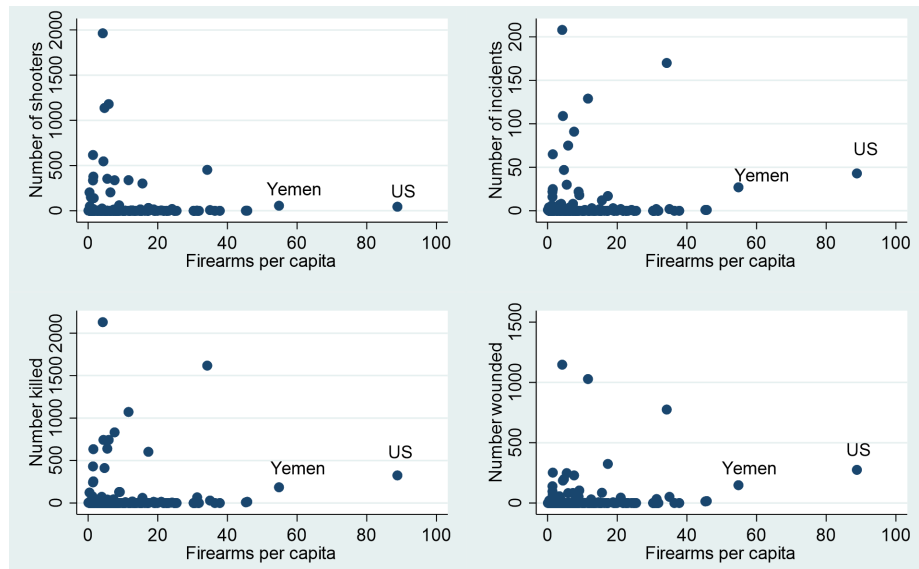


TABLE 3. Negative binomial regression results (incident rate ratios)

	Shooters	Incidents	Killed	Wounded
SAS firearms per capita				
Coefficient	0.987	1.023	1.025	1.035
Standard Error	0.018	0.021	0.021	0.021
T-ratio	-0.72	1.13	1.23	1.71

We did a number of additional robustness tests. We estimated Poisson models, despite the overdispersion. We estimated negative binomial models using the default standard errors and using bootstrap standard errors. We limited the sample to those countries that experienced mass shootings. We also estimated ordinary least squares models using per capita rates of shooters, incidents, killed, and wounded. Finally, we dropped the United States and re-estimated the original negative binomial model. The results were unchanged. None of the coefficients on firearms per capita were significantly different from zero in any of our regressions. Data and programs used in this article are available [here](#).

There is apparently no significant relationship internationally between firearms per capita and the number of shooters, number of incidents, number killed, or number wounded in public mass shootings.

Conclusion

Our paper has shown the importance of semantics and definitions. Lankford cryptically infused his expression “public mass shooter” with an idiosyncratic meaning, that of lone-wolf mass shooter. It is true that the United States is an outlier in lone-wolf mass shooters. But it is not true that the United States is an outlier in public mass shooters.

Following the conventional definitions of public mass shootings, we find that, while in 1998–2012 the United States had about 4.5 percent of the world’s population, it had less than one percent of the public mass shooters, 2.1 percent of their murders, and 2.9 percent of their attacks. The United States has fewer public mass shooters, fewer public mass shootings, and fewer murders from these attacks than the average for the rest of the world.

These data not only have implications for how the United States compares to other countries but also to previous claims about what might be responsible for these attacks. Lankford’s claim that higher rates of gun ownership are associated with more public mass shooters falls apart when more complete data on worldwide public mass shootings are used.

Then there is the question of why the United States has more lone-wolf mass shooters. We have suggested that the major reason is not gun prevalence, but rather that in other countries there are more magnets for dangerous individuals, making packs of wolves rather than lone wolves.

Social scientists have a responsibility to make their data easily available so that other researchers can understand and check their findings. The obligation is particularly important after the research has been published or received media or other public attention.

Data and code

Data and code for this research can be downloaded [here](#).

Appendices 1 and 2

Appendix 1: List of public mass shootings and references for countries other than the United States ([link](#)).

Appendix 2: List of public mass shootings and references for the United States ([link](#)).

Appendix 3

**Countries with public mass shootings from 1998 through 2012:
Ranking by per capita rate of attacks and people murdered**

Rank	Country	Number of attacks per 100,000 people	Rank	Country	Number of people murdered per 100,000 people
1	Northern Mariana Islands	1.569	1	Northern Mariana Islands	6.275
2	Iraq	0.625	2	Iraq	6.007
3	Solomon Islands	0.600	3	Angola	5.221
4	Guyana	0.500	4	Guyana	4.000
5	Afghanistan	0.405		Solomon Islands	4.000
6	Algeria	0.299	6	Sierra Leone	3.309
7	Somalia	0.291	7	Burundi	2.936
8	West Bank and Gaza Strip	0.271	8	Algeria	2.808
9	Burundi	0.256	9	Afghanistan	2.783
10	Colombia	0.180	10	Somalia	2.581
11	Angola	0.175	11	Sudan	2.184
12	Yemen	0.140	12	West Bank and Gaza Strip	1.988
13	Sri Lanka	0.132	13	Colombia	1.752
14	Uganda	0.119	14	Norway	1.457
15	Israel	0.113	15	Uganda	1.420
16	Sierra Leone	0.109	16	Sri Lanka	1.335
17	Lebanon	0.105	17	Guinea	1.126
18	Armenia	0.100	18	Yemen	0.971
	Sudan	0.100	19	Rwanda	0.874
20	Pakistan	0.086	20	Dem. Rep. of the Congo	0.863
21	Philippines	0.061	21	Chad	0.825
22	Kosovo	0.059	22	Pakistan	0.718
23	Finland	0.058	23	Nigeria	0.701
24	Nigeria	0.057	24	Armenia	0.700
25	Nepal	0.051	25	Lebanon	0.684
26	Macedonia	0.050	26	South Sudan	0.641
	Namibia	0.050	27	Nepal	0.630
28	Dem. Rep. of the Congo	0.049	28	Israel	0.606
29	Azerbaijan	0.048	29	Mauritania	0.581
	Central African Republic	0.048	30	Philippines	0.524
31	Georgia	0.044	31	Finland	0.442
32	Syria	0.043	32	Syria	0.397
33	Rwanda	0.034	33	Honduras	0.389

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Rank	Country	Number of attacks per 100,000 people	Rank	Country	Number of people murdered per 100,000 people
34	Mauritania	0.032	34	Liberia	0.364
35	Chad	0.031	35	Azerbaijan	0.321
36	Liberia	0.030	36	Kenya	0.317
37	Tajikistan	0.029	37	Niger	0.314
	Peru	0.029	38	Kosovo	0.293
39	Cote d'Ivoire	0.027	39	Central African Republic	0.262
40	Bosnia	0.026	40	Macedonia	0.250
41	South Sudan	0.025	41	Cote d'Ivoire	0.225
42	Haiti	0.024	42	Georgia	0.200
	Russia	0.024		Namibia	0.200
	Kenya	0.024	44	India	0.193
45	South Africa	0.023	45	Switzerland	0.189
	Croatia	0.023	46	Laos	0.169
47	Norway	0.022		Yugoslavia	0.169
	Thailand	0.022	48	Ethiopia	0.164
49	Niger	0.021	49	Tajikistan	0.162
	Guinea	0.021	50	Croatia	0.159
51	Kyrgyzstan	0.019		Russia	0.159
	India	0.019	52	Bosnia	0.158
	Yugoslavia	0.019	53	Peru	0.154
	Serbia	0.019	54	South Africa	0.149
	Slovakia	0.019	55	Slovakia	0.130
56	Senegal	0.017	56	Senegal	0.128
	Laos	0.017	57	Turkey	0.122
58	United States	0.015	58	Serbia	0.121
59	Honduras	0.014	59	Haiti	0.120
	Switzerland	0.014	60	Saudi Arabia	0.118
61	Turkey	0.012	61	Thailand	0.114
	Iran	0.012	62	United States	0.110
63	Tunisia	0.010	63	Iran	0.105
	Belgium	0.010	64	Mali	0.104
65	Saudi Arabia	0.008	65	Kyrgyzstan	0.096
	Zimbabwe	0.008	66	Egypt	0.076
	Uzbekistan	0.008	67	Venezuela	0.067
68	Venezuela	0.007	68	Uzbekistan	0.064
	Mali	0.007	69	Belgium	0.057
	Kazakhstan	0.007	70	Zimbabwe	0.054
	France	0.007	71	Germany	0.040

Rank	Country	Number of attacks per 100,000 people	Rank	Country	Number of people murdered per 100,000 people
72	Ethiopia	0.006		Tunisia	0.040
	South Korea	0.006		Kazakhstan	0.040
	Netherlands	0.006	74	Mexico	0.039
	Cameroon	0.006	75	Netherlands	0.037
76	Egypt	0.005	76	Myanmar	0.036
	Mexico	0.005	77	South Korea	0.035
78	Indonesia	0.004	78	Indonesia	0.033
	Myanmar	0.004		France	0.033
	Malaysia	0.004	80	Cameroon	0.030
81	Canada	0.003	81	Brazil	0.025
	Argentina	0.003	82	United Kingdom	0.020
83	Germany	0.002	83	Malaysia	0.019
	Ukraine	0.002	84	Bangladesh	0.015
	Bangladesh	0.002	85	Canada	0.012
	Italy	0.002	86	Ukraine	0.011
	United Kingdom	0.002	87	Argentina	0.010
	Brazil	0.002	88	Italy	0.009
89	Vietnam	0.001	89	Vietnam	0.005

Appendix 4

Countries with public mass shootings from 1998 through 2012: Ranking by number of attacks and people killed

Rank	Country	Number of attacks	Rank	Country	People killed
1	India	208	1	India	2130
2	Iraq	180	2	Iraq	1730
3	Pakistan	139	3	Pakistan	1166
4	Afghanistan	121	4	Nigeria	922
5	Algeria	98	5	Algeria	921
6	Colombia	83	6	Sudan	878
7	Nigeria	75	7	Afghanistan	832
8	Philippines	52	8	Colombia	806
9	United States	43	9	Angola	804
10	Sudan	40	10	Dem. Rep. of the Congo	525
11	Russia	34	11	Philippines	444

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Rank	Country	Number of attacks	Rank	Country	People killed
12	Uganda	32	12	Uganda	382
13	Dem. Rep. of the Congo	30	13	United States	325
14	Yemen	29	14	Sri Lanka	263
15	Angola	27	15	Burundi	229
16	Sri Lanka	26	16	Russia	227
17	Somalia	25	17	Somalia	222
18	Burundi	20	18	Yemen	201
19	Thailand	14	19	Sierra Leone	182
20	Nepal	13	20	Nepal	160
21	South Africa	11	21	Ethiopia	127
22	Indonesia	9	22	Guinea	107
	Turkey	9		Kenya	107
	West Bank and Gaza Strip	9	24	Turkey	89
25	Iran	8	25	Chad	80
	Israel	8	26	Rwanda	76
	Kenya	8	27	Indonesia	74
	Peru	8		Thailand	74
	Syria	8	29	Iran	73
30	Sierra Leone	6		Syria	73
31	Ethiopia	5	31	South Africa	70
	Cote d'Ivoire	5	32	Norway	67
	Mexico	5	33	West Bank and Gaza Strip	66
34	Azerbaijan	4	34	Egypt	56
35	Egypt	4	35	South Sudan	52
36	France	4	36	Brazil	46
37	Guyana	4	37	Niger	44
38	Lebanon	4	38	Israel	43
39	Armenia	3		Peru	43
40	Bangladesh	3	40	Mexico	42
41	Brazil	3	41	Cote d'Ivoire	41
42	Chad	3	42	Germany	33
43	Finland	3	43	Guyana	32
44	Niger	3	44	Saudi Arabia	29
45	Rwanda	3	45	Honduras	28
46	Solomon Islands	3	46	Azerbaijan	27
47	South Korea	3	47	Lebanon	26
48	Central African Republic	2	48	Finland	23
49	Georgia	2	49	Armenia	21
50	Germany	2		Bangladesh	21
51	Guinea	2	51	France	20

Rank	Country	Number of attacks	Rank	Country	People killed
52	Haiti	2		Solomon Islands	20
53	Myanmar	2	53	Mauritania	18
54	Saudi Arabia	2		Myanmar	18
55	Senegal	2		Venezuela	18
56	Serbia	2		Yugoslavia	18
57	South Sudan	2	57	South Korea	17
58	Tajikistan	2		Uzbekistan	17
59	Uzbekistan	2	59	Senegal	15
60	Venezuela	2	60	Mali	14
61	Yugoslavia	2		Switzerland	14
62	Argentina	1	62	Serbia	13
63	Belgium	1	63	Liberia	12
64	Bosnia	1		United Kingdom	12
65	Cameroon	1	65	Central African Republic	11
66	Canada	1		Tajikistan	11
67	Croatia	1	67	Haiti	10
68	Honduras	1		Laos	10
69	Italy	1	69	Georgia	9
70	Kazakhstan	1	70	Croatia	7
71	Kosovo	1		Slovakia	7
72	Kyrgyzstan	1		Zimbabwe	7
73	Laos	1	73	Belgium	6
74	Liberia	1		Bosnia	6
75	Macedonia	1		Kazakhstan	6
76	Malaysia	1		Netherlands	6
77	Mali	1	77	Cameroon	5
78	Mauritania	1		Italy	5
79	Namibia	1		Kosovo	5
80	Netherlands	1		Kyrgyzstan	5
81	Northern Mariana Islands	1		Macedonia	5
82	Norway	1		Malaysia	5
83	Slovakia	1		Ukraine	5
84	Switzerland	1	84	Argentina	4
85	Tunisia	1		Canada	4
86	Ukraine	1		Namibia	4
87	United Kingdom	1		Northern Mariana Islands	4
88	Vietnam	1		Tunisia	4
89	Zimbabwe	1		Vietnam	4

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