

Expert Report

prepared for

**The Joint Federal/Provincial Commission
into the April 2020 Nova Scotia Mass Casualty**

Mass Shootings and Masculinity

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I. Introduction

The Mass Casualty Commission commissioned this report on the relationship between mass shootings and masculinity. In what follows, we first address the lack of a scholarly consensus surrounding how best to measure incidents that qualify as “mass shootings” in order to distinguish them from other shooting-related incidents. This lack of shared definition of the phenomenon inhibits direct comparisons between different research projects and constrains the ability to make broad claims.

Despite this, there exists a scholarly consensus that mass shootings are more common in the United States than any other nation, and by a large margin (Bridges and Tober 2016; Bridges and Tober 2019; Lankford 2015; Lankford 2016; Lemieux 2014). As such, we document what has been learned about mass shootings in the United States as a way of offering perspective, data, and analysis from a society that regularly experiences more mass shooting incidents than other nations around the world (which is true regardless of how “mass shooting” incidents are measured). Considering the fact that Canada and the United States have some cultural and legal similarities, many of the insights drawn from empirical research in the United States are worthy of consideration in the context of a Canadian mass shooting. Evidence from the United States also shows that mass shootings and related incidents have been happening with greater frequency since 2000 (Follman 2014; Lankford 2016; Bridges and Tober 2019). While these data do not exist internationally, there is cause to suggest that shift in the frequency of mass shootings in the United States is not internationally isolated, though the trend is extremely exaggerated in the United States.

Following, we provide evidence from our own research on mass shootings in the United States, a project that relies on the least conservative definition of “mass shootings” in existing

scholarship. We use this broad definition because it allows us to summarize results from a much larger pool of incidents, enabling us to identify patterns not possible to identify within the smaller samples that characterize the vast majority of scholarship on the topic.

An important and interdisciplinary body of scholarship on this topic attests to the importance of distinguishing data on measures like gun ownership from a much more expansive analysis of the meaning of guns within society—something scholars of guns and gun violence refer to as “gun culture.” And following our summary of definitional dilemmas surrounding scholarship on mass shootings and what we have learned about their prevalence and frequency in spite of these issues, we summarize the value of scholarship on gun culture for understanding mass shootings and related gun violence in societies. As evidence of the importance of gun culture, we present some initial findings from our analysis of mass shootings in the United States between 2013 and 2020 comparing mass shootings across states, findings that suggest different gun cultures in different states across the United States.

Finally, a great deal of scholarship has commented on the relationship between gender and mass shootings because such shootings are almost universally committed by men (again, regardless of how such shootings are measured and defined). Different scholars have accounted for this gender discrepancy in different ways, but we present our two-part theory that helps to make sense of two separate questions: (1) Why are mass shootings so overwhelmingly likely to be committed by men? And (2) Why do men commit mass shootings in the United States so much more commonly than men in other parts of the world? We summarize two separate bodies of research that help provide social–scientific answers to these two questions.

II. A Problem of Definition: How Best to Study “Mass Shooting” Incidents

Despite the fact that there is widespread agreement that mass shootings are a serious social issue, there is less scholarly agreement than might be expected about the frequency of such incidents. This is true for a variety of different reasons. In this section, we summarize both the lack of scholarly consensus and why better, more representative data do not exist, as well as address some of what is known about mass shootings around the world despite these facts.

It is worth pausing to consider why these data do not exist in the ways they should. We currently live in a data-saturated era. Data are being extracted from us all the time, and data are collected on all manner of social life. Various government agencies, health organizations, and media outlets have, for instance, kept a running record of the COVID-19 infections and deaths all around the world—in real time and on a global scale. Most economically advanced nations have great data on the numbers of people who die each year from the flu, heart disease, car accidents, or any number of ailments. But we do not know how many people are killed by mass shootings each year. It is a knowable figure; the data are simply not collected in any official capacity. Part of the issue in some countries is with data collection, but even with broad support for data collection efforts, clear criteria need to be agreed on so that incidents can be assessed in an objective way to assess whether they meet the criteria or not. And this type of agreement has not been achieved within the scholarly community studying mass shooting incidents.

There are a variety of reasons that data that should exist do not exist, and some of these reasons pertain to data on mass shootings. Sometimes, there is simply a mismatch between incentives and resources. Those with the resources lack sufficient incentive (politically or otherwise) to collect the data, while those with the most incentive sometimes lack the necessary resources. This is absolutely the case with data on mass shootings (and guns and gun violence

more generally) in the United States (Metzl, et al. 2021). Additionally, some data do not exist because there are specific groups and entities invested in the data not existing. This too shapes what is known about mass shootings and gun violence more broadly in the United States.¹ Any nation invested in better understanding mass shootings within their borders needs to reckon with both whether and how these factors shape data collection on this pressing social issue.

1. Defining Mass Shootings

The problem of defining mass shootings is partially due to the fact that the category of incidents was not one initially created in any official capacity. In the United States, scholars studying mass shootings often rely on a definition of incidents initially proposed by the Federal Bureau of Investigation (FBI) (see Bridges, Tober, and Wheeler 2015). A large body of US scholarship utilizes the FBI definition of “mass killings” to study mass shootings. As is visible in **Table 1**, mass killings are distinguished by the FBI from other forms of homicide primarily by number of fatalities and the number of locations. The FBI defines mass killings as incidents in which a single perpetrator kills at least four people in a single location (but this classification is not limited to firearm-related incidents). Mass killings are included among incidents in the FBI Supplementary Homicide Report, which is a subset of the Uniform Crime Reporting program established in 1929.² Because incidents involving more than a single location (i.e., “spree killings”) are distinguished by the FBI definition from “mass killings,” those multi-location

¹ In the United States, the National Rifle Association (NRA) is a powerful enough political lobby that they have been able to effectively block research on gun violence (Spitzer 2020).

² The Uniform Crime Reporting (UCR) program was created to produce a space for national crime statistics. Indeed, a great deal of criminological research makes use of these data. However, the UCR program is not a national census of criminal activity in the United States because reporting crime incidents, rates, and statistics to the UCR is not mandatory. Since 1929, the UCR program has relied upon individual police agencies to voluntarily submit data. Some states elect not to report to the UCR, and even in states that do submit reports, there are agencies that elect not to report to the state. Thus, as with so much data on gun violence, as a result of this data collection process, the data from the FBI Supplementary Homicide Report is incomplete.

incidents have traditionally been left out of scholarship on mass shootings. Scholarship that has made use of these data has also had to make decisions about which incidents to include, and the most widely used approach has excluded gang violence as well as family and intimate partner violence.³ As a result of this definition, scholarship on mass shootings routinely does not include incidents connected with intimate partner and other forms of family violence or gang violence (e.g., Lankford 2016), and spree killings are also commonly excluded.

Table 1: US Federal Bureau of Investigation Classification of Homicides

Characteristic	Single	Double	Triple	Mass	Spree	Serial
Number of Victims	1	2 (not including perpetrator)	3 (not including perpetrator)	4+ (not including perpetrator)	2+ (not including perpetrator)	3+ (not including perpetrator)
Number of Events	1	1	1	1	1	3+
Number of Locations	1	1	1	1	2+	3+
Cool-off Period	N/A	N/A	N/A	N/A	No	Yes

Mass shootings scholarship has traditionally utilized this definition to produce datasets that identify incidents with a single shooter in a single location, with four or more fatalities (not including the shooter), and that are not considered family, intimate partner, or gang violence (e.g., Lemieux 2014; Lankford 2016). Some research excludes all incidents involving more than a single shooter, while others include incidents with multiple shooters. In fact, a study comparing

³ A common source for this decision is a report released every few years produced by the New York City Police Department, “Active Shooter: Recommendations and Analysis for Risk Mitigation” (for the most recent version, see O’Neill, Miller, and Waters 2016). That report only defines incidents “that spill beyond an intended victim to involve others, including bystanders and collateral casualties. The NYPD excludes: 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” (O’Neill et al. 2016: 5). Whether or not this decision to exclude incidents on the basis of relationships between perpetrators, places, and victims is useful for the policing data, it is routinely accepted by social scientists studying mass shooting incidents in ways that somewhat arbitrarily reduce the pool of incidents being analyzed. For a summary of the definitional dilemma associated with scholarship on mass shootings in the United States, see Smart and Schell (2021).

four of the largest datasets used to discuss mass shootings incidents in the United States found that for 2017, only two incidents were in all four datasets (Booty et al. 2019). And the numbers of incidents included in the 2017 data ranged from 11 incidents to 346.⁴ Booty, et al. (2019) concluded that fully documenting the burden of mass shootings on gun violence more broadly is simply not presently possible given the lack of a standard definition.

A brief consideration of two incidents in the United States helps to illustrate some of the issues with existing data. In the spring of 1999, two high school students in Littleton, Colorado entered their school with guns. They killed 12 students and injured another 21 people, and both died by suicide before either could be apprehended. The shootings at Columbine High School are known around the world but would nevertheless not be counted among “mass shootings” in all databases because there was more than one shooter (e.g., Stanford Mass Shootings in America database).⁵ A separate incident involved a twenty-year-old man in Newtown, Connecticut who shot his mother in the morning before driving to Sandy Hook Elementary School, where she worked, shooting his way in, and killing twenty children and six adults before also dying by suicide. Not all datasets on mass shootings in the United States include this incident for two reasons: (1) the shooting occurred in more than a single location, and (2) the incident was first precipitated by family violence. For instance, the FBI, given their definitional criteria, ought to define the Sandy Hook shooting as a “spree killing.” Similarly, the 2020 Nova Scotia attacks

⁴ In this study, even when relying on the most conservative criteria to define mass shootings (incidents involving only one shooter and four or more fatalities), incidents included in the 2017 ranged from 2 to 24 incidents (Booty et al. 2019).

⁵ Interestingly, while the shooting at Columbine High School does not meet the definitional criteria for the dataset produced by *Mother Jones*, they nevertheless include this incident. Their criteria state that incidents are only included if “The killings were carried out by a lone shooter.” But that is followed up with two exceptions, both of which are school shootings, and one of those is the Columbine massacre. While it may be important to include Columbine, this speaks to some of the arbitrary decisions made in an attempt to fit into many existing datasets incidents that are popularly understood as mass shootings but otherwise resist being defined that way.

resist easy classification. While the massacre was committed by a single person, media reports suggest that it began with an incident of intimate partner violence, involved guns and arson, and occurred at multiple locations over many hours. Depending on the dataset, this case would not “count” within the scholarly literature as a mass shooting.

What these incidents and definitional dilemmas bring into stark relief is the recognition that the majority of existing data and estimates of mass shootings around the world are best understood as under-inclusive estimates of the prevalence of incidents of the broader phenomenon that we are seeking to understand. And while the data that do exist have allowed us to better understand some of the most extreme and deadly mass shootings around the world, discovering patterns to learn more about incidents like mass shootings is challenging when the population of incidents remains small.

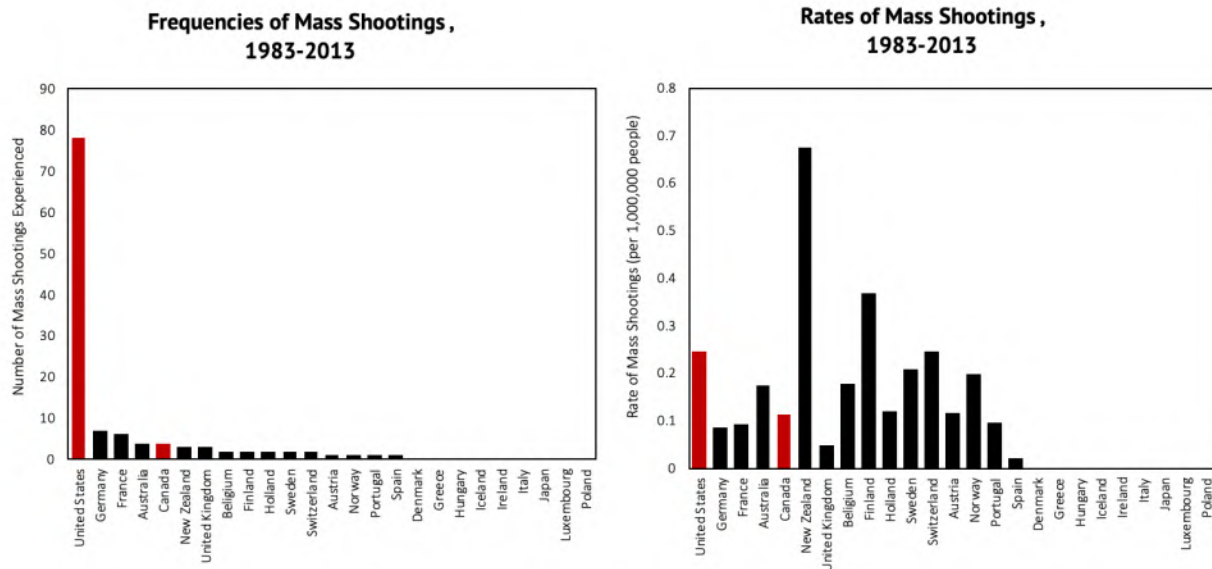
Learning more about mass shootings requires us to consider different ways of defining the very phenomenon we seek to better understand. We present data later in this report relying on a dataset of mass shootings that shares the criterion of one to two shooters with some existing research but parts with that work by defining incidents by the number of gun-related *injuries* (not fatalities) involved (including incidents in multiple locations and those that involve family, intimate partner, and gang violence). This allows us to examine this social problem with a much larger body of data and enables the identification of patterns that may be obscured by the narrower definitions underlying the majority of data and research on this topic.

2. Mass Shootings in International Perspective

As a result of a lack of a central international database on mass shootings, statisticians and researchers are often unable to answer even the most basic social scientific questions about these tragedies. Answering a question like “How many mass shootings occurred in Canada last year?”

sounds deceptively simple. It ought to be a straightforward matter of counting them. But there are two factors that shape our inability to answer this question. One factor has to do with how mass shootings are defined by scholars and other entities collecting and analyzing data on them. The second factor has to do with the availability of data that can be found to accurately enumerate a population of incidents once agreement on how to define them is achieved.

As a result of these challenges, the vast majority of research on mass shootings has tended to rely on relatively restrictive definitions. For example, Lemieux's (2014) work attempting to compare rates of mass shootings in a collection of 25 nations around the world between 1983 and 2012 utilized the number of fatalities as the defining factor. Lemieux defined mass shootings as incidents committed by one or more people that involved at least four fatalities as a result of the incident. In that period, according to the data Lemieux (2014) collected, the United States experienced 78 separate mass shooting incidents; and Canada experienced 4 (see our visualization of Lemieux's findings in the graph on the left in **Figure 1** below).

Figure 1: Mass Shootings around the World, 1983–2013

Sources: Lemieux, Frederic. 2014. "Effect of Gun Culture and Firearm Laws on Gun Violence and Mass Shootings in the United States: A Multi-Level Quantitative Analysis." *International Journal of Criminal Justice Sciences* 9(1): 74-93.
 2013 Population Estimates from The World Bank, IRBD.IDA. Available at: <https://data.worldbank.org>.

In **Figure 1**, we graph these data two ways, highlighting the United States and Canada on both graphs to illustrate a point about considerations of international comparisons. The graph on the left reports actual numbers of incidents in the defined period (frequency), while the graph on the right reports the same data but as a rate (per 1,000,000 people in the population) as opposed to a frequency. Relying on rates as opposed to frequencies in this way is sometimes utilized politically to make claims about incidents that are, when considered from a population perspective, relatively rare. For instance, the frequency of mass shootings around the world as depicted by the graph on the left in **Figure 1** shows the United States as an extreme outlier, while the graph on the right depicting rates of mass shootings shows the United States as experiencing a more average rate of incidence.⁶ Because the United States has a larger population than every

⁶ While disagreements exist in scholarly communities over which incidents to include when defining a dataset of mass shootings, there is a scholarly consensus that, however measured, the United States is an extreme outlier, experiencing more mass shootings than any other nation in the world by a large margin. The disagreements exist over precisely how large that margin is. (For a separate cross-national comparison of mass shootings around the world focusing on the United States as the outlier case, see Lankford 2016).

other nation in the figure above, it could be argued that it is simply more likely to experience mass shootings. Many demographic data like these for societies are provided as rates per 100,000 in the population (or per 1,000,000 people in the population for more rare phenomena) to provide a common metric to draw comparisons. In the graph on the right of **Figure 1**, we present Lemieux's (2014) data on mass shootings as a rate per 1,000,000 people in each nation's population (relying on 2013 population estimates). Presented this way, the United States, with a rate approximately double the rate of mass shootings in Canada per 1,000,000 people, no longer appears to be an extreme outlier. Instead, the outliers when Lemieux's (2014) data are presented in this way are New Zealand and Finland, nations with small populations that experienced three and two mass shootings respectively during the period of Lemieux's study.

A logical question to ask is whether frequency or rate is better to rely on when assessing the scale of a problem like mass shootings. And here, frequency offers more and better information than rate (Bridges and Tober 2019). The reason for this is that demographically, smaller populations or groups are more susceptible to random fluctuations when examining relatively rare events. This is why experiencing two or three mass shootings in a 30-year period propels some nations to the top of the list when examining the rate of mass shootings, as illustrated above by Finland and New Zealand. An instructive comparison is how medical research deals with similar phenomena. It is common practice to consider rates of particular diseases from populations lacking certain baseline frequencies to be unreliable data (see, e.g., Noordzij et al. 2010). It is simply not possible in these circumstances to distinguish random fluctuations from meaningful changes in the rate of the disease. A similar issue is at stake in examinations of mass shootings, which means that the graph on the right of **Figure 1**, albeit accurate, is a far less helpful representation of the problem of mass shootings. That graph ignores

the fact that the United States experienced almost twice the number of mass shootings in Lemieux's sample as all of the other nations in the sample combined.

3. Shifts in the Frequency of Mass Shootings

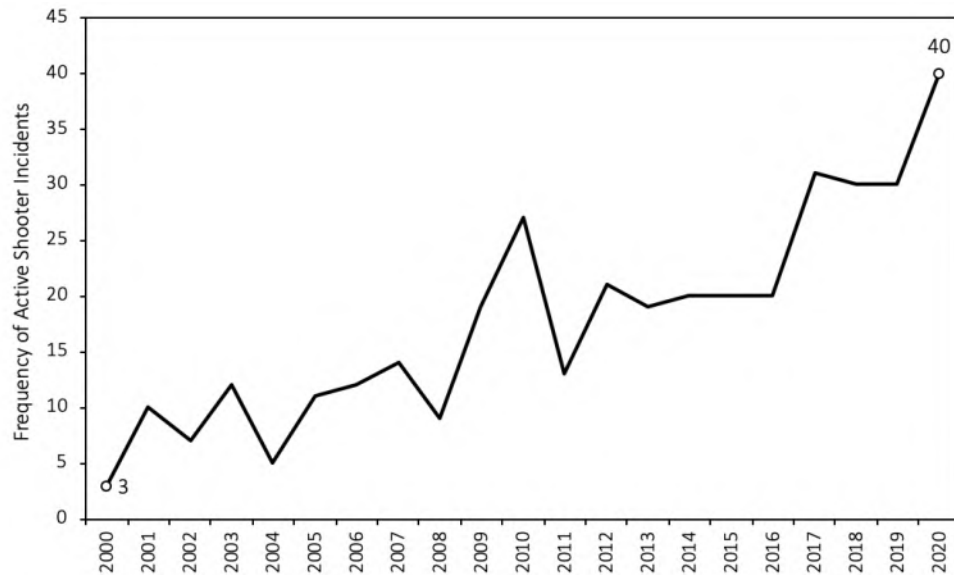
Because of the lack of consensus surrounding how to define mass shootings, we also struggle answering questions about whether mass shootings are increasing in frequency. Answering the question of whether there are more of these incidents today than there used to be requires a shared definition. In this section, we present evidence documenting the increasing frequency of mass shooting-related incidents in the United States and also discuss shifts in the relative frequency of mass shootings internationally.

In 2013, US President Barack Obama signed HR2076, or the “Investigative Assistance for Violent Crimes Act of 2012,” granting the Attorney General the authority to, “at the request of an appropriate law enforcement official,” investigate mass killings and attempted mass killings, defined as “three or more killings in a single incident” with guns.⁷ This resulted in a series of studies conducted by the FBI on what it called “active shooter incidents,” in which an individual (or, in some cases, individuals) was/were engaged in killing or attempting to kill

⁷ In 1996, Congress passed (with heavy backing from the National Rifle Association) the Dickey Amendment to an omnibus spending bill in response to efforts to treat the gun violence so rampant in the 1990s as a public health issue (Rostron 2018). The amendment forbids the Centers for Disease Control, which studies anything that has an impact on public health (not only disease), from using money to advocate or promote gun control. This was in response to a study (Kellermann et al. 1993) that found that gun ownership was a risk factor for homicide in the home. Congress also lowered the CDC budget by the exact amount it previously had spent on gun research. The Amendment did not technically forbid research about gun violence but instead restricted formal proposals that called for gun control. It did have the effect of restricting gun control, however, because it was (and is) unclear where exactly that line between research and recommendations is; and federal employees have appeared unwilling to risk their careers in order to find out. In 2011, the Dickey Amendment was extended to include both the CDC and the National Institute of Health (Rostron 2018). After the events at Sandyhook Elementary School, Obama directed the CDC to not treat the Dickey Amendment as a ban on gun violence research and signed an executive order directing the National Institute of Health (NIH) to fund research into gun violence. Congress thereafter denied the request for funds, and the program was discontinued (Zhang 2018). More recently, legislation in 2018 clearly states that federal funding can support gun research, but the line between research (allowed) and policy recommendations (not allowed) remains unclear. Even if this line is clarified, researchers in the United States are faced with an incredible lack of data because both funding and opportunity for research has been so limited.

people by firearm. These are not all mass shooting incidents but rather incidents *like* mass shootings, or incidents that might have become mass shootings, in which authorities had the opportunity to intervene to possibly change the outcome and save lives. **Figure 2** shows the frequency of active shooter incidents between 2000 and 2020 from two separate FBI reports.⁸

Figure 2: Frequency of “Active Shooter” Incidents in the United States, 2000–20



Note: In 2019, the Federal Bureau of Investigation released new figures for many of the early years for which they collected data indicating that they had undercounted incidents. These figures represent the updated data, consistent with 2019 and 2020 reports.

Sources: U.S. Department of Justice, Federal Bureau of Investigation. "Active Shooter Incidents: 20 Year Review, 2000-2019." May 2021. Available at: <https://tinyurl.com/mt5334Sy>.
U.S. Department of Justice, Federal Bureau of Investigation. "Active Shooter Incidents in the United States in 2020." July 2021. Available at: <https://tinyurl.com/2p82jtdt>.

FBI active shooter reports and data demonstrate that the frequency of mass shootings and incidents like mass shootings, despite being relatively rare, has increased over time. In 2000, the FBI discovered only three incidents that qualified as incidents involving active shooters in the United States. By 2020, that figure increased more than thirteen times to 40 separate incidents.

⁸ Despite the short span of time in which the FBI has been studying active shooter incidents, they have already changed the frequencies of incidents for years prior to 2019 in the data set because they realized they had undercounted incidents (FBI 2021a). This is important, as it speaks to the fact that estimates of mass shootings and incidents similar to mass shootings have always been conservative estimates of the actual frequency of these incidents.

And these data are consistent with other work on mass shootings showing that the frequency of mass shootings in the United States has been increasing (i.e., Follman 2014; Bridges and Tober 2019).

Comparable data are not available in other nations. But trends in the United States surrounding gun violence may simply be on a more exaggerated trajectory than many other nations. For instance, in 2020 Canada's homicide rate was approximately 1.95 per 100,000 people; the analogous figure from the United States was 7.8 per 100,000 people (Statistics Canada 2020; National Center for Health Statistics 2020). Homicide rates in both nations increased in 2020, with Canada's being the highest in approximately fifteen years.⁹ And while mass shootings are much rarer in Canada than in the United States, there have been a number of highly publicized incidents in Canada since the 1989 shootings at École Polytechnique.¹⁰

4. Mass Shootings, Gun Violence, and the Importance of Understanding “Gun Culture”

The pro-gun National Rifle Association (NRA) in the United States has made the slogan “Guns don’t kill people; people kill people” famous internationally and is popularly associated with pro-gun activists and advocacy in the United States, as well as in other nations. The slogan is used to argue that guns are not the real problem when it comes to homicides, suicides, and other gun-related crimes. The slogan takes an instrumental approach to guns, suggesting that they are

⁹ Because of Canada's relatively small population, the events in Nova Scotia in April 2020 account for part of the increase in the 2020 homicide rate.

¹⁰ The mass shooting at École Polytechnique (Université de Montréal) in 1989 is among the mass shootings around the world that brought attention to mass shootings from gendered perspectives. The perpetrator was explicitly anti-feminist, and the incident ended with him killing fourteen women and injuring another ten women and four men. The perpetrator claimed to be “fighting feminism” as he entered a classroom on campus, separated the women and men, and began shooting. This incident prompted anti-violence activist efforts like the White Ribbon Campaign, which is now among the largest nonprofit campaigns to raise awareness and understanding surrounding gender-based violence worldwide.

nothing more than a tool. From this perspective, any harm done with guns is entirely attributable to the person who causes that harm, and not to the means they use to do so.

The problem with the slogan and the instrumental approach to gun violence is that they treat guns and the people who wield them as though they are separable in ways they are not. When humans interact with guns, the interaction is transformative because of the cultural meanings attached to guns—meanings that are not everywhere and for everyone exactly the same. In the 1960s, psychologists theorized the “law of the instrument” (Maslow 1966). Interactions between humans and technology are both complex and transformative. Maslow distilled this concept simply: “I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail” (Maslow 1966: 15–16). Maslow’s point was that holding a hammer alters the ways hammer-holders see the world around them. The act of holding the tool transforms the person holding it. When holding a hammer, the world around you takes on a distinct kind of form and shape. To someone holding a hammer, nails and nail-like things come into sharp relief. A hammer is a tool with a specific purpose, and to anyone aware of the meaning and use of the tool, holding it recommends considering those uses. Guns are similarly transformative in the way they can affect gun-users (Wade and Sharpe 2012).

Additionally, guns are transformative in a separate way: when one person is holding or pointing a firearm, or even if the threat to do so is present, the behaviors and emotions of other people in the vicinity are also transformed. This was a point made in the Supreme Court of Canada in the case of *R v Felawka*. As Justice Cory explained:

A firearm is expressly designed to kill or wound. It operates with deadly efficiency in carrying out the object of its design. It follows that such a deadly weapon can, of course, be used for purposes of threatening and intimidating. Indeed, it is hard to imagine anything more intimidating or dangerous than a brandished firearm. A person waving a gun and calling “hands up” can be reasonably certain that the suggestion will be obeyed. A firearm is quite different from an object such as a carving knife or an ice pick, which will normally be used for legitimate purposes. A firearm, however, is always a weapon. No matter what the intention may be of the person carrying a gun, the firearm itself

presents the ultimate threat of death to those in its presence (*R v Felawka* [1993] 4 SCR 199).

Here too, as Justice Cory argued, guns are not simply instruments. They have the capacity to transform the world around them. And they are different from Maslow's hammer too in that a hammer can be used as a weapon, but a firearm "is always a weapon." This is important because when seeking to understand gun violence, guns are not best understood from an instrumental approach. As such, designing policies only around instrumental understandings of guns is misguided and dangerous.

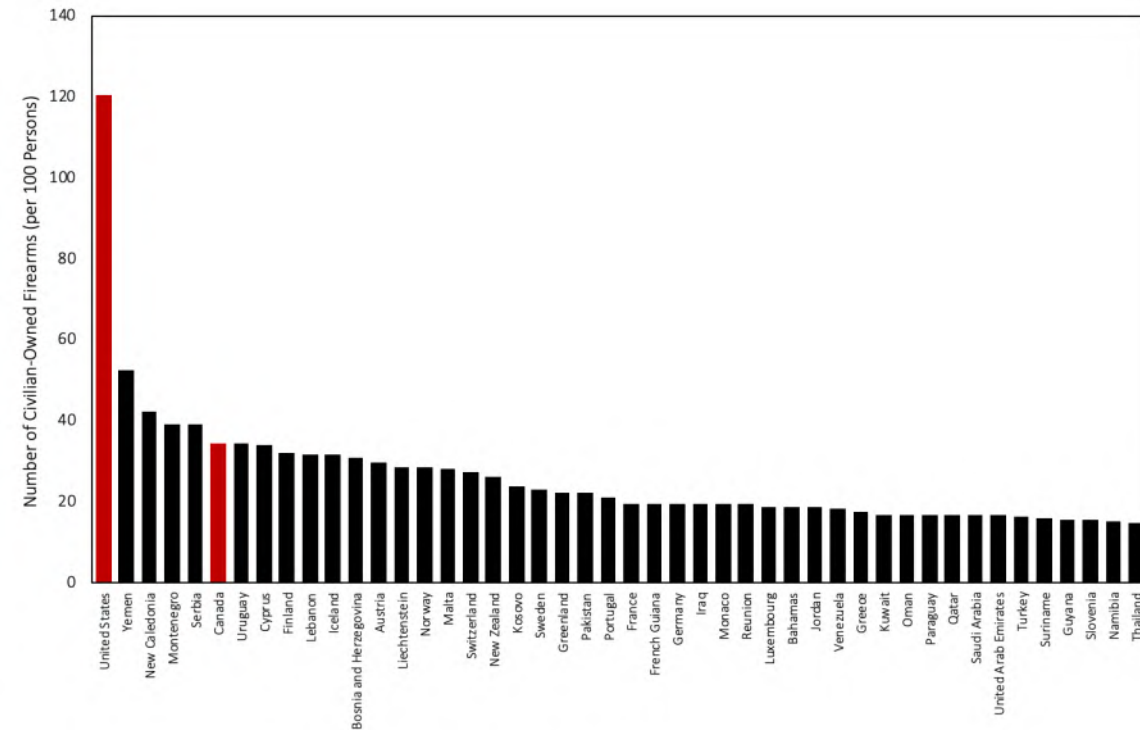
The cultural significance and meanings firearms acquire are important to understand because firearms do not *mean* precisely the same things everywhere, and they take on different kinds of meaning for different groups even within a single society. And in many societies, firearms are gendered "masculine" (Levin and Madfis 2009; Bridges and Tober 2019).

As illustrated above, mass shootings must be understood in conversation with legislation surrounding gun control and ownership. Civilian firearm ownership rates and legislation surrounding gun ownership and gun control are correlated with mass shootings the world over. Simply put, nations with more civilian-owned firearms have more mass shootings (Lankford 2016). But comparing Canada and the United States is instructive in thinking about the relationship between guns and mass shootings in different nations around the world. While **Figure 3** shows that the United States is a more extreme outlier in the rate of civilian-owned firearms, Canada still has the sixth highest rate of civilian gun ownership in the world.¹¹ The United States stands out in international perspective in two ways worth highlighting here. First, the US civilian-owned firearms rate is more than twice as high as any other nation. In addition,

¹¹ Internationally, civilian firearm ownership is concentrated in the United States. While US citizens account for roughly 4% of the global population, the Small Arms Survey estimates that American civilians own approximately 46% of the 857 million civilian-owned firearms in the world (Karp 2018).

the United States stands out as the only nation where the number of civilian-owned firearms exceeds the population—a nation with more guns than people.

Figure 3: International Civilian-Owned Firearms Rates, 2017



Source: The Small Arms Survey, Civilian Firearms Holdings, 2017 (Civilian-Owned Firearms rates)

Note: Data presented in this figure only visualize nations with >15 civilian-owned firearms per 100 persons in the population.

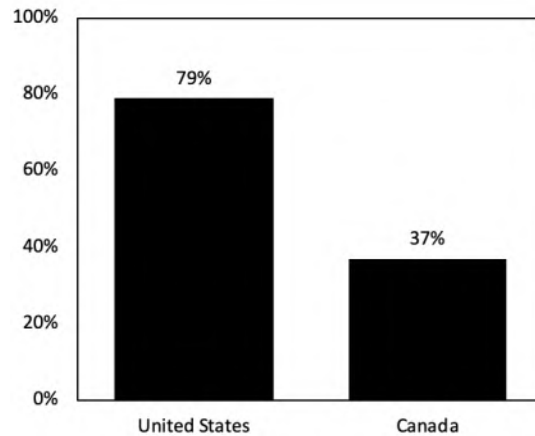
Notably, despite scholarly disagreements about how to best measure mass shooting incidents, there is broad scholarly consensus that gun ownership rates are correlated with mass shooting incidents; nations with more guns, in general, experience mass shootings. Lankford (2015) found that a country's rate of gun ownership increased the odds it would experience a mass shooting. This relationship held even when excluding the United States (an outlier) and when controlling for homicide rates (Lankford 2015). A comparison of Canada and the United States, however, illustrates that a focus only on the rate of gun ownership is insufficient to explain a social problem like mass shootings. The frequency of US mass shootings is consistent with the rate of civilian-owned firearms—there are many more guns there, and the United States

experiences many more mass shootings. But there are more civilian-owned firearms in Canada than all but five other nations in the world; yet Canada has experienced a similar number of mass shootings to nations with much lower gun ownership rates. Simply put, gun scholars (e.g., Yamane 2017; Carlson 2020) argue that guns are a necessary but insufficient explanation for various types and rates of gun violence.

Thus, firearms are only one piece of the social problem of gun violence, and research shows that guns are not the same piece of this larger social problem in Canada as they are in the United States. For example, in 2020, gun-related killings accounted for 79% of all US homicides; in Canada, gun-related killings accounted for 37% of all homicides in 2020 (see **Figure 4**).¹² As noted previously, in 2020, the homicide rate in the United States was approximately four times larger than the homicide rate in Canada. But even within those incidents, a much smaller share involved firearms in Canada than in the United States.

¹² In fact, a study published in the *Journal of the American Medical Association* (Global Burden of Disease 2016 Injury Collaborators 2018) found the US ranked eighth in a comparison of age-adjusted rates of homicide by firearm in a dataset including 64 nations. The nations ranked above the United States were Puerto Rico (a US territory), the Bahamas, the US Virgin Islands (also a US territory), Trinidad and Tobago, Saint Kitts and Nevis, Panama, and Barbados. The same study found that Canada was ranked twentieth, with a rate roughly 12% of the US rate. The same study found that firearm injuries and deaths were more common in nations where firearms are more easily accessible. Similarly, within the United States, a comparative analysis and review of research on state legislation and firearm laws and firearm homicides found a sharp reduction in firearm homicide accompanying legislation strengthening background checks or requiring permits for the purchase of firearms (Lee et al. 2017).

Figure 4: Gun-Related Killings as a Proportion of All Homicides in the USA and Canada, 2020



Sources: Federal Bureau of Investigation, Crime in the United States Annual Reports, 2020; Statistics Canada, 2020.

The fact that there is a collection of nations with high rates of gun ownership yet radically different rates of gun violence has prompted scholars studying guns and society to investigate distinctions between national gun cultures. “Gun culture” is generally used to refer to specific historic and contemporary attitudes, norms, and laws surrounding gun ownership and use. Simply put, gun culture encompasses the meanings attributed to guns within specific cultural settings (Yamane 2017; Carlson 2020). As such, gun cultures vary a great deal by nation. Much scholarship examining gun cultures internationally has commented on the uniqueness of gun culture in the United States (e.g., Carlson 2015a; Carlson 2015b; Stroud 2016; Yamane 2017). Carlson’s (2015a; 2015b) comparisons of Canada and the United States are illustrative. She has suggested that something as complex as gun culture cannot be fully captured by simple variables like rates of gun ownership. For example, she has considered the most prevalent kinds of guns owned in these two countries: in Canada long guns are more commonly owned than handguns; in the United States, the reverse is true. Long guns and handguns have different meanings and uses,

with the former more likely to be used for hunting, while the primary use of handguns is for target shooting and self-defense.¹³

Sociologist David Yamane (2017) has argued that this shift in the United States in types of guns was accompanied by shifting gun cultures as well. While a gun culture associated with hunting and recreation predominated in the early twentieth century, by the 1970s, the meanings associated with guns and gun ownership had shifted in the United States toward armed self-defense, an ideology Yamane has labeled “gun culture 2.0” (2017). It could be the case that the gun culture in Canada is more similar to pre-1970 US gun culture.

Yet treating nations as though guns have the same meanings for everyone who resides inside their borders is overly simplistic. In a globalized world, individuals can be influenced by gun cultures the world over, and the gun cultures of various nations are also capable of influencing each other. For instance, some research suggests that US gun culture has influenced the gun cultures in other parts of the world, including the association of guns with freedom—a connection made by gun rights advocates and activists in the United States that is now popularly celebrated around the world and influencing both gun ownership and use (see Carlson 2014). Our research also investigates whether it is possible to consider differing gun cultures as existing within the same societies, which may also help in understanding the frequencies of mass shootings by state within the United States. Following from that, we discuss the importance more generally of considering different gun cultures within a single nation as possible factors affecting mass shootings.

¹³ Also considering the effects of US gun culture to mass shootings in the US, Lankford (2015) did a comparative analysis of mass shooters in the United States and other countries, concluding that mass shooters in the United States are more likely to arm themselves with multiple weapons and attack places such as schools and workplaces. Shooters in other countries are more likely to strike at military sites. Lankford (2015) attributed these differences to “America’s national gun culture.”

III. New Definitions and Research: State-Level Data from New Research on Mass Shootings in the United States

Existing research relies on varying criteria to define mass shooting incidents. But the majority of research shares a common focus on incidents defined by three broad criteria: (1) incidents involving a single shooter; (2) incidents involving at least three fatalities (not including the shooter); and (3) incidents that are not associated with family, intimate partner, or gang violence. Given these parameters and subject to additional criteria that some scholars and organizations adopt when defining incidents, there are approximately 25–30 incidents annually in the United States that meet this definition. To be clear, this number far exceeds frequencies in any other nation in the world, and we consider it to be unacceptably high. But from a research perspective, the overall sample is small, which makes identifying patterns among these incidents more challenging.

Following the shooting events at Sandyhook Elementary school in Connecticut in 2012, a new nonprofit research group called the Gun Violence Archive attempted to produce a new dataset on US mass shootings.¹⁴ Rather than using highly politicized public figures, Gun Violence Archive sought to collect new data on incidents involving one or two shooters that met a minimum threshold of gun-related *injuries* (not necessarily fatalities). Data was collected from news media reports on shootings in the United States involving four or more gun-related injuries; data also incorporated incidents involving family, intimate partner, or gang violence that met

¹⁴ The United States does not systematically collect data on many different issues pertaining to guns and gun violence in the US as a result of the Dickey Amendment, as noted above in fn 7. As a result, some of the best data available have been collected by media organizations like *Mother Jones* and nonprofit organizations like Gun Violence Archive (GVA). And while Gun Violence Archive relies on the broadest definition of “mass shooting,” allowing them to collect information on a larger population of incidents, data are collected from news stories on shootings around the United States. Because of that fact, it is best understood as a conservative estimate of incidents. Despite this, these are some of the best data we have on this type of gun violence in the United States.

these other criteria.¹⁵ To these data, we have added a host of other variables that enable us to examine how incidents involving intimate partner, family, or gang violence are similar to and/or differ from other mass shooting incidents. Similarly, we have also examined how media report on different types of mass shootings, how perpetrators and victims are framed, and many other issues.

Building on the work of the Gun Violence Archive, our research provides a much larger population of mass shootings to examine. For instance, most research relies on a definition of mass shootings that would produce a population of US mass shooting incidents between 2013 and 2019 of approximately 200 separate incidents. Our cleaned version of data collected by Gun Violence Archive has a population of 2,543 separate incidents over the same period. By loosening the definitional criteria to include incidents based on injuries (not fatalities) and including incidents regardless of motive, relationship, or circumstances, these data offer a much clearer picture of the scope of gun-related mass violence in the United States.¹⁶

Given a larger population of incidents, it is also possible to look at and analyze these data in ways that would not be meaningful with datasets generated via narrower but more commonly adopted definitional criteria. And while the United States has a gun culture that is unique internationally and puts Americans at greater risk of experiencing mass shootings (see, e.g., Bridges and Tober 2016; Bridges and Tober 2019; Lankford 2016; Lemieux 2014), examining a

¹⁵ For a more detailed account of their methodology, see <https://www.gunviolencearchive.org/methodology>.

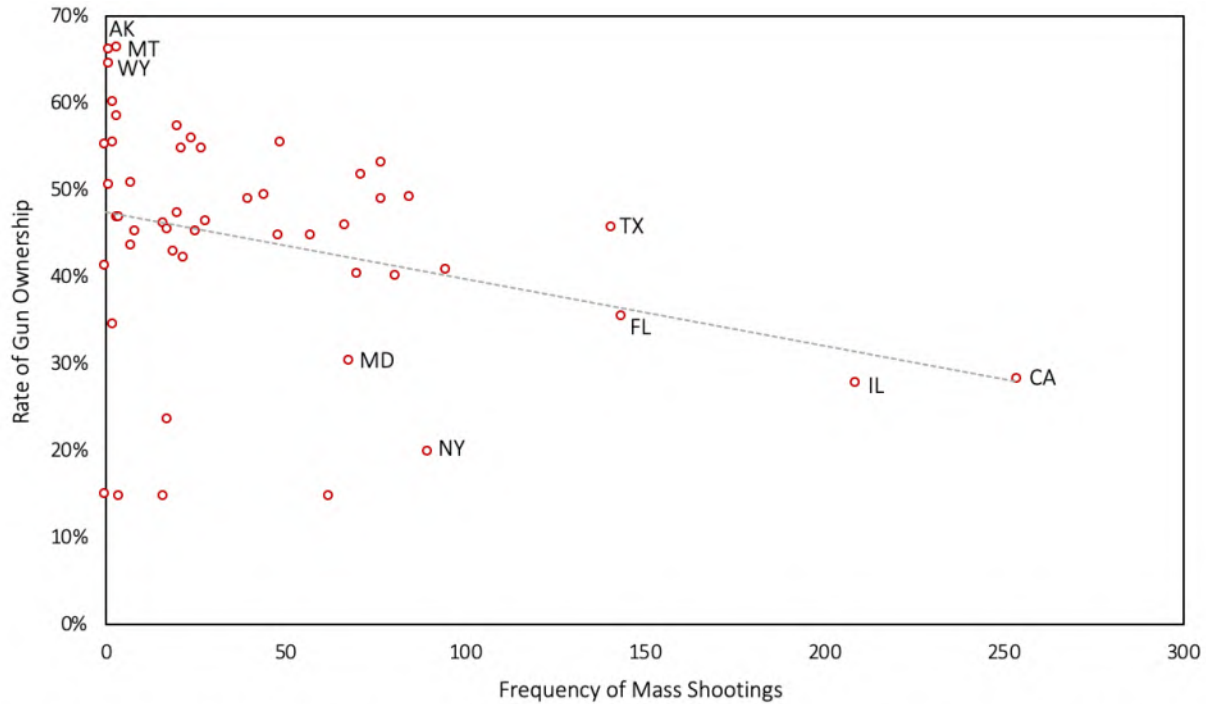
¹⁶ Gun Violence Archive is intentionally more inclusionary of disparate types of gun-related incidents involving four or more of victims by firearm (fatalities or injuries). They include incidents that happen in more than a single location (referred to as “spree killings” by the FBI), gun-related instances of family violence, and intimate partner violence, in addition to gang-related or potentially gang-related shootings. That is, GVA does not differentiate victims for inclusion based on the number of fatalities involved in the incident, the circumstances in which they were shot, or the type of relationship they had with shooters. While scholarship relying on the FBI definition of “mass murders” by firearm is useful in identifying some of the most fatal events, whether or not these criteria merit the exclusion of incidents classified out of existence as “mass shootings” by such a definition inhibits a more expansive study and analysis of a much larger population of incidents.

larger number of incidents also allows us to begin to interrogate whether multiple gun cultures exist in the United States and, if so, how they might be connected with mass shooting incidents.

In **Figure 5** below, we plot the frequencies of mass shooting incidents from our dataset between 2013 and 2019 by US state against rates of gun ownership by state. Interestingly, states with the highest rates of gun ownership (Alaska, Wyoming, and Montana) have among the lowest numbers of mass shootings. This suggests that one way of examining gun cultures in the United States is to consider whether there are state-specific gun cultures that might differ more or less from a larger national gun culture. Alaska, Wyoming, and Montana also have among the highest proportions of their populations living in rural contexts, a factor that may affect gun culture and gun violence.¹⁷

¹⁷ This does not mean that gun violence is absent in rural contexts but rather that this particular type of gun violence may be less present in rural contexts. In other words, different types of gun violence may be typical of contexts shaped by various gun cultures. For instance, it is also the case that states with among the highest rates per capita of firearm mortality have among the lowest proportions of their populations living in urban areas. This is in part due to high rates of suicide by firearm among white men, a figure including a disproportionate number of white men living in rural areas in the United States.

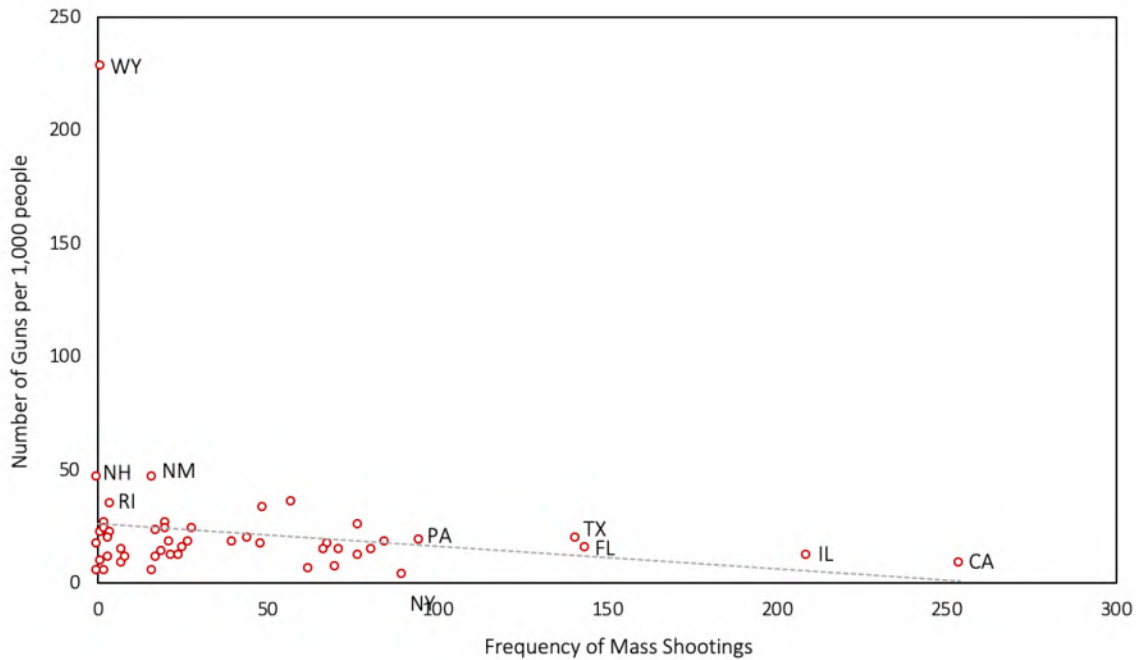
Figure 5: Frequency of Mass Shootings by State Compared to Rates of Gun Ownership, 2013–19



Sources: Tristan Bridges and Tara Leigh Tober Mass Shootings in America Database, based on data collected initially from Gun Violence Archive (mass shootings frequencies); RAND Corporation (gun ownership rates)

Figure 5 makes clear that guns are only a piece of the problem. States with among the highest rates of gun ownership simply have too few mass shooting incidents for rates of gun ownership to be the only explanation for this social problem. Similarly, when we look at raw numbers of guns (**Figure 6**), there is less of a relationship between guns per capita by state and frequency of mass shootings than might be expected if the major issue at play were access to guns.

Figure 6: Frequency of Mass Shootings by State Compared to Guns per Capita, 2013–19



Sources: Tristan Bridges and Tara Leigh Tober Mass Shootings in America Database, 2013-2019, based on data collected initially by Gun Violence Archive (mass shootings frequencies); World Population Review, 2021 (guns per capita)

These data suggest that we ought to focus more on examining what scholars refer to as “gun culture” by, in particular, analyzing the extent to which different states may have different gun cultures. For instance, preliminary research (e.g., Reeping et al. 2019) has suggested that the relative restrictiveness/permissiveness associated with US state-level gun laws and gun ownership is significantly related to differences in state-level rates of mass shootings. Our data help us better understand the extent of the relationship between gun laws, rates of ownership, and mass shootings.

But guns alone are insufficient to explain mass shootings, as mass shootings also have to do with the meanings associated with guns. Next, we summarize what scholars refer to as “gun culture” and how this concept helps to explain the meanings and significance of guns in society. That body of scholarship has consistently shown that gender is an important factor in our understandings of firearms and gun culture more broadly. Following that, we explain what it

means to argue that scholarship shows that guns and gun cultures are gendered social phenomena.

IV. Mass Shootings and Gender

Gun ownership, gun-related fatalities, and gun violence more generally are all gendered phenomena. Men are more likely than women to own guns; men are more likely than women to die by suicide via firearms; and men commit more gun homicides than women. And these gender gaps are more extreme when it comes to mass shootings. Men commit the overwhelming majority of mass shootings worldwide, and this general trend is dramatically illustrated in the United States. Our research suggests that mass shootings are a gendered issue: they fundamentally have to do with the relationship between men, masculinity, and guns. Notably, however, men with access to guns in the rest of the world do not commit mass shootings in the same numbers or at the same rates as American men. In other words, the relationship between guns and masculinity is especially important to understanding the phenomenon of mass shootings in the United States in particular. But the relevance of gender to gun culture more generally and to mass shootings particularly is instructive for other parts of the world as well, including Canada.

Answering the question of why American men commit the overwhelming majority of mass shootings requires a two-part sociological explanation: a social psychological explanation of why men turn to this type of violence so much more frequently than women do; and a cultural explanation to clarify what it is about American masculinity that causes the United States to stand out internationally when it comes to this particular type of gun violence (Bridges and Tober 2016; Bridges and Tober 2019).

1. Part I: A Social Psychological Explanation of the Relationship between Mass Shootings and Masculinity

Attempts to better understand both what gender is and how it works have resulted in an enormous body of social scientific scholarship, particularly in the last half century. Scholars in different disciplines have come up with unique ways to define the notions of “masculinity” and “femininity” and to consider what they mean and how they work. Beliefs about what it means to “be a man,” for instance, are variable. Men are not inherently more violent than women, but in many societies, social and cultural understandings of what it means to be a man are tied to violence. Because masculinity has meant different things over time and continues to have diverse meanings today, scholars such as James Messerschmidt (2000a; 2000b) have charted new intellectual ground that is particularly useful in understanding the relationship between men, masculinity, and violence. In a life history analysis of adolescent American boys, Messerschmidt examined what he has referred to as “masculinity challenges,” that is, “contextual interactions that result in masculine degradation” (2000a: 13). In other words, masculinity challenges refer to interactions in which a boy’s (or man’s) sense of himself as “masculine” is openly contested. Messerschmidt was interested in both the challenges themselves as well as how adolescent boys sought to resolve such challenges in patterned ways.

Messerschmidt has approached masculinity (and gender more broadly) from a sociological perspective, as something that is constructed socially in interactions with others (West and Zimmerman 1987), and he is particularly interested in how masculinity is accomplished in contexts and moments when boys’ claims to masculine identities are called into question. In such moments, Messerschmidt has argued that the boys in his study reached for what he terms “masculine resources” to bolster their claims to gender identities they perceived as challenged or threatened (Messerschmidt 2000a). Masculine resources refer to anything that can

be relied upon to restore challenged masculine gender identities. What people who are invested in masculine gender identities reach for when they perceive their gender identities to be threatened provides important information about cultural understandings of masculinity in the first place.

Similarly, a small body of research also exists on what Karen Pyke (1996) has called “compensatory masculinity,” or what other scholars (e.g., Schrock and Schwalbe 2009) have referred to as “compensatory manhood acts”: the specific displays of masculinity enacted by groups of boys and men whose claim to masculine-gendered identities might be structurally or interactionally called into question. We bring this up here because it is an interesting social scientific way of attempting to study something as slippery as “masculinity.” Rather than attempting to define it, one way of getting at lay understandings of masculinity is to look at how people respond when their claims on the identity are either tenuous or have been challenged. This allows the composition of what people think of as “masculine” to change but allows social scientists to chart its varied meanings.

Following this early research, social psychologists have examined the notions of “masculinity challenges” or “compensatory masculinity” in controlled experimental settings, allowing us to subject these findings to new and different kinds of scrutiny. This type of scholarship in social psychology is concerned with “masculinity threats” (a specific form of “social identity threats”). The research in this area is predominantly experimental. People come into labs, and scholars experimentally “threaten” the gender identities of some of them while “confirming” the gender identities of others, observing how those whose gender identities were threatened respond differently and in patterned ways.

Scholarship on social identity threat has come up with a few important and testable findings. One of the most important discoveries is that when people are invested in a particular identity and that identity is called into question or challenged, responses are socially patterned: a predictable response is to engage in exaggerated behavior that might symbolically authenticate their membership in the questioned identity category (Branscombe et al. 1999). The work that has applied this specifically to masculinity tests what social psychologists refer to as the “masculine overcompensation hypothesis” (see Willer et al. 2013): the notion that men whose gender identities as “masculine” have been challenged will respond with exaggerated demonstrations of masculinity. So in consideration of what masculinity is or how we might define it, social psychological research shows that we can best understand what masculinity means to people if we find a group invested in that identity, experimentally take it away from some of them, and see what they reach for in response.

Scholarship on “masculinity threat” or the “masculine overcompensation hypothesis” has relied on a few different methods to experimentally “threaten” some men’s gender identities. For example, Munsch and Willer (2012) brought a range of participants into a lab and asked them to complete a “Gender Identity Survey” (with questions drawn from existing psychological surveys on gender differences, such as the Bem Sex Role Inventory). Subsequently, the participants were randomly assigned to receive either gender-confirming feedback from the survey (indicating that they scored in the average range for men) or gender-disconfirming feedback (indicating that they scored within the average range for women). This latter condition is the “masculinity threat” condition.¹⁸ These two groups were subsequently asked to complete different kinds of tasks in

¹⁸ While not all research on “masculinity threat” has utilized the same threat measure, this is the measure that has proven most reliable across studies in the body of scholarship on the topic (see, e.g., Willer et al. 2013; Munsch and Willer 2012).

order for the researchers to study differences between the groups' responses to subsequent tests and tasks. Examining what it is that men whose masculinity has been experimentally threatened reach for to "over-demonstrate" masculinity offers a unique window into what is understood as masculine in the first place. Simply put, using Messerschmidt's (2000a) language, masculine resources are easier to identify when we examine responses to masculinity challenges.

Research on masculinity threats is ongoing, but existing research has produced a collection of disturbing results that help us better understand the relationship between masculinity and violence. For instance, Munsch and Willer (2012) had men read scenarios involving sexual coercion or force by men against women and found that men whose masculinity had been experimentally threatened were less likely to identify sexual coercion as sexually coercive and more likely to blame the women victimized in the scenario. Similarly, Willer et al. (2013) subjected the masculinity overcompensation thesis to a larger number of issues, discovering that men whose masculinity had been threatened were more supportive of violence and war as a solution to problems, more likely to agree with male supremacist statements, more supportive of prejudice toward gay men, more likely to identify as Republican, and even more likely to say that they wanted to purchase a sport utility vehicle. This research suggests that violence is a masculine resource on which men are more likely to rely when their masculinities have been challenged. Indeed, as Levin and Madfis have argued, "In American culture, the masculine role is frequently defined by elements of dominance, violence, and militarism" (2009: 1242). Social psychological research on masculinity threat offers us new methods of appreciating this relationship.

Moreover, some work specifically links threats to gender identity with guns in the United States. For instance, a recent study found that worsening economic conditions for men are

associated with increased gun sales, and men who perceive higher levels of masculinity threat are less supportive of gun control measures (Cassino and Besen-Cassino 2020). As an extensive body of scholarship ties masculinity to work, occupations, and career (for a summary, see Bridges, Taylor, and Robinson 2020), worsening economic conditions structurally provide fewer opportunities for men to demonstrate masculinity via paychecks and provision. When fulfilling the gendered role of “provider” becomes less available, scholars have found that some men shift their understandings of masculinity to support another gendered role in society—the “protector” (see Carlson 2015a; Stroud 2012; Warner et al. forthcoming). From this perspective, worsening economic conditions can serve as cultural-level masculinity threats. Cassino and Besen-Cassino (2020) have found that owning or carrying a gun is a symbolic gendered enactment among American men—it helps men construct and affirm their gendered identities (see also Carlson 2015a and Stroud 2012). And other research on guns as a masculine resource has helped to explain men’s relationships with guns and the relationship between mass shootings and masculinity in particular (Levin and Madfis 2009; Madfis 2014; Pfaffendorf, Davis, and Kinney 2021).

Identifying patterns in the motivations of mass shooters is challenging from a sociological perspective. One way that sociologists examining US mass shootings have sought to do this is to analyze public “manifestos” of mass shooters, as many incidents have involved such statements. Using topic modelling and textual analysis, Pfaffendorf, Davis, and Kinney (2021) have recently analyzed publicly available mass shooter manifestos from the United States and discovered that masculine overcompensation, ritualistic responses to exclusion, and racialized status threat (concerns over the status of white people) were patterned motives mentioned in these documents. Their study provides new empirical support for our framework for

understanding the relationship between masculinity and mass shootings (see also Bridges and Tober 2016; Bridges and Tober 2019). Madfis's (2014) findings among school shooters also reveals that interactional-level masculinity challenges are important factors in explaining these events.

Mencken and Froese (2019) have found that men in the United States, particularly white men, who have recently experienced an economic setback or even fear experiencing one are more likely to see owning a gun as emotionally and morally empowering. And while the most popular response justifying gun ownership among American men is “protection” (Parker et al. 2017), Warner et al. (forthcoming) have recently discovered that men who are parents and/or partners are no more likely to rely on this justification of gun ownership than men who are not, a fact Warner et al. argue implies that protective gun ownership and men's relationships with guns in the United States are less about protecting one's family and more about protecting claims to masculinity and gendered forms of power and authority. Both Mencken and Froese (2019) and Warner et al. (forthcoming) have found that among men in the United States, economic precarity is meaningfully related to guns—both interest in owning guns and understanding them as emotionally empowering. This suggests that masculinity threats not only happen interpersonally and in individual interactions but might also be something we can study at the cultural level (see also Carian and Sobotka 2018).¹⁹

From a public health perspective, understanding whether and how work, career, and notions of “providership” are tied to notions of masculinity for men in different cultural contexts and groups is important. Research on guns in the United States suggests that as “providership”

¹⁹ Research on guns in the United States suggests that as “providership” becomes a more challenging identity for men to claim as the economy transforms in ways that create more opportunities in economic sectors dominated by women and fewer in those dominated by men, men turn to “protection” to demonstrate their gender identities (see Carlson 2015a).

becomes a more challenging identity for men to claim as the economy transforms in ways that create more opportunities in economic sectors dominated by women and fewer in those dominated by men, men turn to “protection” to demonstrate their gender identities (see Mencken and Froese 2019; Carlson 2015a; Carlson 2015b; Stroud 2012; Warner et al. forthcoming).

Messerschmidt’s (2000a) research with young boys also supports the notion that masculine threats provoke violence. He found that violence is not simply a masculine resource but *the* resource boys and young men turn to in a crisis. More recently, Willer et al.’s (2013) experimental research has supported the finding that violence remains an important resource that men turn to in order to demonstrate masculinity when they perceive a challenge to this identity.²⁰ Understanding mass shootings as an extreme manifestation of the violent gendered behavior documented by social psychologists helps explain why crimes like mass shootings are so overwhelmingly committed by men—these crimes are often productively understood as enactments of masculinity in response to perceived masculinity threats. Less work has explicitly considered the ways masculinity challenges can also occur at structural and cultural levels. But larger, more macro-level cultural shifts help to explain the increasing frequency of such violence in ways that a social psychological perspective alone cannot and also help to answer a separate question: why *American* men? That question requires a cultural explanation.

2. Part II: A Cultural Explanation of the Relationship between Mass Shootings and American Masculinity

Certainly, American boys and men are not the only boys and men who have their gender identities threatened. A full explanation of the relationship between masculinity and mass

²⁰ Importantly, scholarship on masculinity threat has primarily been conducted on men in the United States. Because we know that understandings of masculinity are different around the world, whether men in different societies would also respond to experimental threats to their gender identities and whether they would respond in ways that are similar to the documented responses among US samples of men is something we need more research to confirm.

shootings has to account for why American boys and men in particular commit these crimes more than boys and men anywhere else in the world. This question requires a cultural explanation—one that attends to the unique role that American culture plays in influencing boys and young men in the United States to turn to this type of violence at such higher rates than boys and men elsewhere. Addressing this requires shifting our attention away from the individual characteristics of the shooters themselves to focus on the sociocultural contexts in which violent masculinities are both produced and valorized (see Carlson 2014; Carlson 2015a; Tonso 2009).

In tracing the history of the use and sociocultural meanings associated with firearms in the United States, sociologist David Yamane has helped to outline what a sociological analysis of gun culture might look like and how it might be useful. According to Yamane (2017), colonial-era Americans regarded guns as tools that were necessary for life on the frontier,²¹ but this relationship changed over time as sport hunting and shooting, as well as activities like gun collecting, came into fashion as pastimes and lifestyle pursuits for American men. Indeed, among the unique elements of gun ownership and culture in the United States is the fact that the average gun owner owns far more firearms than the average gun owner in other comparable societies around the world—gun-owning households in the United States own an average of about eight guns (Ingraham 2018).²²

²¹ This is significant as it relates to Maslow's law of the instrument, discussed above, as it pertains to firearms. It is possible to view guns as tools, as Yamane's (2017) overview of the changing meanings of guns attests. Though even here, tools are transformative in the ways Maslow suggested. But the meanings associated with firearms when they were primarily understood as tools is distinct from subsequent periods.

²² Note that the average calculation is not entirely useful here, as outliers with extremely large collections skew the data. The Pew Research Center has found that among gun owners in the United States, about one third own only a single firearm; another third owns between two and four guns; and the final third of American gun owners own five or more guns (Parker et al. 2017). Available data suggest that this latter share of gun owners is much larger in the United States than in comparable nations around the world.

And while Yamane has argued that these recreational meanings associated with guns and gun culture are still present in the United States, the meanings associated with guns shifted again more recently (starting in the 1970s) toward notions of armed self-defense—something Yamane (2017) refers to as “Gun Culture 2.0.” Surveys of American gun owners have documented this shift as well. In 2017, the Pew Research Center found that among American gun owners, only 8% claimed to own a gun for work, 13% claimed to be collectors, 30% owned guns for sport shooting, 38% for hunting, but a full 67% stated that their major reason for owning a gun was “for protection” (Parker et al. 2017).²³ Indeed, what sociologists now refer to as “protective gun ownership” is on the rise, and (as further explained below) important research has documented the gendered ways men in particular lean on this new logic (e.g., Stroud 2012; Stroud 2016; Carlson 2015a; Carlson 2015b). Both Carlson (2015a) and Stroud (2016) have also commented on the racialized nature of this discourse, noting that white men in particular lean on this logic of gun ownership and armed protection: white men in the United States are much more likely than white women to own guns, but also more likely than men of colour (Parker et al. 2017).²⁴

In Jennifer Carlson’s research on gender and American gun ownership (2015a; 2015b), many men she interviewed spoke about a very specific kind of “nostalgic longing for a particular version of America” (2015b: 390). Some invoked it by name, referring to it as “Mayberry,” referencing the fictional US town from the 1960s American family sitcom *The Andy Griffith*

²³ A separate representative survey of American gun owners conducted by Gallup in three waves (2000, 2005, and 2021) found that when owners were asked, the reasons they gave for owning guns shifted substantially even over the two decades. In 2000, 65% of gun owners surveyed claimed to own guns “for protection”; by 2021, 88% claimed to own guns for the same reason (Gallup 2021).

²⁴ Pfaffendorf, Davis, and Kinney’s recent study of mass shooter manifestos (2021) has discovered that gendered racism was a patterned claimed motivation in the dataset. Their work supports a larger finding that gendered racism among white men in the United States is consistently connected not just with mass shootings committed by white men (Bridges and Tober 2016; Bridges and Tober 2019) but also with gun ownership in the United States by white men more broadly (see Stroud 2012; Stroud 2016; Carlson 2015a; Carlson 2015b; Carlson 2020; Mencken and Froese 2019).

Show, which depicted a family's life in a small white community of suburban single-family homes, and the safety and security associated with that community. Carlson has argued that Mayberry represents a symbolic image of what is perceived as "lost" among the gun-owning American men she studied. The men in Carlson's study were living through the evaporation of the manufacturing economy that may have afforded previous generations of men like them an ability to accomplish masculinity through economic provision but no longer offered them the same economic security. Carlson found that some white men used guns to symbolically and emotionally negotiate this social, cultural, and economic transition. Less able to accomplish masculinity through the "provider" role, Carlson found gun-owning American men increasingly leaning on "protection" as a way of accomplishing masculinity—white men in particular (see also Stroud 2012; Stroud 2016).

Yamame (2017) has argued that Gun Culture 2.0 is uniquely American, emerging alongside early victories by the civil rights movement and shifts in understandings of inequality and privilege in America. Indeed, Madfis (2014) has shown that boys and young men who have committed school shootings disproportionately belong to privileged groups in society: young, white, heterosexual, class- and education-privileged.²⁵ Madfis (2014) has argued that different forms of privilege and entitlement on the basis of gender, race, class, and sexuality converge in many instances of mass murder, noting, for instance, that while homicides in the United States are committed by men more than women, mass murders are the only category of US homicides disproportionately committed by white, heterosexual men. Gun Culture 2.0 emerged right around the same time that the intersecting privileges associated with these identity categories started to

²⁵ While similar data for mass shootings in Canada is difficult to come by, Tonso (2009) has summarized a collection of seventeen school shooting incidents between 1966 and 2008 collected by the Canadian Broadcast Corporation (six of which occurred in Canada). Mass shooters in Canada, from these data, are similar to US mass shooters on demographic characteristics: they were all young, white men.

become more visible and more contested. As sociologist Raewyn Connell has written, these shifts have produced “a major loss of legitimacy for patriarchy,” and “different groups of men are now navigating that loss in very different ways” (Connell 1995: 202). Karen Tonso (2009) too has argued that many young men in the United States experience a sense of shame and humiliation that stems in part from their perceived loss of privilege. Similarly, as Mencken and Froese have written, “white men in economic distress find comfort in guns as a means to reestablish a sense of individual power and moral certitude in the face of changing times” (2019: 22).

Gun culture in the United States, as well as in other nations, shifts over time, and understanding this fact is important in making sense of mass shootings. For instance, as detailed above, mass shootings are more prevalent in the United States than in other nations and have increased in frequency over time. There are potentially varied drivers of these trends, including the greater availability of certain kinds of guns and the relative lack of restrictions for obtaining firearms in and throughout the United States in comparison to other nations with high rates of guns per capita. But a sociocultural exploration of why American men commit mass shootings more than any other group suggests that guns are a necessary but insufficient explanation for rates of mass shootings. It isn’t simply guns or simply masculinity. Explaining the relationship between American men, masculinity, and mass shootings requires an understanding of US gun culture. And this same attention is necessary when examining mass shootings in other nations as well.

V. Conclusion

The scale and scope of mass shootings as a social problem are unique to the United States. But as the events that led to the present Commission illustrate, such incidents impact societies

elsewhere. Research shows that rates of gun ownership and access to firearms contribute to the rate of mass shootings. But a large body of research has also suggested that attention must be paid not only to the guns involved but also to the people wielding the guns and, further, to the gun cultures within which mass shootings occur. Gender and social/national contexts are important components of our understanding.

National and international efforts to create larger datasets with methodologically defensible parameters will thus give us more data to better understand mass shootings. The database of “active shooter” incidents collected by the FBI in the United States is an important step in this direction. A more inclusive definition of “mass shootings” will enable us to examine a much larger number of incidents, and with that number comes an ability to identify patterns that are less visible with the small samples typically used in research on mass shootings. Nations should actively invest in producing publicly available data on mass shootings that occur within their borders. Suitably inclusive definitions might also enable an examination of where mass shootings occur within specific nations, as well as where they do not, in order to more systematically identify where and how gun cultures vary by context, even within societies, in ways that better explain how gun cultures are related to the problem of mass shootings more broadly.

Policies hoping to address mass shootings must take gun legislation into account, but research suggests that this is insufficient. The preponderance of research on mass shootings has shown that they are productively understood as enactments of masculinity. But guns and masculinity must first be recognized as fundamentally connected with each other, as are masculinity and violence. The research canvassed in this report suggests that men who are otherwise unable to access a gendered sense of status in their social hierarchies may turn to guns

or other forms of violence as masculine resources in societies in which guns or violence are culturally associated with or understood as “proof” of masculinity. Men enact masculinity in these ways in cultural contexts in which these enactments are culturally legitimized and granted status and authority. In such a context, real change will require *cultural* change as well, and this is much more challenging.

References

- Booty, Marisa, Jayne O’Dwyer, Daniel Webster, Alex McCourt, and Cassandra Crifasi. 2019. “Describing a ‘Mass Shooting’: The Role of Databases in Understanding Burden.” *Injury Epidemiology* 6(47): 1–8.
- Branscombe, Nyla R, Naomi Ellemers, Russell Spears, and Bertjan Doosje. 1999. “The Context and Content of Social Identity Threat” in N Ellemers, R Spears, and B Doosje (eds), *Social Identity: Context, Commitment, Content*, pp. 35–58. Chichester: Wiley.
- Bridges, Tristan, Catherine J Taylor, and Sekani Robinson. 2020. “Connections between Masculinity, Work, and Career Reproduce Gender Inequality” in Kadri Aavik, Clarice Bland, Josephine Hoegaerts, and Janne Salminen (eds), *Making it Like a Man: Men, Masculinities, and the Modern Career*. Berlin: de Gruyter.
- Bridges, Tristan and Tara Leigh Tober. 2016. “Mass Shootings and Masculinity” in Mindy Stombler and Amanda Jungels (eds), *Focus on Social Problems: A Contemporary Reader*, pp. 507–12. New York: Oxford University Press.
- . 2019. “Mass Shootings, Masculinity, and Gun Violence as Feminist Issues” in Verta Taylor, Nancy Whittier, and Leila Rupp (eds), *Feminist Frontiers*, 10th edition, pp. 498–505. Lanham, MD: Rowman and Littlefield.
- Bridges, Tristan, Tara Leigh Tober, and Nicole Wheeler. 2015. “What Constitutes a Mass Shooting and Why You Should Care.” *Feminist Reflections* blog (17 December 2015). Available at: <https://thesocietypages.org/feminist/2015/12/17/what-constitutes-a-mass-shooting-and-why-you-should-care/> (accessed 31 March 2022).
- Carian, Emily K and Tagart Cain Sobotka. 2018. “Playing the Trump Card: Masculinity Threat and the US 2016 Presidential Election.” *Socius* 4: 1–6.
- Carlson, Jennifer. 2014. “States, Subjects and Sovereign Power: Lessons from Global Gun Cultures.” *Theoretical Criminology* 18(3): 335–53.
- . 2015a. *Citizen-Protectors: The Everyday Politics of Guns in an Age of Decline*. New York: Oxford University Press.

- . 2015b. “Mourning Mayberry: Guns, Masculinity, and Socioeconomic Decline.” *Gender & Society* 29(3): 386–409.
- . 2020. “Police Warriors and Police Guardians: Race, Masculinity, and the Construction of Gun Violence.” *Social Problems* 67(3): 399–417.
- Cassino, Dan and Yasemin Besen-Cassino. 2020. “Sometimes (But Not This Time), a Gun Is Just a Gun: Masculinity Threat and Guns in the United States, 1999–2018.” *Sociological Forum* 35: 5–23.
- Connell, Raewyn. 1995. *Masculinities*. Berkeley: University of California Press.
- Federal Bureau of Investigation (FBI). 2020. “Crime in the United States, 2020.” Annual Report. Available at: <https://crime-data-explorer.app.cloud.gov/pages/downloads> (accessed 31 March 2022).
- . 2021a. “Active Shooter Incidents: 20 Year Review, 2000–2019.” US Department of Justice, May 2021. Available at: <https://www.fbi.gov/file-repository/active-shooter-incidents-20-year-review-2000-2019-060121.pdf/view> (accessed 31 March 2022).
- . 2021b. “Active Shooter Incidents in the United States in 2020.” US Department of Justice, July 2021. Available at: <https://www.fbi.gov/file-repository/active-shooter-incidents-in-the-us-2020-070121.pdf/view> (accessed 31 March 2022).
- Follman, Mark. 2014. “Yes, Mass Shootings Are Occurring More Often.” *Mother Jones*. Available at: <https://www.motherjones.com/politics/2014/10/mass-shootings-rising-harvard/> (accessed 15 December 2021).
- Fox, James Alan and Jack Levin. 2012. *Extreme Killing: Understanding Serial and Mass Murder*. Los Angeles: Sage Publications.
- Gallup. 2021. “Guns.” <https://news.gallup.com/poll/1645/guns.aspx> (accessed 16 December 2021).
- Global Burden of Disease 2016 Injury Collaborators. 2018. “Global Mortality from Firearms, 1990–2016.” *Journal of the American Medical Association* 320(8): 792–814.
- Ingraham, Christopher. 2018. “There Are More Guns Than People in the United States, According to a New Study of Global Firearm Ownership.” *Washington Post*, 19 June 2018.
- Karp, Aaron. 2018. “Estimating Global Civilian-Held Firearms Numbers.” Briefing Paper for the 2017 *Small Arms Survey*, June 2018. Available at: <https://www.smallarmssurvey.org/sites/default/files/resources/SAS-BP-Civilian-Firearms-Numbers.pdf> (accessed 31 March 2022).
- Kellermann, AL, FP Rivara, NB Rushforth, JG Banton, DT Reay, JT Francisco, AB Locci, J Prodzinski, BB Hackman, and G Somes. 1993. “Gun Ownership as a Risk Factor for Homicide in the Home.” *New England Journal of Medicine* 329(15): 1084–91.

- Lankford, Adam. 2015. "Are America's Public Mass Shooters Unique? A Comparative Analysis of Offenders in the United States and Other Countries." *International Journal of Comparative and Applied Criminal Justice* 40(2): 1–13.
- . 2016. "Public Mass Shooters and Firearms: A Cross-National Study of 171 Countries." *Violence and Victims* 31(2): 187–99.
- Lee, Lois K, Eric W Flegler, Caitlin Farrell, Elorm Acakame, Saranya Srinivasan, David Hemenway, and Michael C Monuteaux. 2017. "Firearm Laws and Firearm Homicides: A Systematic Review." *Journal of the American Medical Association* 177(1): 106–19.
- Lemieux, Frederic. 2014. "Effect of Gun Culture and Firearm Laws on Gun Violent and Mass Shootings in the United States: A Multi-level Quantitative Analysis." *International Journal of Criminal Justice Sciences* 9(1): 74–93.
- Levin, Jack and Eric Madfis. 2009. "Mass Murder at School and Cumulative Strain: A Sequential Model." *American Behavioral Scientist* 52(9): 1227–45.
- Madfis, Eric. 2014. "Triple Entitlement and Homicidal Anger: An Exploration of the Intersectional Identities of American Mass Murderers." *Men and Masculinities* 17(1): 67–86.
- Maslow, Abraham. 1966. *The Psychology of Science: A Reconnaissance*. New York: Harper & Row.
- Mencken, F Carson and Paul Froese. 2019 "Gun Culture in Action." *Social Problems* 66(1): 3–27.
- Messerschmidt, James W. 2000a. *Nine Lives: Adolescent Masculinities, the Body, and Violence*. Boulder: Westview Press.
- . 2000b. "Becoming 'Real Men' Adolescent Masculinity Challenges and Sexual Violence." *Men and Masculinities* 2(3): 286–307.
- Metzl, Jonathan, Tara McKay, and Jennifer L Piemonte. 2021. "Structural Competency and the Future of Firearm Research." *Social Science & Medicine* 277: 113978.
- Munsch, Christin and Robb Willer. 2012. "The Role of Gender Identity Threat in Perceptions of Date Rape and Sexual Coercion." *Violence against Women* 18: 1125–46.
- National Center for Health Statistics. 2020. "Assault or Homicide." Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/nchs/fastats/homicide.htm> (accessed 31 March 2022).
- Noordzij, Marlies, Friedo W Dekker, Carmine Zoccali, and Kitty J Jager. 2010. "Measures of Disease Frequency: Prevalence and Incidence." *Nephron Clinical Practice* 115: c17–c20.
- O'Neill, James P, John J Miller, and James R Waters. 2016. "Active Shooter: Recommendations and Analysis for Risk Mitigation." New York City Police Department. Available at:

- <https://www1.nyc.gov/assets/nypd/downloads/pdf/counterterrorism/active-shooter-analysis2016.pdf> (accessed 31 March 2022).
- Parker, Kim, Juliana Menasce Horowitz, Ruth Igielnik, J Baxter Oliphant, and Anna Brown. 2017. "America's Complex Relationship with Guns." Pew Research Center report, 22 June 2017. Available at: <https://www.pewresearch.org/social-trends/2017/06/22/americas-complex-relationship-with-guns/> (accessed 29 December 2021).
- Pfaffendorf, Jessica, Andrew P Davis, and Alexander B Kinney. 2021. "Masculinity, Ritual, and Racialized Status Threat: Examining Mass Shooter Manifestos Using Structural Topic Models." *Sociological Inquiry* 91(2): 287-312.
- Pyke, Karen D. 1996. "Class-Based Masculinities: The Interdependence of Gender, Class, and Interpersonal Power." *Gender & Society* 10(5): 527-49.
- Reeping, Paul M, Magdalena Cerdá, Bindu Kalesan, Douglas J Wiebe, Sandro Galea, and Charles Branas. 2019. "State Gun Laws, Gun Ownership, and Mass Shootings in the US: Cross Sectional Time Series." *British Medical Journal* 364: 1542.
- Rostron, Allen. 2018. "The Dickey Amendment on Federal Funding for Research on Gun Violence: A Legal Dissection." *American Journal of Public Health* 108(7): 865-67.
- Small Arms Survey, Civilian Firearms Holdings, 2017. Available at: <https://www.smallarmssurvey.org/database/global-firearms-holdings> (accessed 31 March 2022).
- Smart, Rosanna and Terry L Schell. "Mass Shootings in the United States." *Gun Policy in America, RAND Corporation*, 15 April 2021. Available at: <https://www.rand.org/research/gun-policy/analysis/essays/mass-shootings.html> (accessed 14 March 2022).
- Spitzer, Robert J. 2020. *The Politics of Gun Control*, 8th edition. New York: Routledge.
- Statistics Canada. 2020. "Homicide in Canada, 2020." Available at: <https://www150.statcan.gc.ca/n1/daily-quotidien/211125/dq211125b-eng.htm> (accessed 31 March 2022).
- Stroud, Angela. 2012. "Good Guys with Guns: Hegemonic Masculinity and Concealed Handguns." *Gender & Society* 26(2): 216-38.
- . 2016. *Good Guys with Guns: The Appeal and Consequences of Conceal Carry*. Chapel Hill: University of North Carolina Press.
- Tonso, Karen. 2009. "Violent Masculinities as Tropes for School Shooters: The Montreal Massacre, the Columbine Attack, and Rethinking Schools." *American Behavioral Scientist* 52(9): 1266-85.
- Wade, Lisa and Gwen Sharpe. 2012. "The Transformative Potential of Technology." *Sociological Images* blog, 20 December 2012. Available at: <https://thesocietypages.org/>

socimages/2012/12/20/the-transformative-potential-of-technology-the-bushmaster-223/
(accessed 1 December 2021).

Warner, Tara, Tara Leigh Tober, Tristan Bridges, and David F Warner. Forthcoming. “To Provide or Protect? Masculinity, Economic Insecurity, and Protective Gun Ownership in the US” *Sociological Perspectives*. doi:10.1177/0731121421998406.

West, Candace and Don Zimmerman. 1987. “Doing Gender.” *Gender & Society* 1(2): 125–51.

Willer, Robb, Christabel L Rogalin, Bridget Conlon, and Michael T Wojnowicz. 2013. “Overdoing Gender: A Test of the Masculine Overcompensation Thesis.” *American Journal of Sociology* 118(4): 980–1022.

Yamane, David. 2017. “The Sociology of US Gun Culture.” *Sociology Compass* 11: 1–10.

Zhang, Sarah. 2018. “Why Can’t the US Treat Gun Violence as a Public Health Problem?” *Atlantic*, 15 February 2018. Available at: <https://www.theatlantic.com/health/archive/2018/02/gun-violence-public-health/553430/> (accessed 10 December 2021).