Can Gun Policy Alleviate Mass Shootings?

I. Introduction

In this project, I examine the relationship between gun regulation policy and gun violence in the United States, focusing on the relationship between gun policy and mass shootings. Have recent mass shootings effectively spurred localized gun policy reform? Do strict gun policies decrease the likelihood that a mass shooting will take place? Are some gun policies more effective at targeting mass shootings than others, which might focus on wider issues of gun violence?

To answer the first question, I look at trends of gun policy creation over time, noting when a mass shooting occurred in that area. I use a sample of nine states that have seen the ten most deadly mass shootings and trace their history of policy development in the area of gun control. For the purposes of my study, I define a mass shooting as an event in which a lone shooter took the lives of four or more individuals in a public place (Follman et al. 2013). I have made exceptions to this definition in order to include the Columbine massacre and the Westside Middle School shooting, which were both at the hands of two shooters, as well as cases in Crandon and Seattle, which occurred in private places, but are otherwise characteristically similar to other mass shootings. By looking into the legislative context surrounding these events, I hope to catch a glimpse into their effect on policy creation.

In order to determine the efficacy of gun laws on decreasing mass shootings, I incorporate some of the data collected to study the effect which these events have on policy creation. However, for this analysis, I focus on the gun policies that existed before the shootings took place rather than the ones that developed afterwards. I also look at gun policy development in states that have not had recent mass shootings. Did they initially have stricter gun laws than the states where mass shootings
did occur? Did their policy develop in reaction to the national phenomenon of apparent raises in mass shootings, or at least media coverage thereof? Or is there no apparent pattern in states’ laws and the lack of such tragedy?

Finally, I draw conclusions about the efficacy of certain types of policies. Certain media outlets have advocated for policies that would specifically complicate the act of firing many bullets in a row, as one would in the case of mass shootings, by targeting high-capacity magazines. Other laws might specifically target the mental health and age demographics that have been associated with the majority of mass shootings by pressing age limits and background checks. Which of these laws are able to target mass shootings effectively and decrease rates of these tragedies?

II. Literature Review

A. Research Questions

In my research on this subject, most of the articles fell into a category dedicated to exploring the question: What aspects or types of gun policy work to reduce gun violence? Research done by Makarios and Pratt (2012), Cook and Ludwig (2004), Moorhouse and Wanner (2006), Lott (1998) and Bramble (2014) explores various types of policies that have been suggested or implemented over the years, focusing on four categories:

1. Information, training, and storage campaigns
2. Programs to reduce availability
3. Gun laws which “control the types of firearms that may be purchased, designate the qualifications of those who may purchase and own a firearm, and restrict the safe storage and use of firearms
4. Enforcement and policing tactics

Moorhouse and Wanner’s research does differ to some extent, as the authors first analyze whether or not gun control policies work, and then seek other explanations for correlation between gun
control policies and levels of gun violence. They ultimately obtain results that are helpful in analyzing which policies reduce crime and why they do. Domenech’s commentary (2013) also discusses the overall efficacy of gun control and of gun ownership in decreasing violent crime, including mass shootings.

Kleck, Gertz, and Bratton (2009) evaluate reasons that people may support gun control laws, of which they doubt the effectiveness and of which the effectiveness has proven to be unremarkable, according to their studies. It is helpful in identifying why the population favors the least effective policies—a phenomena which Makarios and Pratt (2012, 236) also observe, but do not speculate on. Younge (2012) and Collier (2013) both look at the causes of gun violence in America, questioning what makes American gun culture and violence so different than that of other countries. Younge also discusses our reactions to mass shootings. He is joined and countered in this discussion of shock and reactionary activism by Corwin Smidt (2012) and Collier.

Finally, I analyzed a group of articles that discussed new and old proposals for the reduction of gun violence. Cooper, Luo, Shear, Rivera, Frosch, and Johnson (2013) discuss an expected proposal by President Obama. Mitka (2013) expands upon this proposal, and then presents a reactionary proposal by Don Kates.

B. Methods Employed in Literature

Most of the studies I looked at—including Makarios and Pratt’s policy meta-analysis (2012), Cook and Ludwig’s analysis of effective policy principles (2004), Moorhouse and Wanner’s study of the relationship between gun violence and regulation (2006), Kleck, Gertz, and Bratton’s explanation for gun control as a popular political issue (2009), and Domenech’s commentary on the efficacy of gun control (2013)—cross-checked studies in order to get the most consistent and reliable results. However, because they used different case studies and data sets, and because they took different intervening factors into account, their conclusions still differ quite a bit. Additionally, the separate
researchers defined gun policy differently. For example Moorhouse and Wanner look at gun laws, which they define as policies which “control the types of firearms that may be purchased, designate the qualifications of those who may purchase and own a firearm, and restrict the safe storage and use of firearms” (2006, 103). Conversely, Makarios and Pratt look at “gun violence interventions” which include “information, training, and storage campaigns; gun buy-back programs; gun laws; and law enforcement campaigns” (2012, 223).

Some studies, however, focused on a collection of case studies. For example, Bramble (2014) analyzed several mass shooting cases which involved mental illness. Lott (1998) used anecdotes from both Israel and the United States to explain what he believes to be the best step forward for the US in controlling gun violence. Additionally, Collier (2013, 85) included descriptions of various cases of gun violence to illustrate how access to guns, mental illness, fear, law, individualism, and our “rights-based hubris” all contribute to gun crime.

Further authors—such as Bramble (2014), Cooper (2013), and Mitka (2013)—analyzed policies, looking at how they attempt to target gun violence. While Bramble focused on policies that target mentally ill populations as common perpetrators, Cooper and Mitka look at Obama’s more comprehensive proposal and Don Kates’ enforcement-based policy proposal. Remaining research—done by Lott (1998), Younge (2012), and Smidt (2012)—relies on statistical analyses. While Smidt and Younge both analyzed Americans’ reactions to gun-related tragedies, Lott focused on which policies and trends appear most useful based on self-collected, thorough research.

C. Conclusions Drawn from the Literature

i. Causes of Gun Violence

Younge outlines the phenomenon of mass shootings as a result of tensions and a shock only to those who choose to ignore the patterns and prejudices. He explains that “while it is certainly true that more guns increase the possibility of mass shootings [...] , they don’t by themselves increase the
likelihood. What links America’s high concentration of guns and relatively high level of gun deaths are the country’s high levels of inequality, segregation and poverty" (Younge 2012, 10). The United States is the only Western country with all of these factors—easy access to guns and high inequality, segregation, and poverty—and it is the only Western country with such high rates of gun violence.

Collier explains another set of factors that might play a role. He agrees that the availability of firearms is a contributing factor, but that it is the access of firearms to high-risk, mentally ill individuals which causes violence. He also points to legislative issues, such as the danger of “Stand Your Ground” laws (2013, 82). If any individual can use deadly force when he reasonably believes there is a risk of death to himself, and if gun ownership becomes so common that it is reasonable to believe that any potential threat is also potentially armed, then deadly force can be used by anyone on anyone in a jittery society. What further protects potential gunmen is our individualistic society with a “rights-based hubris” that refuses to deny the right to bear arms, or the right to use them as the individual sees necessary (Collier 2013, 85).

If we are to change the national paradigm of gun violence, then we must be prepared to address the issues that cause such violence. In this case, we may not be able to decrease gun violence only by addressing gun ownership and use directly in legislation. Rather, it is possible that we will need to see cultural and structural changes in how we care for the mentally ill, how we approach issues of poverty and segregation, and how we view our constitutional rights.

ii. Determining Policy Efficacy

The literature suggests that certain types of policies are effective at decreasing gun violence, yet others ineffective. While most policies could be sorted into the four categories previously mentioned, the various analyses of these kinds of policies differed greatly. Makarios and Pratt—the only authors to research the efficacy of policies that aimed to educate gun owners, train them, and secure safe storage for weapons—found that such policies were ineffective (2012). The researchers
were entirely split on the efficacy of reducing access to and availability of firearms. Cook and Ludwig (2004) believed that a reduction in gun ownership would lead to a reduction in gun violence, but Lott (1998) actually found that concealed weapons might decrease gun violence. Makarios and Pratt established that a reduction of gun ownership through buy-back programs was ineffective. Enforcement—a general category of how the police, rather than the legislative body, can decrease crime by policing such that there is a higher probability law-breakers will get caught—was supported by Cook and Ludwig (2004) and Moorhouse and Wanner (2006). However, Lott (2004) found enforcement ineffective. Makarios and Pratt found that “comprehensive community-based law enforcement initiatives have performed the best at reducing gun violence” (2012, 222). Punishment was seen as ineffective in Lott’s research concerning the death penalty, but longer prison sentences were supported by Kates (Mitka 2013).

The final category—gun laws—including various forms of gun control, some of which were supported, but most of which were shown to be ineffective. Makarios and Pratt (2012) found the entire category of gun laws to be ineffective, as did Cook and Ludwig (2004), Moorhouse and Wanner (2006), and Domenech (2013). The only expectation was the Cook and Ludwig supported background checks, reasoning that “Gun possession by violence-prone and criminally-involved individuals poses much higher costs for society than gun possession by more responsible people” (2004, 594). Lott (1998) disagreed with this, saying that the waiting period that occurs while background checks are taking place is ineffective.

Kleck, Gertz, and Bratton, admittedly looking at a different topic and research question, came to a conclusion that was enlightening after reading Makarios and Pratt’s data. As Makarios and Pratt found that “politically popular programs show little or no promise for reducing gun violence” (2012, 236), Kleck, Gertz, and Bratton explain that “positions on public policies are largely determined by factors other than beliefs that the policies will achieve their stated goals” (2009, 496). In fact, most
support comes from bias and cultural conflict. Bramble (2014) finds that this is the case especially when looking at gun laws which target mental illness as a cause of gun violence. Yet Mitka (2013) noted that many of these popular policies are still being proposed by the president, who included expanding criteria for gun ownership, increasing background checks, banning assault weapons and high-capacity ammunition, and improving mental health in his proposal in January of 2013. In order to get popular support for effective gun control policies, political scientists would have to do more than simply prove that the policies would be effective; they would probably have to wait for culture to evolve.

iii. Mass Shootings and the American Psyche

In his analysis of why Americans are shocked by the continuing trend of mass shootings, Gary Younge contrasts our reactions to these seemingly isolated tragedies and our reactions to more common gun violence, seen in gang wars and organized crime. He believes that the shock factor of mass shootings is the context in which these shootings take place. As a society, we expect gun violence to occur in poor, urban areas, where there is organized crime. However, “when the chaos of the hood intrudes on the security of suburbia”, there is a certain moment of shock and incomprehension (Younge 2012, 10). Kleck, Gertz, and Bratton (2009) discuss not our emotional reaction to mass shootings, but our productive reaction. They observe that such tragedies stir us in a way that is initially non-political. Concern for children following a mass shooting is not a partisan issue. Although politicians get prioritized media coverage following such events, what stirs people is citizen action and coverage of the shooting itself.

D. Contribution of the Following Research

My research aims to analyze and synthesize that of previous analysts in order to create a more comprehensive base on which gun regulation policies and programs might be built. I aim to focus on the distinction between mass shootings and other forms of gun violence in order to highlight
different approaches to each. I hope that my project will fill a hole in the literature, where individuals acknowledge mass shootings as a unique kind of violence that must be approached differently, yet there appears to be a lack of knowledge in how best to approach mass shootings and more common shootings as two different forms of violence which require different kinds of legislation and enforcement.

III. Hypotheses

My own previous research revealed a correlation wherein states that tend to vote conservatively have relatively loose gun policies, high gun ownership, high rates of death by gun, and high rates of robberies and rapes using guns. Corresponding to this, states which voted more liberally had stricter gun laws, lower gun ownership, and lower rates of gun violence measured in deaths, robberies, and rapes. However, contrary to the general pattern of gun violence, liberal states had higher rates of mass shootings than conservative states did. Therefore, I believe that I will find that mass shootings do not correlate directly with other gun crimes, but that they do have a greater effect of inspiring the public to demand stricter gun regulation.

I recognize that it may be too early to measure the effectiveness of state gun legislation that targets mass shootings, as these tend to be events that only occur a few times a year, scattered across the states. However, I believe that the strictness of gun laws already in place at the time of previous shootings will have little correlation with the event of the mass shooting. I recognize that, in my research, I will be unable to account for many factors that affect gun ownership and gun violence. In the 50 states, there is a wide variety of gun culture, from towns that value recreational hunting to cities that have high levels of gang violence. Therefore, many of the states will likely have laws that focus on different protections of rights and regulations of gun ownership. It seems to follow necessarily that the wide variety of policies related to guns would have a wide variety of effectiveness when it comes to mass shootings.
IV. Methods

A. Longitudinal Design: Trend Analysis

In order to study the relationship between the events of mass shootings and the existence of strict gun laws, I will need to look at how policy develops over time, as well as how gun violence fluctuates over time.

i. Do Mass Shootings Spur Gun Policy Reform?

This question of causation cannot be answered through the collection of data; however, I hope to find a correlation between the events of mass shootings and the creation of new gun policies or the development of existing policies. I will take a survey of the states with the ten most deadly mass shootings that have taken place in the past 20 years and look at how their policies have developed over that span of time. I will identify the most deadly mass shootings as those which have had the highest numbers of fatalities, measured since 1995.

The first will be Columbine, which occurred April 20, 1999 in Littleton, Colorado, which killed 13 individuals. The next will be the July 29, 1999 shooting which took place in Atlanta, Georgia and which ended fatally for 12 individuals. The next occurred on March 21, 2005 in Red Lake, Minnesota and killed nine people. The next would be the Virginia Tech shooting, which occurred on April 16, 2007 in Blacksburg, Virginia and killed 32. In 2009, there were two incredibly deadly shootings—the April 3rd shooting in Binghamton, New York and the November 5th shooting in Fort Hood, Texas—leaving 13 dead in each. On October 12, 2011 eight people were killed in Seal Beach, California during a shooting at the Salon Meritage. The eighth shooting took place on July 20, 2012 in Aurora, Colorado, killing 12. On December 14, 2012, a shooting left 27 dead in Newtown, Connecticut. The final shooting I will look at will be the September 16, 2013 shooting in the Washington Navy Yard in Washington D.C., which killed 12 individuals. I have identified these
shootings based on a CNN article published in September of 2014 (CNN Library 2014). Due to the nature of the article, the mass shootings, and this project, the actual shootings I will be studying have taken place between 1999 and 2013, rather than spanning fully from 1995 to 2015.

With these events and their corresponding states identified, I will analyze the development of gun policy in each state, counting the pieces of legislation that have passed in those states from 1995 to 2015. I will be looking at state-level policy development prior to the violent events in order to get an understanding of the state’s trends of policy development when it is not directly affected by tragedy, as well as its base-level of attention to gun control. In analyzing the policy development following the shootings, I will be looking for a spike in activity pertaining to gun laws, which would suggest that the violent events spurred action.

In this section, rather than looking at the strength of state gun laws, I will observe merely that laws were put into place within certain years. For example, I might look at two states which each enacted a law related to the public carry of firearms in 2013. One state might have enacted a law which banned the concealed carry of guns, and the other could have adopted a shall-issue permit law, which would grant any applicant who met basic requirements with a permit to carry a concealed weapon. Despite the disparity, both would be counted as a legislative action pertaining to guns in that state. However, if the first state were to retract its ban on concealed carry and replace it with a shall-issue permit law, I would measure that as a lessening in legislative restrictions.

On the timeline, I will record the event or events of mass shootings in that state. If mass shootings do spur policy reform in the states in which they occur, that might be marked in a spike of legislative action following the violent event, introducing stronger laws pertaining to gun ownership, sale, and carry. I acknowledge that there might be spikes elsewhere on the timeline, as one state might be spurred into action following an attack in another state. I also recognize that there might be dips in the strength of gun laws. According to a 2013 New York Times article, in the year
following the Newtown shooting, 70 out of 109 new state laws pertaining to guns called to loosen, rather than tighten, restrictions on guns (Yourish et al. 2013). Therefore, it is clear that not all states are reacting to these tragedies with a call for stricter restrictions.

B. Cross-Sectional Design: Aggregate Data Analysis

ii. Are Gun Policies Effective at Addressing Mass Shootings?

Did these states with such violent attacks have strong gun restrictions prior to the events, or loose ones? Does there appear to be any consistency among the states’ laws prior to the events? In order to understand the efficacy of gun policies, I will want to look not only at the states which have seen a recent mass shooting, but also at the laws existing in states that have not seen such a tragedy in the past 20 years.

I will collect data on all 50 of the United States, looking at whether or not they have seen a mass shooting in the past 20 years, as well as at the strength of their laws. For states that have seen this kind of violence, I will use the strength of their laws prior to the most recent mass shooting in order to address any trend within that category. For states that have not had a recent mass shooting, I will use the year 2005 as a base year to look at the strictness of their gun laws at that time. I will then compare the gun laws in states that have undergone these violent events to the laws in those that have not. Do states that have not seen a recent mass shooting have stronger gun laws than those that have? Do they have weaker gun laws? Is there any apparent correlation between the strictness of gun restrictions and whether or not there will be a mass shooting?

iii. Do Some Policies Work Better Than Others?

I will also codify policies into the three categories offered by the 2013 Guardian article: (1) Regulatory Policies, (2) Permit/License Policies, and (3) Public Carry Policies (Guardian US Interactive Team 2013). Within the regulatory category, some laws will demand that gun owners report missing or stolen firearms, while other will require that all guns sold have a locking device.
This category of laws might also dictate background checks on private sales or sales at gun shows. Within the category of licenses and permits, laws can apply to long guns, hand guns, or both. The category of public carry laws would discuss the legality of open or concealed carry of firearms. I will analyze the strength of policies in all of these categories in order to determine if any category of gun policy is more or less effective at decreasing the likelihood that a community will experience one of these violent attacks. Finally, I will look at trends of gun ownership, gun-related death rate, and the occurrence of mass shootings to see if there is any apparent relationship between these factors.

In all, I will collect information on each of the states for the following information:

1. Name of the State
2. Political Tendencies: Red State, Blue State, or Swing State ‘12
3. Number of mass shootings in the past 20 years
4. Strictness of Gun Laws Prior to the Mass Shooting (if applicable)
   a. Strictness of Regulatory Policies
   b. Strictness of Permit/License Policies
   c. Strictness of Public Carry Policies
5. Strictness of Gun Laws in 2005 (if Q4 was not applicable)
   a. Strictness of Regulatory Policies
   b. Strictness of Permit/License Policies
   c. Strictness of Public Carry Policies
6. Strictness of Gun Laws in 2013
   a. Strictness of Regulatory Policies
   b. Strictness of Permit/License Policies
   c. Strictness of Public Carry Policies
7. Percentage of People Who Own Guns
8. Gun-Related Death Rate

V. Data

A. Policy Development Before and After the 10 Most Deadly Mass Shootings

My research into the development of state policies suffered due to state-by-state disparities in how policies were recorded. Some states, such as Texas, recorded their policies in a way that provided me with bountiful resources to locate when a policy was enacted originally as well as each year that it was updated. Other states, such as New York, provided comprehensive definitions of what the policies entail today, but did not list the origin dates of the policies or the years that they
were updated. Therefore, it will appear in my trend-analysis results that Texas and New York have the same quantity of regulations, but by a more standardized collection technique that I implemented in my aggregate data collection, it is clear that New York’s policies are much stricter than Texas’ laws. For the purpose of looking at the development of these policies—observing spikes of legislative action and lulls of inaction—I believe that the quantity and the time line will provide the important information. However, for my later purpose of looking at the efficacy of these gun laws on mass shootings, I believe that the overall strictness of the policies will hold greater importance. Therefore, despite apparent contradictions in my data, I believe that the research remains useful for these two analyses.

In the following sections, I explore trends within the nine states that have seen the ten most deadly mass shootings in recent US history. For each state, I provide a basic outline of policy development by graphing the enactment of new policies and expansions upon older policies. I also illustrate when the mass shooting(s) occurred in that state. In analyzing the graphs, I will look at state trends of policy development prior to tragedy and take note of changes in development trends following the mass shooting.

i. Policy Development in Colorado

Colorado saw two of the most deadly mass shootings in the United States in the past 20 years. First was the 1999 shooting in Littleton, and then there was the 2012 shooting in Aurora. Colorado itself has some of the more lenient state gun laws in the
country; however Denver has enacted some stricter local gun laws, possibly as a reaction to the violent shootings, both of which took place just outside of the city.

In Figure 1, we can see that, prior to the 1999 shooting, not much attention was paid to legislative action on behalf of gun violence. However, following the first red line—which signifies the 1999 shooting in Littleton, Colorado—the first major piece of legislative action was brought forward. This 2000 act would mandate that background checks occur before the sale of any kind of firearms at a gun show, essentially closing the “gun show loophole” that received a lot of attention in the 1990s.

After that, there was little policy development until 2007, when the Colorado legislators implemented a “shall-issue” permit law, which stated that as long as a candidate met basic criteria, the state would issue that person a permit to own a gun. While this act did expand upon the federal law, it is a bare-minimum policy. The next spike in action did not occur until Colorado saw yet another tragedy: the 2012 shooting in Aurora. Following this, two policies were enacted—one which restricted ammunition magazines, and another which tightened background checks on private sales of firearms.

ii. Policy Development in Georgia

In Atlanta, Georgia, a horrific mass shooting took place on July 29, 1999. As you can see in Figure 2, Georgia was not on a trend of creating stronger state restrictions on guns, and it did not begin this trend for many years following
this shooting. When the state did enact a new gun law, it was 2005. This policy was immediately followed by a 2006 law. In 2009, Georgia legislation amended one of these policies in order to make it less restrictive on gun ownership and carry. In 2012, another mass shooting occurred in Norcross, Georgia, just outside of Atlanta, killing five. Georgia legislation did not respond with a new regulation or an amendment to an existing one.

iii. Policy Development in Minnesota

Despite Minnesota having a low- to middle-range level of gun regulation policies, it has made development throughout the years. Prior to experiencing a recent mass shooting, Minnesota already had one notable piece of legislation in place from 1995 and added another in 2003, as you can see in Figure 3. In 2005, one of the most deadly mass shootings took place in Red Lake, Minnesota, in which the shooter killed nine individuals. The state reacted with immediate action, adding one gun law the next year and developing three more over the next four years. Despite these restrictions, Minnesota saw another mass shooting in 2012 in Minneapolis and did not develop more policies following this.

iv. Policy Development in Virginia

Although Virginia has only had a single mass shooting in the past 20 years, it has been among the most violent; and although the state does not have incredibly strict gun laws, it has developed its policies quite a bit in that same time frame. Figure 4 shows that Virginia had a single
steady gun regulation from 1995 to 2002, when it added another. In 2005, Virginia added two new policies. In 2007, the state developed a fifth. The same year, Blacksburg, Virginia suffered a mass shooting. The gunman took 33 lives and injured 23 other individuals. Virginia legislators took action over a year later, adding a new policy in 2009. In 2010, Virginia added an amendment to make one of its regulations less strict, but added a new law in 2013. In the two years following, Virginia has kept its laws stable, focusing on closing loopholes in background checks at gun shows, but remaining lenient on permits, public carry, and most other regulations.

v. Policy Development in New York

Figure 5 illustrates New York gun policy development over the past 20 years. Today, New York has quite strict regulations, and this graph suggests that most of the recent creation of these laws has followed violent events. In 1995, New York had two notable gun policies in place and added a third when national concerns were raised following the first highly-
reported school shootings in 1998 and 1999. These laws remained stable until the 2009 shooting in Binghamton, New York which left 14 dead. Following this violent event, a new gun law was passed in 2010 and then another in 2013. Despite the greater restrictions put on gun ownership, New York suffered another shooting in 2013 in Herkimer County. Following this shooting, the state continued to raise restrictions to their current level.

vi. Policy Development in Texas

Despite Texas’ incredibly loose gun laws, Figure 6 shows that well-documented progress has been made steadily over the past 20 years. In 1995, Texas had no notable gun laws in place when Corpus Christi saw a mass shooting that took the lives of six of the shooter’s co-workers. In 1997, Texas saw its first notable growth in gun restrictions, which continued in 1999 with the addition of another law. That same year, another shooting took place in Fort Worth, killing eight. No immediate action was taken by the Texas legislators, but laws were eventually added in 2003 and 2006.

Ten years after the Fort Worth shooting—and with two policies developed since that time—Texas saw one of the country’s most brutal mass shootings. In 2009 in Fort Hood, 13 were killed and 30 others were injured in the army base. Immediately following this, Texas legislators added a fifth policy in 2010 and developed a sixth in 2013. Despite this progress, Texas is still rated as having some of the weakest gun laws in the United States.
vii. Policy Development in California

Due to the sheer size of the state, it is hardly surprising that California has seen the greatest number of mass shootings of any of the 50 states. However, it might be surprising that it has seen so much tragedy at the hands of gunmen due to the fact that it has the strongest gun regulations of any of the states. Figure 7 will show that even in 1995, California already had two notable gun policies in place. Yet, in 1997, Orange, California suffered from a mass shooting which left five dead. Following this tragedy, no notable action was taken until 2004, when a third law was passed.

Two years later, California saw another mass shooting, this time in Goleta, which killed eight individuals. A fourth law was added three years later in 2009. In 2011, California's most deadly mass shooting occurred in Seal Beach. California saw state-level policy development each year following this event, and yet each year the state has also suffered mass shootings until 2014. In 2012, Oakland, California lost seven victims and in 2013, Santa Monica lost six.

viii. Policy Development in Connecticut

Connecticut has some of the strongest gun laws in the United States today, and it has a long history of developing these laws to be the best that they can be. The state's strengths tend to be in regulations and permits. Background checks are required before a gun can be sold in a store or at a
gun show and the purchaser must have a permit. A gun owner’s responsibilities continue throughout his or her ownership of the firearm, as Connecticut law requires that guns are stored safely with locking devices and that they are reported missing or stolen when this is the case. Further permits are required to carry a gun openly or concealed, and there is discretion left to the authorities beyond this law. However, despite these laws, Connecticut has seen considerable tragedies.

As Figure 8 shows, 3 strong laws were already in place in 1995, and growth continued in 1996 with the addition of a fourth. In 1998, Connecticut suffered a mass shooting in Newington in which a lottery employee shot four of his bosses before committing suicide. Connecticut legislators added a fifth gun policy that same year. In 2003, two more regulations were added, and this list stayed relatively stable through 2011. Despite these considerable policies, Connecticut saw another mass shooting in 2010 in Manchester. Following this, both violence and policy development continued. In 2012, 28 were killed in the Newtown school shooting and an eighth policy was added to the existing legislation. In 2013, a ninth was added.

ix. Policy Development in Washington D.C.

Maryland is yet another state with some of the strictest gun laws on record, and local gun laws in Washington D.C. are even greater. Maryland is known for conducting extensive background checks and requiring locking devices on firearms. Washington D.C. adds to this by requiring that gun owners report missing firearms and by prohibiting private citizens from carrying guns openly or concealed. While neither Maryland nor Washington D.C. always had such strict regulations on
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firearms, as Figure 9 shows, the development of these policies were well on their way before the violent attack of the 2013 Washington Navy Yard occurred.

Figure 9 shows that one notable law was enacted in Washington D.C. between 1995 and 2007. 2008 and 2009 saw the first bumps in greater development with a policy passed each of those years. Washington D.C. truly saw a spike in development starting in 2012 with three new policies, and this growth continued in 2013 with two more. That same year, the Washington Navy Yard shooting occurred, where a Texan military veteran killed 12 individuals and wounded eight before being shot down by the police. The following year, Washington D.C. legislators added a final regulation, which has brought us to our current point.

B. Beyond the 10 Most Devastating: Shootings and Policies Across the 50 States

i. How Many States Have Seen a Recent Mass Shooting?

In the United States, mass shootings are treated as unprecedented tragedies. Each story is different and many have context that make violence seem unfathomable, such as the Newtown shooting in an elementary school. How common are mass shootings, really? According to Figure 10, the majority of states have suffered one or more mass shootings in the past 20
years. In fact, there have been one or more mass shootings in 28 states and no recent mass shootings in only 22 states. This means that 56 percent of states have been affected by this specific kind of tragedy.

Many of the states that have experience with mass shootings have actually had a history of multiple mass shootings. Figure 11 shows that most of the states affected by mass shootings have only had the single event, and more states that have not suffered directly from such events. However, several states have endured multiple of these tragedies. In fact, 20 percent of states have had either two or three mass shootings occur in the past 20 years, and California has had as many as five mass shootings occur in recent history.

ii. How Strong are State Gun Laws in the United States?

As Figure 12 shows, the majority of states have fairly weak gun laws. In fact, I measured 35 states—70 percent—as enacting one or fewer policies that significantly expanded upon federal gun legislation. I used this level of inaction as my operational definition of weak gun laws. States in the south east exemplify this—with
exemptions for Florida, North Carolina, and Virginia—because they otherwise failed to enact a single policy that imposed regulations on reporting missing firearms, insisting upon locking devices on guns, conducting background checks during private purchases or purchases made at gun shows, or requiring permits or licenses to own a gun or to carry it in public either openly or concealed. While each of the other three states in the south east added a single law in one of these areas, I still determined that such minimal development was not sufficient to place them in the middle range of gun policy strictness.

For the purposes of my research I defined strong state gun laws as improving upon federal gun laws with at least four notable policies. Nine states qualified to be in this category, and the remaining six states—which enacted two to three notable policies—were put into the middle range of gun law strength.

iii. **Strength of Gun Laws in States That Have Suffered a Mass Shooting**

Gun policy advocates would hope to see that stronger gun policies are effective at decreasing gun violence in its various forms, and Figure 13 appears to support that hope at a first glance.

This graph shows that most of the states that have seen mass shootings had weak gun laws the year in which the shooting occurred. However, as we saw in Figure 12, an even greater majority than this fall into the category of having weak gun laws, according to my operational
definition. If we look more closely at Figure 13, we can see that seven states with strong gun laws have recently suffered from a mass shooting. With only nine states in total that rank as having strong gun laws today, this means that over \(\frac{3}{4}\) of the states with the strictest gun laws have seen a mass shooting. In contrast, 18 of the 35 states with weak gun laws have seen a recent mass shooting, making these tragedies affect just over half. Meanwhile, three—exactly half—of the states with gun laws in the middle-range of strength have suffered from mass shootings in the past 20 years.

iv. Strength of Gun Laws in States That Have Not Seen a Recent Mass Shooting

In order to compare the strictness of gun laws in states that have not seen a recent mass shooting versus those that have, I used 2005 as a base-year to measure gun policies. Looking at the strength of policies in this year will give us an idea of the states’ policy strength during this period of peace, in regards to mass shootings.

Figure 14 shows that only two states with strong gun laws avoided a mass shooting—under \(\frac{1}{4}\) of the states with such policies. Of the states with middle-range strength of policies, half did not suffer from mass shootings. Finally, 17—just under half—of the states with weak gun laws have not seen a mass shooting in the past 20 years.

v. Is There a Relationship Between Gun Laws, Gun Violence, and Mass Shootings?

a. Gun Laws and Gun Violence
The above data—suggesting that a larger majority of states with strong gun laws suffer from mass shootings than that of states with weak gun laws—might lead one to believe that gun regulation is ineffective at curbing gun violence in its many forms. However, the majority of victims of gun violence are not the victims of mass shootings. Rather, gun violence occurs every day in the forms of individual murders, as well as rapes and robberies, wherein guns are used. In order to be considered ineffective at addressing gun violence, I believe that data would have to suggest that states with strict gun policies have high or average rates of gun-related deaths. However, Figure 15 will show that this is not the case.

Figure 15 reveals that the states with weak gun laws tend to have higher rates of gun-related deaths. All of the states with strong gun laws have a gun-related death rate below 10 percent, and almost half of those states have a gun-related death rate under five percent. No states with weak gun laws have gun-related death rates below five percent, and only five of these states are below 10 percent. Of the states with weak gun laws, 18 of them—just over half—have a gun-related death rate between 10 percent and 14.9 percent. The remaining 12 states in this category fall into the highest set of gun-related death rates, between 15 and 20 percent. Of the six states with middle-range gun laws, none fall into either the lowest or the highest rates of gun-related deaths. Rather,
one-third of them have gun-related death rates between 5 and 9.9 percent, and the remaining two-thirds fall between 10 and 14.9 percent.

b. Gun Laws and Mass Shootings

States with weaker gun laws are shown to have higher rates of gun-related deaths, yet states with stronger gun laws are shown to have higher rates of mass shootings. Figure 16 will illustrate this occurrence in more detail as the numbers of mass shootings in each state are broken down. The first row of data shows that, while only 22.2 percent of states with strong gun laws have not seen a recent

<table>
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<th>Number of Mass Shootings</th>
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<th>% within Strictness of Gun Laws Either Prior to the Most Recent Mass Shooting or in the Year 2005</th>
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mass shooting, 44.4 percent of states in this category have suffered from multiple mass shootings. In contrast, 48.6 percent of states with weak gun laws have not seen a recent mass shooting and only 14.3 percent of these states have seen multiple mass shootings in the past 20 years. Furthermore, the only state which has seen more than three recent mass shootings—California—has some of the strongest gun laws in the United States and has a gun-related death rate below 10 percent.

c. Mass Shootings and Other Forms of Gun Violence

The strength of gun laws appears to have a very different relationship with mass shootings than it does with other forms of gun-related deaths. But how do mass shootings fit into the scheme of gun violence? Figure 17 shows that every state that falls into the lowest category of gun-related death rates has recently suffered from a mass shooting. Of the states with gun-related death rates that fall between 5 and 14.9 percent, a slight majority have not suffered from a mass shooting. The only category of states in which most have not suffered from a mass shooting is the category of the 12 states with the highest gun-related death rates. Mass shootings appear to be a greater threat to states which tend to suffer less from other forms of gun violence than they are to states with more widespread violence.

C. Efficacy of Coded Policies at Addressing Mass Shootings

Gun laws appear to be effective at addressing gun violence in general, yet ineffective at addressing mass shootings. In a way, this seems reasonable because most policies are meant to tackle the problems that afflict communities every day. Mass shootings are seen as anomalies, forms of
violence that we cannot predict or control. However, it is possible that certain kinds of policies are more effective at limiting the availability of guns to dangerous citizens, at identifying problematic situations, or at making it more difficult for a single person to threaten the lives of many. It is possible that some kinds of gun policies are better suited to address mass shootings as a specific kind of gun violence.

i. Regulatory Policies

For the purpose of this project, my operational definition of regulatory policies will be an act which dictates (1) that there should be background checks, record keeping, and reporting requirements on private sales of firearms and/or sales of firearms at gun shows, (2) that all firearms sold should have locking devices in place, or (3) that lost or stolen guns must be reported to the proper authorities (Guardian US Interactive Team 2013). Figure 13 will show that most states have weak regulatory policies. With nine states having strong policies, six in the middle-range, and 35 with weak policies, regulatory policies are completely average, it appears, in terms of policy enactment.

Figure 19 illustrates the efficacy of regulatory policies. According to this crosstabulation, seven of the nine states with strong regulatory policies, four of the six with middle-range policies, and 17 of the 35 with weak regulatory policies suffered mass shootings. If we compare this to Figure 13, we can see that the same number of states with strong overall gun policies and with strong regulatory policies have seen one or more mass shootings in the past 20 years. However, one more state with
middle-range regulatory policies and one fewer state with weaker regulatory policies suffered from mass shootings. If we assume that there is any sort of causal relationship—which is a hefty assumption—then we must conclude that regulatory policies are less effective than gun policies in general are.

ii. Permit and Licensing Policies

Permit and licensing policies may require anything of applicants from simple paperwork to years of experience, training, testing, and waiting. While permit policies are often enacted on the state level, the requirements to obtain a permit are often left to the discretion of localities. For my research, permit and license policies were divided into two categories—(1) those for hand guns and (2) those for long guns and rifles—and labeled based on strictness according to whether there were permit requirements for one, both, or neither type of gun. Figure 20 illustrates that such laws are somewhat more controversial than gun laws in general. Fewer states have strong
permit policies than the number of states with strong gun policies in general, and more states have weaker permit policies than their overall gun policies. However, there are also more states which exist in the middle-range. This might be because some states will reason that there is a greater need to restrict hand guns—which are more common in violent crime—than there is to restrict hunting rifles. Such policies which apply to one but not the other would qualify as middle-range policies.

Figure 21 illustrates that permit policies might be even less effective than regulatory policies are. Within the category of states with strong permit policies, we see that 85.7 percent have experienced mass shootings, whereas 77.8 percent of the states with strong overall gun laws suffered from these events.

Whereas half of the states with middle-range general gun laws had experienced mass shootings, the states which had middle-range policies specifically in the area of permits were more likely to suffer from mass shootings: 71.4 percent had done so. Of the states that did not impose a single permit law, 52.8 percent have not seen a mass shooting in the past 20 years. Just under half of the states with weak gun laws in general can say the same.

iii. Public Carry Policies
Public carry policies restrict the open or concealed carrying of a firearm by a private citizen and sometimes authorities, in the case of open carry. Figure 22 shows that more states are willing to restrict the carrying of guns more than they are to regulate the sales or availability of ownership. Four states have strong public carry laws; for two of these states, it means that open carry is restricted, while the other two restrict both open and concealed carry. I classified 14 states as falling within the middle range of public carry laws. For my purposes, this often meant that gun owners had to have a carrying license in order to do so, but the act was not prohibited altogether. The remaining 32 states did not restrict the public carry of guns in any measurable way.

Figure 23 illustrates that—as with the other categories of gun policies—public carrying policies do not appear to be overwhelmingly effective at addressing mass shootings. All four of the states that prohibited some form of public carry have faced a mass
shooting in the past 20 years, and 57.1 percent of states that require a permit have had the same experience. Once again, the states with weaker policies face lower rates of mass shootings than do the states with stronger policies.

VI. Discussion of Data

A. Are Mass Shootings Spurring Reform?

Some things are certain: that mass shootings cause more alarm and get more media attention than other forms of gun violence; that mass shootings reignite gun policy debates; and that these tragedies inspire community members to call for action in any direction. However, my research concerning whether or not the tragedies inspire productive policy reform is somewhat inconclusive. In many cases, we can see spikes in action following mass shootings. Two of the most convincing cases to suggest that states enact policy following mass shootings are those of New York and Colorado. Colorado legislators made significant policy progress following both the 1999 Littleton shooting and the 2012 Aurora shooting. In New York, legislators appear to have reacted swiftly to the 2009 shooting in Binghamton as well as the Herkimer County shooting of 2013.

Other states that developed policies immediately following tragedy—Connecticut after the 2012 shooting in Newtown, Minnesota following the Red Lake shooting in 2005, Texas after the 2009 Fort Hood shooting, and California following the 2011 Seal Beach shooting, the 2012 Oakland shooting, and the 2014 Santa Monica shooting—also saw tragedies that did not necessarily spark reform. Connecticut suffered from a shooting in Newington in 1998 and a policy was created the same year, but which was first? The Fort Worth shooting in Texas raises the same question. Minnesota has yet to see new development following the Minneapolis shooting of 2012. Although Texas reacted promptly following the Fort Hood shooting, the legislators failed to act within a year of the 1999 shooting at Corpus Christi. Virginia and Connecticut saw the same hesitation following the Blacksburg shooting of 2007 and the Manchester shooting of 2010, respectively. While
 Californian legislators reacted promptly in three cases, it appears that they did not react at all in two: following the Orange shooting of 1997 and the Goleta shooting of 2006.

Policy development was rapid in Washington D.C. after the 2013 shooting in Washington Navy Yard, but progress was arguably even faster prior to this event. It is hard to claim that Maryland acted in reaction to the tragedy when, in fact, it was acting long before the tragedy, as well. Georgia appears almost definitive in answer to this question with a resounding “no”: mass shootings did not spur reform. While Georgia has made steps forward, none of them took place within a time frame that appears affected by either the 1999 shooting in Atlanta or the 2012 shooting in Norcross.

There are significant pieces of literature that would explain both the passionate reaction by citizens and the unsteady action taken by governing bodies. Gary Younge points to the fact that “[p]olls show a narrow majority believes both gun laws and laws covering the sale of firearms should be stricter” and suggests that “[w]hat is lacking are leaders prepared to mobilize those numbers at the ballot box to confront the financial and lobbying might of the National Rifle Association” (Younge 2012, 10). Charles Collier is less certain of the commitment of citizens to the cause, noting that there should be an outcry for a kind of policy action that we have never seen. He explains that, because the United States maintains a regime of essentially unlimited access to dangerous firearms, it is presumed to intend the resulting terrible, but eminently predictable consequences. If the American people did not truly intend those consequences, they would presumably rise up en masse and demand state and federal laws that required gun owners to take out liability insurance, imposed steep taxes on firearms and ammunition, or made the manufacturers liable for the death and destruction these products (when used properly) are supposed to cause.

Charles Collier 2013, p. 81

Collier believes that mass shootings are a tragic working of our society’s system—a system of both insufficient policies and aggravating social circumstances, from our high inequality to our “rights-based hubris” (85). If we wanted our system to no longer produce such tragedies, according to Collier, we would introduce new policies into that system. However, “in a land
where a one-gun-per-month purchase limit is counted as bold—even ‘pioneering’—legislation” (81) Collier expects that greater policy change will not take place when society is shaken by another violent event, but rather when society itself changes.

B. Are Gun Policies Effective at Addressing Mass Shootings?

The majority of states in this country have endured mass shootings, and several among these have endured multiple. Additionally, a vast majority of states have weak gun laws. Yet these majorities do not encompass many of the same states. According to my research, 56 percent of states have endured mass shootings, but only 51.2 percent of the 41 states with middle-range or weak gun laws have had this experience; the rest of the difference occurs in the states with the strongest gun laws. Although there are few, 77.8 percent of the nine states with strict gun laws have suffered from mass shootings in the past 20 years. I am compelled to conclude that the policies enacted in these states are not sufficient to address mass shootings.

Benjamin Domenech provides some background for this information in his article, stating that “the numbers of mass shootings and mass-shooting victims in America have been remarkably consistent: roughly 20 shootings a year with an average of 100 deaths” (2013, 26) for the past 30 years. It is clear that he is using a different definition of “mass shooting” than I am, as I have found an average of about two to three mass shootings per year. Despite the difference in measurement, both Domenech and I did see annual fluctuations in numbers of mass shootings. Domenech would suggest that these spikes and lulls should be attributed to “copycatting or sheer coincidence” (26) rather than changes in legislation. But what does this say about gun policies?

Further research has shown that policies designed to address gun violence do appear to be effective. There is a strong tendency where states with strict gun laws have lower rates of gun-related death. While this statistic alone should not be considered the final word on gun policy efficacy, it is not apparent to me that gun policies are ineffective due to the lesser gun violence that may be
attributable to them. I am compelled to believe in the efficacy of gun laws in addressing gun violence in general, but I am further compelled that they are not the right tool to address the very particular kind of gun violence that occurs during mass shootings.

C. Which Policies are Most Effective?

The collection of gun policies found in states like Connecticut, Massachusetts, New York, Colorado, and California are not working to prevent mass shootings. As a whole, they are ineffective at addressing this kind of gun violence. However, at the outset of my project, I believed that it was possible that some independent laws would work better than others. For example, laws that regulate the allowed number of rounds on a magazine clip and that prohibit the sale, ownership, or public carry of semi-automatic weapons are designed to address this kind of violence, specifically. The reasoning is sound: when forced to reload a gun after every five shots, the shooter gives his potential victims time to act and to defend themselves. When a shooter is forced to fire each bullet individually, he must be able to aim, which means that either he gives his target time to run or fight back or he must have endured training which often instills some amount of respect for guns and how they are properly used. While it is true that some shooters are trained in this way—some even by the military—I would suggest that training still might be effective at teaching respect for weapons and might deter some mass violence.

While I was unable to navigate the intricacies of state laws deeply enough to identify and codify these specific laws where they exist, the larger category of regulatory gun policies would suggest that even these are unable to address the tragedies for which they are designed. Regulatory policies were revealed to be slightly less effective than the general category of gun laws, as the states that fell into the category of greater policy strength also had higher rates of mass shootings. Permit policies appear to be even less effective than regulatory policies, as the states with strong or middle-range laws were more prone to mass shootings at even higher rates. Public carry policies, however, might
have been the least effective of the bunch, seeing as not a single state with strong public carry policies was able to avoid the tragedy of a mass shooting. Separated into categories, each kind of gun policy was less effective than gun policies in general were.

In his research, John Lott came to a similar conclusion to the one that I did: that these gun policies do not work to eliminate mass shootings. He found that

> When states enacted death penalty laws, we [he and his colleague, William Landes] observed no effect on mass shootings. When states succeeded in raising their arrest rates for murder, there was no effect. When states required a waiting period before a gun may be purchased, or lengthened their existing waiting periods, there was absolutely no effect.

John R. Lott Jr. 1998, p. 66

However, Lott and Landes did find a single policy that worked—one which I simply codified as essentially a non-policy.

This surprisingly effective gun policy was a shall-issue gun law, which permits any citizen to carry a concealed handgun so long as he or she meets certain objective criteria, such as an age requirement or a clean history in regards to criminal activity and mental illness. Lott noted that there have been many occasions in which the lawful carry of a handgun has prevented death. In particular, he points to a mass shooting which occurred in Pearl, Mississippi in 1997. He narrates “[w]hen the firing began, the assistant principal ran to his car, got his gun, and subdued the shooter, ordering him to the ground four-and-a-half minutes before the police arrived. God only knows how many other deaths might have occurred if he hadn’t been armed” (Lott 1998, 66).

While lawful concealed carry might push back against mass shootings, I am hesitant to offer shall-issue permit laws as the best solution to this problem. Charles Collier’s article reflects on the danger of increased gun circulation paired with Stand-Your-Ground laws, saying that “[w]ith ever more guns in circulation, it becomes ever more ‘reasonable’ to suspect (or fear) that someone else has one—and to shoot first” (Collier 2013, 82). In a society where everyone may be armed, everyone is potentially dangerous. As was the case when George Zimmerman shot the unarmed Trayvon
Martin, citizens may fear and fire before a threat is even clear. Ultimately, it appears that an entirely different policy than those which regulate or deregulate guns is required to address the problem of mass shootings.

VII. Conclusions

I am willing to conclude, based on the data that I have collected, that gun regulation might by effective, because it appears to work to reduce the overall problem that it has set out to solve: violence and death involving guns. However, I also conclude that stricter gun laws do not reduce the chance that a community will be impacted by a mass shooting. Even when the availability of firearms is reduced, many shooters will purchase legal firearms by legal means and will act within the confines of the law until the moment when they attack. This does not mean that the law is flawed—merely that gun policies are not the best approach to reducing this particular kind of gun violence. Therefore, I would urge the sociological, economic, and political fields to continue researching the variables that tie these horrific events together.

Many factors affect levels of violence, including wealth and wealth disparity, education, race, opportunities for prosperity, mental health and the treatment thereof, family relationships, and gun culture. Gary Younge suggests that it is this combination of social issues and access to guns which has created a culture of violence, declaring that “America is the only place in the Western world that has both rampant inequality and ample access to guns. Add that to a healthcare system in which large numbers of people are deprived of the mental health facilities they need, and you have laboratory conditions for sustained outbreaks of social violence involving guns” (Younge 2012, 10). I did not find that gun laws are ineffective as a whole, but I found that they are a solution to a more general problem of gun violence. We must define a different problem and discover a different solution if we hope to see a reduction in mass shootings within the United States.
Bibliography


