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A Comparative Analysis of Media and Legislative Rhetoric on Gun Control

Samyuktha Mahadevan

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A Comparative Analysis of Media and Legislative Rhetoric
on Gun Control

A thesis submitted in partial fulfillment of the requirement
for the degree of Bachelor of Arts in International Relations from
The College of William and Mary

by

Samyuktha Mahadevan

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Maurits van der Veen, Director

_____

Philip Waggoner

_____

Angela King

Williamsburg, VA
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Introduction

"On 15 March our history changed forever. Now our laws will too. We are announcing action today on behalf of all New Zealanders to strengthen our gun laws and make our country a safer place…Every semi-automatic weapon used in the terror attack on Friday will be banned…This legislation will be drafted and introduced in urgency." (Sidhu and Regan 2019)
- Jacinda Ardern, Prime Minister of New Zealand
March 21ˢᵗ, 2019
6 days after the Christchurch shootings

On March 15th, 2019, 50 people were killed in a terrorist attacks on two mosques in Christchurch, New Zealand. It was the deadliest mass shooting the country had ever experienced, and the perpetrator was found to have had far-right, white supremacist ties. On the day of the shooting itself, Prime Minister Jacinda Ardern labeled the massacre a terrorist attack. On March 21st, six days after the attack, New Zealand announced they were implementing a ban on semi-automatic and assault rifles. By April 10th, the government had announced an amnesty and buy-back scheme for the newly prohibited weapons. Within less than a month, Prime Minister Ardern and the New Zealand legislature were able to change gun laws.

The immediate response of the government was lauded by the international community, and the spotlight quickly turned to the United States. How was New Zealand able to change their laws so quickly after just one mass shooting, while the United States had experienced dozens of recent mass shootings with no legislative action? Comparisons were rapidly drawn to the British and Australian responses to mass shootings in their countries, with everyone asking why the United States was not able to act similarly. This question has been of public interest for many years now, and with my work, I address one aspect of this issue.

In this paper, I analyze the use of language in the debates on gun laws in three different countries: the United States, Canada, and the United Kingdom. Through systematic analysis of both legislative debates and media coverage of gun violence and gun control, I identify the major frames utilized by these political elites and news networks when discussing the issue. In doing so, interested parties may be able to better understand the rhetorical approaches to policy-making regarding firearms, and I provide insight into what differentiates the United States' relationship with gun violence from similar countries. In order to provide some context for the particular rhetorical elements I have chosen to look at, I explain the role of the various elements that contribute to policy, including political procedure, culture, media coverage, and oft used frames.

My findings show that there are indeed measurable differences between the rhetoric used by both legislators and the media. Each country has both shared and unique frames that are used by both types of actors. The rhetoric in the United States is much more complex than in either Canada or the United Kingdom, with frames covering a much larger range of issues than simply gun laws. Rhetoric on gun control and other such legislation was very salient in both the Canadian and British media and legislature after mass shootings, and these changes correlate with legislative changes. The United States has no consistent response in either the media or the

legislature after mass shootings, and gun laws are not particularly salient. Interest groups play a large role in the legislative debates in the United States, and are viewed negatively by members of opposing parties, leading to ideological deadlock in terms of gun control.

The discourse around guns and gun control is an interesting topic even from a superficial perspective; violence, especially against multiple people, can easily become sensationalized. Both media outlets and politicians know this and take advantage of such events, particularly fatal ones, to push various agendas. The politicization of gun violence and preventative approaches is a relatively modern phenomenon, and the polarization observed today in the United States, has come to a point such that even the concept of "gun control" is rarely approached without ideological bias.

Looking at the processes involved in forming gun legislation in the United States is helpful for understanding what affects our policies. I discovered how American rhetorical frames compare to those in countries that are culturally and politically similar. When it comes to guns in Western developed nations, the United States stands as an outlier for rates of ownership and violence. Canada and the United Kingdom have each taken decisive action to combat gun violence and have now deviated from the United States in terms of injury and death rates. As of 2017, for every 100,000 people, 4.43 Americans die from violent gun deaths, compared to 0.47 in Canada and 0.06 in the United Kingdom (Aizenman 2018). Canada is similar to the United States in its polarization over gun control, but its political elements make it more similar to the United Kingdom, including its ability to enforce nationwide policies (Mauser and Margolis 1992). I chose to pursue a comparative analysis of these cultural and political frames that surround the legislative process in each of these three countries to gain a better understanding of what topics are most important in the gun control discourse.

Specifically, I used systematic text analysis to investigate this question. Systematic text analysis is becoming more prevalent in social scientific research, but no one has done an analysis of gun-related rhetoric on a scale this large. Rather than simply basing my analysis off of the easily available speeches and notable media coverage of events, my research captures thousands of elements contributing to the dialogue on guns in three countries. My data consists of all gun-related legislative debates and newspaper articles from major publications in each country; the timeframe for each country is around prominent events that resulted in some legislation passing. I identify significant patterns in language usage and framing during the policy-making process; these, in turn, provided a clearer picture of what values are most important for each nation.

Gun control is an oft-discussed matter by both politicians and media outlets, and therefore the language used by these parties is a reflection of the public understanding of the issue. While some scholars have conducted case studies of specific actors, or have studied changes in rhetoric after specific events (Hogan and Rood 2015, Jashinsky et al 2016, McClurg 1991, Hurka and Nebel 2013), there has been no effort of a scale comparable to my project to systematically analyze the ways in which these groups frame the discussion of gun control. I uncover the rhetorical patterns that we can detect in these debates and publications so that both interest groups and interested members of the public are aware of the use of language in framing gun control in each respective country. Because this research is intensive and contains a thorough analysis of rhetoric around the world, those who wish to understand what is culturally

and politically salient in the gun debate in their respective countries will gain insight from this work. As an American scholar, I built my research around the crisis of gun violence in the United States, and much of my understanding of the issue is rooted in my experience in this country. I chose to look at two foreign countries and their approaches to the gun laws because we frequently compare the United States to them. Canada and the United Kingdom are socially and politically analogous to the United States on many issues, but not on gun control. My work will benefit those who are interested in identifying and addressing what factors play into the debate on gun control.

I will first discuss the background information that guided my research in my Literature Review, including the years of scholarship on gun control and rhetoric. In my Data and Methods section, I will describe the process of collecting and shaping the data that I used for my study. My Findings and Analysis Section will calculate frame salience, describe my observations, and determine what can be learned from this new information.

Literature Review

There is a great deal of scholarship on gun control and legislative rhetoric, so I had the challenge of consolidating the information so that I could provide a comprehensive background on the issue. I begin this section with a discussion of public policy, and the factors that affect the formation of gun laws in each country. I then discuss gun culture in each country, and how it has impacted each country's policies. I then discuss the United States in comparison to Canada and the UK to illustrate what makes it a unique case compared to its allies. My next sections discuss framing and rhetoric, and how they have been covered in the gun debate. Lastly, I discuss my theoretical framework and lay out the hypotheses that drive my research.

Analyzing Public Policy

There are many ways to approach studying public policy, and in this paper, I focus primarily on the gun control discourse in both media and political settings. What complicates this undertaking is its comparative nature. While all countries develop policies, the ways in which they do so differ vastly both due to governmental structure and cultural influence. This is especially true in the case of gun control, given that we use different cultural and legal bases as justification for either more strict or lax legislation. I also consider the role that the media plays in informing their audiences and influencing the agendas of lawmakers. When dealing with different countries, each of which has different policy processes, rather than trying to map out the trajectory debate for each country separately, it is more useful to find a generalizable frame for public policy that I could attribute to each country.

It is easy to see gun violence fitting into a cyclical narrative where social and political action does not sufficiently address the issue, but this frame is not necessarily applicable across all four countries I am observing[1]. Focusing events in Canada and the United Kingdom led to

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[1] Initially, when thinking of the gun debate from a United States perspective, the first theoretical frame for public policy that comes to mind is Downs' Issue Attention Cycle (Downs 1972). Not only does it provide a pathway for an issue to reach the agenda, it includes the role that media plays in escalating the issue's

immediate gun control policies, so tragedies led to distinct policy outcomes, which have substantially mitigated the problem of gun violence. In order to more effectively capture the ways in which the issue of gun violence is addressed at a public and governmental level, I chose to use Kingdon's Multiple Streams framework (Cairney and Jones 2015, Kingdon 2011).

Kingdon's framework has become very popular and trusted as a guideline for analyzing public policy in different countries with different political structures (Barzelay and Gallego 2010, Jones and Newburn 2005, Béland 2016). It is worth noting that by no means is Kingdon's framework a perfect model for all policy problems, nor does it capture the scope of activity around issues. It does provide, however, a starting point for determining what factors play an important role in the policy process and gives structure to the study. The core assumptions about the process are generally applicable across country lines and pertain to the purpose of government more than the specific nuances of a population. I have defined them below, and indicated how they play a role in the debate around gun control.

1. Ambiguity
    The concept of ambiguity in this framework addresses the notion that there are many ways to frame any policy problem, which makes it difficult to pinpoint what exactly the issue is. For gun violence, this is definitely the case, as actors frame it in a multitude of ways in order to be salient with the electorate. In the event of mass shootings, we often frame gun control around specific types of weapons, and discuss how to limit access to them. We also align gun violence is with mental health problems, either as an excuse for those committing crimes or as a justification for limitations (Swanson 2013, McGinty et al 2014). The other area where ambiguity comes into play is in the "right" to gun ownership (Lund 1996, Dowd 1997). This particular element varies from country to country based on legal precedents and interpretations of founding documents. I will dive deeper in to the specific frames used by media and politicians and the interpretations of these by previous scholarship later in the literature review.

2. Competition for Attention
    The premise of this assumption is that space on the political agenda is limited, therefore the funnel to determine what a legislative body discusses is incredibly tight, and only the highest priority issues are discussed. Competition for attention has certainly

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importance. The subsequent realization of consequences that results in a lack of action and movement away from the issue is incredibly evident in the United States; gun legislation is one of the most controversial topics for lawmakers, particularly since it has become very polarizing in the past two decades. In the wake of mass shootings (particularly school shootings), calls for gun control experience huge spikes in both newspaper media and Congress. At the same time, however, the pro-gun lobby puts up defensive shields, and purchases of firearms spike (Anuradha 2017). In the end, these opposing force seem to cancel each other out and no substantive policy moves are made. The Issue Attention Cycle, while extremely useful to frame the American story, was not as universally applicable to this particular issue. The triggering event as described in the second phase of the cycle actually led to policy overhaul in Canada and the United Kingdom, with the École Polytechnique and Dunblane shootings, respectively, calling lawmakers across party lines to form effective gun control laws. Therefore, it was not really a cycle, as there was a distinct product as a result of the tragedies.

affected the salience of gun control, especially in the USA and Canada. When gun violence is normalized, it becomes difficult for policy influencers to bring gun control on the agenda (Hurka and Nebel 2013). As a result, heightened severity of triggering incidents has become seemingly necessary for gun control to be debated on the floor. Conversely, when there are not consistent violent incidents to make the issue important to lawmakers, there is not the impetus to put gun control on the agenda.

3.   Imperfect Selection Process

The problem of imperfect selection is one of the largest obstacles to arguments for gun control. This assumption states that new information is difficult to gather, and when it is gathered, it is frequently subject to manipulation from parties invested in both sides of the issue. Gun violence statistics are not immune to this manipulation, and have not been ever since interest groups became increasingly influential over the actions and decisions of lawmakers (Steidley and Colen 2017). Because gun violence overlaps with other well-known issues, it has become difficult to view the issue of gun violence independently from related issues such as crime, gangs, mental health, and the black market. Gun violence is often interpreted as the result of these, rather than the enabler or cause of escalation of dangerous scenarios (Kleck 1991, McGinty 2014).

4.   Limited Time for Actors

The premise behind this assumption is very straightforward. In all of these countries, there are given times for debating laws and potential policies, and due to the high number of these, each issue on the agenda has a short timeline to either be pursued or dropped. The nature of this process forces people to make policy choices before their preferences are clear, thus yielding imperfect or non-desirable outcomes. In all of these legislative bodies, there is the potential for the bill to "die" during the process, due to lack of interest or information in the members, due to the structure of the bill itself.[2]

5.   Irrational and Non-Linear Decision-Making

The last premise for this policy problem is the fact that decision-making processes are neither "comprehensively rational" nor linear, which leads to imperfect laws and decisions that do not necessarily reflect the problems themselves. This is a straightforward idea, which I will explore further in my analysis of legislative rhetoric.

Kingdon's Multiple Streams framework aims to capture the three main aspects to policy-making that scholars can apply across countries. The first is the Problem Stream, which addresses the issue that requires policy attention in the first place. The second is the Policy Stream, which refers to the policies that would act as a solution to the problem. The third is the Politics Stream, which discusses the motivations and opportunities for policymakers to address the problem. As stated before, these frames do not capture the full picture of any policy problem, but they make it easier to explain the role of various factors in the parts of the process I am observing.

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[2] See Appendix A.1

The Problem Stream

In any country, there are countless problems faced by the population, ranging from individual complaints to systematic and institutionalized issues. However, since these multiple problems exist at any given point in time, only a miniscule fraction of them receives any legislative attention. This problem is exacerbated in federalist systems like those that exist in the United States, and Canada; when there is an option for subnational action, problems that affect larger groups can be overlooked at the national level. State/Provincial level jurisdiction is still incredibly important and plays a large role in gun laws, but for issues of national concern, attention given at the federal level is especially crucial.

Kingdon specifies "focusing events" as the catalysts for issues to move forward in the policy process from just existing to being actionable/salient (Kingdon 2011). These events typically garner high levels of public interest and spur the media and interest groups to capitalize on this interest. In turn, politicians become more aware of the problem and begin to discuss them further. Focusing events typically have to serve as a strong contrast to the status quo, which is what makes them stand out in the first place. The problem itself may be constantly present, but one should be able to point to a specific incident that triggered a wave of responses. In Canada, the shooting rampage at the École Polytechnique in Montreal in 1989 resulted in a revived focus on gun laws. In the United Kingdom, the passage of strict gun laws is attributed to the Hungerford massacre in 1987 and the Dunblane school shooting in 1996. In the United States, there have also been many similar events, but unlike these other countries, such events have not led to the massive overhaul of gun policies.

The Policy Stream

For every problem that exists, there are many potential solutions that have been advocated for by a number of groups, whether they be lobbyists, researchers, academics, civilians, or politicians themselves. Solutions are not always actionable at the time that they are suggested, which leads to them being added to a long-running list of other tools to creating a better society. Kingdon referred to this collection of solutions as the "Policy Primeval Soup"'. Solutions are proposed and often tabled, during which time they actors can reconsider and modify them. These modifications essentially remove the edges from the propositions, so that policy networks may eventually accept them, a process known as "softening" (Kingdon 2011). This cycle follows the intuition of the legislative process in each of these countries, but points to the problem of time constraints. When many solutions exist, it becomes difficult to pinpoint which one to choose and whether there is sufficient time to conduct a cost-benefits analysis on each. Policy entrepreneurs have become increasingly aware of this conundrum, and as a result, they develop solutions in anticipation of future problems (Cairney and Jones 2015). Still, what ends up happening is a lag between the introduction of a problem due to the focusing event, and the solution itself. Keeping solutions up to date in a long policy process is very difficult. The media serves as the intermediary between many proposed solutions and the policymakers, which makes studying the coverage of events and their fallouts especially important.

This part of the stream plays a major role in what I will be discussing, as the various solutions to gun violence are framed differently and as a result, they become incompatible with each other. For example, a major conflict arises between the argument that more public ownership of guns would lead to less crime and the argument that gun restrictions will reduce

violence (Killias 1993). Partisanship and differences in opinion on the root of the gun violence problem have led to clashing rhetoric, which makes policy changes difficult to achieve (Hogan and Rood 2015, Hurka and Nebel 2016). One can imagine how this plays a role in legislative debates, with these different solutions being constantly featured and argued as the most effective response. Some sample solutions to gun violence in the United States include restrictions on guns, background checks, increased securitization of institutions, additional spending on local defense measures, focus on mental health issues, and curbing illegal immigration (Steidley and Colen 2017, Pearson and Riopell 2018). While actors have proffered many of these together as a collective of actions that they could take, increased partisanship has made this more difficult, as more politicians have taken partisan stances on policies that intersect with gun violence. Additionally, the constitutional or legal basis for gun ownership is one that has played a role in all four of the countries I am analyzing, and I expect to play a significant role in the different outcomes reached by each country as far as gun control is considered.

The Politics Stream

Kingdon states that policymakers uniquely have the motive and opportunity to turn solutions into policies and therefore have to be receptive to proposed solutions if they want to affect change (Cairney and Jones, 2015, Kingdon 2011). However, the issue and its solutions do not solely influence the considerations they take, but so do a host of other factors including their personal beliefs, the "national mood", the information they get from interest groups, and feedback from political parties of which they are members. In many cases, a change of government provides both motive and opportunity to make changes, particularly for issues where heightened partisanship makes it difficult for a political minority to implement any policies. In the countries I evaluate, partisanship has played a role in the gun debate to differing extents, but it is not my focus. Rhetorical analyses of legislative bodies have been conducted to get an overarching view of how different actors discuss guns, but the literature has not systematically compared the countries to capture the nuances and hidden patterns of speech (Hogan and Rood 2015). Rhetorical analyses tend to focus primarily on arguments for or against gun control, which is inherently the purpose of gun debates (McClurg 2010, Dowd 1997). My research may shed light on the mechanisms behind the frames used in gun debates, making the existing literature on gun discourse more comprehensive.

Gun Culture

Culture dictates the importance of an issue and manifests in the attention paid to the issue both in the social and in political dialogue (Jashinsky et al 2016). Gun culture plays a large role in shaping the debates and legislation relating to gun control, but the specific tenets vary by country. The notion of gun culture has evolved over time in each of the nations I am observing in this paper; I learned what frames are most prevalent in the rhetoric used by both media and politicians. While guns have been a distinct part of Western society, their politicization and the cultural divide around them are developments of the 20th century.

The "gun control" argument has essentially two sides: pro-gun and pro-control. Some efforts have been made to determine objectively the efficacy of both sides of the argument. A statistical study of both pro-gun and pro-control arguments determined that a policy pursuing either strategy could work if implemented, but a positive outcome (a decrease in gun violence) was dependent on certain parameter values (Wodarz and Komarova 2013). These values were a)

the fraction of people who illegally own guns but cannot purchase guns legally, b) the degree of protection against death granted by gun ownership during an attack, and c) the fraction of people who exercise their right to own a gun and carry it with them when attacked. In countries without constitutional or cultural barriers to gun control, a large-scale reduction of firearm availability and stringent gun laws can minimize gun-related deaths. In countries that do have constitutional and/or cultural constraints, a partial reduction of firearm availability was the best option to reduce gun-related deaths, even if they are not minimized (Wodarz and Komarova 2013, Lemieux 2014). In order to understand what factors I should be looking to observe in the media and political dialogue, I first needed to establish what the constitutional and cultural constraints within each country are.

In the United States, gun culture has been a part of society since the conception of the nation. The Second Amendment, stating "A well-regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed." This notion was not contested during the 18th and 19th centuries, when gun ownership was not a politicized issue. Since the post-World War II era, however, the gun issue has sparked intense debate, with those promoting gun-control expressing weariness with the rampant "gun culture" in the United States (Hofstadter 1970, Kleck 1991, Squires 2000). They argue that gun violence and mass shootings are caused by lax regulations caused by strict adherence to an outdated rule, while pro-gun enthusiasts argue that gun violence and mass shootings are a product of American culture, which has become more violent (Kates Jr 1983, Wright 1995, Lemieux 2014). The self-defense argument in favor of gun ownership became popular as crime rates rose in the mid to late 20th century (Kates Jr. 1983, Mauser 2004). The cultural divide really ends up falling along the lines of more guns vs. fewer guns; the regulations which would affect these are determined by legislators, hence the increased importance of identification with one camp or the other.

America's cultural relationship with guns and violence began with the country's extensive history of warfare, but it has now become strongly affiliated with the idea of civilian self-defense (Dowd 1997, Hofstadter 1970, Lund 1996). Studies of gun ownership and civil liberties indicate that countries with higher density of gun ownership tend to have more political and civil freedom (Lemieux, 2014). This has set the stage for people to see increased gun ownership as a positive element of living in America, as that right contributes to the higher levels of freedom in the country. This cultural element is a large part of what differentiates the United States from its allies across the pond.

The British relationship with guns has transformed over several centuries. The Game Act of 1671 was the first major piece of gun legislation passed by Parliament rather than the King, and made firearms exclusive devices with strict enforcements for ownership laws (BBC News 2007). This was the first time that people treated guns like forbidden devices to whose sole purpose was for hunting. This law was not enforced strictly, and future iterations of it did not include guns as tools restricted to non-hunters. In 1689, the English Bill of Rights passed, in which Article VII states that "the Subjects which are Protestants may have Armes for their defense suitable to their Condition as allowed by Law" (Kopel 1995). Future efforts by Parliament to protect the right to bear arms after this passed were successful, and eventually took out the religious barrier. British laws have changed and rates of ownership have fluctuated marginally over time, with the early twentieth century having essentially no gun laws or gun

crimes. The two world wars had significant impact on the British perception of the individual right to own guns, and by the 1960s, people were wary of what they signified. Representatives introduced restrictive laws first in 1967, and since then, very few Britons would assert any right to own a gun, either to resist an oppressive regime or for the purposes of self-defense (Kopel 1995, Lund 1996).

In Canada, the right to own guns was disputed during the country's formative years, with politicians asserting the right to arms for the purposes of self-defense based on the English Bill of Rights. Canadians argued its tenets still applied to Commonwealth Nations who at one point fell under the jurisdiction of British law. Canadians have raised this basis for the right to bear arms sporadically as an argument for gun ownership as a right rather than a privilege, but modern judicial decisions have determined that there is no such right in Canada (Brown 2017). Between 1968 and 1993, pushes for gun control in Canada were consistently blocked by "unresponsive political forces" (Bottomley 2003: 170), but the Montreal Massacre at École Polytechnique in 1989 sparked activists to increase their calls to action. The election of 1993 served as a window of opportunity (as noted in Kingdon's policy process), as the three streams had converged; the following years resulted in the passage of the Firearms Act, 1995 (Bottomley 2003: 172-180) Of all the countries in this paper, the United States and Canada would appear to share the closest ties, both geographical and cultural. In the case of guns and gun ownership, surveys have shown that Canadians and Americans' views are often aligned (Mauser and Margolis, 1992). This begs the question of how Canada has been able to pass much more stringent gun laws than America.

In their 1992 study, Mauser and Margolis sought to explore this idea by searching for the primary difference that accounted for strict legislation. They find that cultural differences are overshadowed by other variables: (Mauser and Margolis 1992).

> "Canada differs importantly from the United States in that the responsibility for criminal law rests primarily with the federal government, not with the provincial or state governments. This structural difference, coupled with British-style parliamentary government, makes it easier in Canada to introduce stricter firearms legislation that will apply across the nation" (Mauser and Margolis 1992: 21-22).

Canadians were much more willing to restrict handgun access than Americans were and they were more willing to trust their government and conform to its authority, and the pro-gun lobby is much weaker in Canada. If public opinion in each country is relatively similar, it makes a greater case for political elites being responsible for shaping the conversations that contextualize legislative decisions. Canada still actively discusses gun control bills to reduce gun violence, which makes the issue more relevant for them compared to the UK (The Economist 2018).

USA vs. the World

One thing that has been striking while following more recent press coverage of gun-related incidents in the United States (primarily mass shootings) is the way that the foreign press covers the tragedies and the ensuing legislative arguments. The most frequent line of questioning is along the lines of America's unwavering faith in the Second Amendment and the role that the

National Rifle Association plays in the gun debate, both of which are the subject of much scrutiny (Ray 2008, Freedland 2012, Yuhas 2017, Haake 2018). Many arguments from both within and outside the country contest the validity of the Amendment today, particularly in light of two major factors: technological advancements, which have completely changed the capacity of guns to do harm, and the Supreme Court's precedent to limit any appeals of interpretation of the Amendment based on their incorporation of the Fourteenth Amendment (Lund 1996). Beginning in the late 1890s, the Supreme Court interpretation of the Due Process Clause in the Fourteenth Amendment made it mandatory for state and local governments to apply the legal doctrine of the Bill of Rights into their legislation. Up until this point, states were allowed to create their own laws that negated the Bill of Rights, including setting restrictions on gun ownership. Furthermore, in 2008, the Supreme Court case District of Columbia v Heller ruled that the Second Amendment was referring to individual rights, which has changed the ability for interest groups and lawmakers to use the militia argument against pro-gun groups (Finn 2013).

The clash of international cultures is particularly notable between the United States and the United Kingdom, who are closest allies. In the UK, people no longer consider self-defense grounds for gun ownership, while Americans increasingly use self-defense as an argument for ownership in the States (Kopel 1995). Since the early 1990s, British media has attempted to distance British culture from American culture in this regard; newspapers often imply that the choice for individual gun ownership is irrationally motivated (Squires 2000). In order to avoid tragedy, an increasingly popular line of thought was to avoid the American obsession with guns and abandon the weapon altogether. The Dunblane massacre cemented this notion. British and Australian media and researchers have often written about gun control in the United States, and asked if gun violence could be mitigated if the United States enacted legislation similar to their countries (Younge 2017, Brennan 2018). Even American newspapers refer to the laws passed by Australia and the United Kingdom to call for stricter measures in the United States (Power 2018, Hughes and Bryant 2018, Hartmann 2015). All of these publications note that the hundreds of millions of firearms in circulation in the United States make it difficult for Congress to successfully implement such strict gun laws, but agree that some of Australia's measures, such as an assault weapons ban, are reasonable steps the United States could take.

Framing

Issue framing is arguably the most crucial role of legislators and lobbyists. When a lawmaker is able to connect with their constituents based on their interpretation of a law or an issue, their argument automatically becomes more legitimate, whether or not it is the most empirically sound. The media representation of an issue plays a huge role in shaping the way the public understands it, and because the public is typically not well informed before reading the news, the media has the ability to prime readers to see certain frames (Entman 2007). When it comes to the issue of gun violence, this is especially true. The Policy Stream, as defined earlier in Kingdon's public policy approach, captures the challenges that issue-framing plays in agenda setting and policy-making. The solutions and policy "soup" consists of the many ways in which actors perceive the greater issue at hand, which leads to difficulty identifying the right path forward. In his paper on issue framing, Entman states:

"To frame is to select some aspects of a perceived reality and make them more salient in a communicating text...Frames, then, *define problems* - determine what a causal agent is doing with what costs and benefits, usually measured in terms of common cultural values; *diagnose causes* - identify the forces creating the problem; *make moral judgments* - evaluate causal agents and their effects; and *suggest remedies* - offer and justify treatments for the problems and predict their likely effects. A single sentence may perform more than one of these four framing functions, although many sentences in a text may perform none of them. And a frame in any particular text may not necessarily include all four functions" (Entman 1993, 52).

It is important to understand the history of the gun laws to develop a theoretical frame for how both the political sphere and in the media discuss them. Because I am attempting to cover a very large scope of data, I made sure the context for my analysis was sound.

Firearm laws received heightened attention in the 1960s in the United States, Canada, and the United Kingdom, when each country adopted significant national legislation regarding firearm ownership and use. In the United States, the Gun Control Act of 1968 was the first major piece of legislation passed in the post-war era. In the decade prior to its passage, gun policy was becoming a source partisan friction, but the highly publicized shootings of President Kennedy, Martin Luther King Jr., and Senator Bobby Kennedy in 1963 and 1968 led to bipartisan support for the Act in both the House and Senate (Hofstadter 1970, CBS 2013, Michaud 2012). Americans feared that easy access to handguns could lead to further deaths of popular public figures. In the United Kingdom, the Criminal Justice Act of 1967 mandated that residents acquire certificates for the purchase of shotguns, a process that took time and involved law enforcement. The licensing of rifles and handguns became standard during this time (BBC News 2007). In Canada, 1968 saw the introduction of specifications for "firearms", "restricted weapons", and "prohibited weapons" as individual kinds of weapons, thus allowing for specific legislation for each category (RCMP 2016). This provision gave the police the power to search and seize firearms if they had a warrant. In 1969, the new registration system, wherein an individual had to have a separate certificate for each restricted weapon, was implemented (Stark 1992).

For all three of these countries, the legislation in the 1960s led to heightened tension within the issue of gun violence, and has since contributed to conscious efforts to win the framing war to embrace one view of guns over the other. As the debates about gun culture and gun reform in each country became more prominent, public opinion started shifting, with people starting to divide themselves into two major camps, those who were for increased regulations, and those who wanted to maintain the status-quo with regard to their guns (Brown 2017, Squires 2000). Following the 1960s, these public camps have aligned with different kinds of influencers: politicians and lobbyists (Finn 2013, Wright 1995). The three groups have a symbiotic relationship wherein the actions of one affect the reactions of the other, helping to shape a firm base; the ideas affect those in the other camp as well, and each view serves as fuel for the other to come up with a counterargument (Kleck 1991).

In the United States, the pro-gun camp has increasingly aligned with the Republican Party and the National Rifle Association (NRA). The pro-gun control camp is associated with the

Democratic Party and organizations like the Brady Campaign. Together, these groups have become the face of the gun issue in the United States. Many scholars have chosen to focus on the NRA and the Brady Campaign as the architects of modern American gun law frames, and this lens serves as the starting point for my analysis (Steidley and Colen 2018). In recent years, however, more the pro-reform side has developed new branches, while the NRA has accumulated more political and cultural power as the pro-gun hegemon. Overall, the NRA and the pro-gun camp has had more persuasive and credible frames when influencing public opinion, which sets the stage for the analysis of each side of the debate (Wasike 2016, Kristof et al. 2018).

When examining the media coverage of the gun debate, scholars have been able to identify consistent frames employed by these groups in order to make their ideas better known. One of the most commonly seen frames utilized when dissecting the circumstances surrounding mass shootings is mental health (Swanson 2013, McGinty et al 2014, Mercier et al 2018). There is no agreement on how to address the mechanism relating mental illness and acts of gun violence, and the media has often noticed this relationship. There is an oft-heard mantra in the pro-gun camp: "Guns don't kill people, people kill people", which is used to attack policies and frames that focus on the weapon itself rather than the individuals bearing them. A study of American newspaper coverage of mass shootings and gun violence found that between 1997 and 2012, "most news coverage occurred in the wake of mass shootings, and 'dangerous people' with SMI (serious mental illness) were more likely than 'dangerous weapons' to be mentioned as a cause of gun violence" (McGinty et al 2014, 406). The authors of the study posit that this pattern of framing the issue could lead to the restricted rights of people with SMI without "meaningfully reducing gun violence" (ibid, 407). Studies like this give us insight into what frames we expect to appear systematically not only in media rhetoric, but also in the political dialogue that occurs alongside it.

The existing literature on gun control in each country discusses the major frames used by politicians, but it has not systematically analyzed or interpreted the major "communicating texts" such as legislative debates or media coverage. Case studies have been an effective way to determine how gun control is discussed either in small time frames or by particular individuals/groups, but they are selected specifically because of their timing or content expectations (Hurka and Nebel 2013, Steidley and Colen 2017). Here, I identify such frames over a larger time-period with much larger bodies of text. Entman warns those seeking to conduct such analyses that "The major task of determining textual meaning should be to identify and describe frames; content analysis informed by a theory of framing would avoid treating all negative or positive terms or utterances as equally salient and influential… [Coders] neglect to measure the salience of elements in the text, and fail to gauge the relationships of the most salient clusters of messages - the frames - to the audience's schemata" (Entman 1993, 57). Accordingly, in this paper I identify and describe the frames that we can identify through comprehensive machine learning, and to describe them with the most salient terms in each frame.

Rhetoric

The essence of this paper is identifying *how* people talk about firearms, whether it is in defense of stricter laws, defense of the status quo, or looser laws. Rhetoric takes many forms, and the primary forms this paper will be analyzing are social and political discourse, with major newspapers representing the social sphere and legislative bodies representing the elite political

sphere. Legislative rhetoric has been the subject of much scholarly scrutiny, particularly when guns are involved (Hurka and Nebel 2013, Hogan and Rood 2015, Sheptycki 2009). We can see division on the issue on semantic lines, so understanding the use of language is very important.

The rhetoric on guns is typically divided into the two argumentative camps mentioned earlier, pro-gun and pro-control. While there are many complicated takes on gun-ownership and use, it is easiest to start within these frames to get an understanding of how the debate has been shaped by these dominating fields of thought. There is no doubt that the rhetoric around gun control is divisive, and arguments on both sides often have little to do with the details of the issue itself. Rhetoric is polarized, and we see this in the many techniques lawmakers use to undermine the arguments used by their political opponents. I chose not to use party affiliation as a variable in this particular study because the role it plays in shaping ideology on many issues related to gun laws is far too complex to tackle in a comparative frames paper. Additionally, partisanship does not affect the legislative debates on gun laws in the same way across all three countries, so it felt like an uneven comparison. In the United States, unlike many polarizing issues such as abortion, the debate on gun control does not involve intellectual or professional discourse (McClurg 1991). McClurg used the Brady Bill to contextualize how and why representatives used specific language.

A prominent explanation for the lack of effective gun legislation in the United States is the failure of rhetorical leadership; representatives are not held accountable for their failure to change laws after violent acts (McClurg 1991, Hogan and Rood 2015). Hogan and Rood argue that scholarship on rhetoric can play an important role in shaping the structure of the public policy debate over guns. They identify a significant gap in this field, and they create a picture of what a comprehensive analysis would look like.

"It would begin with a rhetorical history or genealogy of the gun debate, one that identifies key players, important policy texts, and transformative moments in debates over guns and gun control policies. It would engage in both macro- and microanalysis of that debate, as Robert Asen proposes, synthesizing individual texts to reconstruct recurrent themes and appeals but also pausing occasionally for close analysis of representative or exceptional texts" (Hogan and Rood 2015, 364).

This hypothetical project summarizes exactly what I accomplish with this paper. To utilize this narrative frame, I draw on the interdisciplinary tools used for public policy analysis, thus providing a thorough reflection of the gun debate in three countries. The problem stream of this issue lends itself very well to building on prior research that has been done on individual aspects of my project, including journalism, public opinion, and political discourse. Major national newspapers track the life cycle of various policy issues, and this is particularly noticeable in their coverage of gun violence. In Canada, this cycle is more pronounced than it is in the United States, especially for gun-related crimes. In his analysis of Canadian media and gun violence, Sheptycki notes that reports on gun incidents in Canada are disseminated across the country in short amounts of time, and a higher percentage of the population (compared to in the United States) would be aware of them. In the United States, gun incidents do not typically spread through the news cycle with as much recognition (Sheptycki 2009).

One of the most basic ways to evaluate rhetoric, especially legislative rhetoric, is to examine its complexity. Typically, more controversial and divisive issues result in complicated rhetoric, where parties or coalitions of lawmakers are at odds with one another. Low complexity usually leads to a more straightforward solution, given that there are fewer external factors to complicate the matter at hand. Hurka and Nebel took the concept of rhetorical complexity and applied it to three countries' handling of gun violence: the UK, Germany, and Switzerland (Hurka and Nebel 2013). They presented three hypotheses about the effect of both the strength of status-quo advocates and causal complexity on the likelihood of the implementation of gun policy. The analysis only used news media, which is the only source of information that offers a "reasonably broad and comparable overview of the involved actors and their preferred issue frames" (ibid, 397). Their findings show that in the UK, guns were the dominant issue in the aftermath of the mass shooting in Dunblane, so those arguing for the status-quo found it difficult to deflect attention to tangential issues. They conclude by acknowledging that they left out further information on the many additional factors that affect change in gun policies, such as national gun traditions, competing events, and prior policy configurations (ibid, 397). I will evaluate each of these in my thesis, and the inclusion of legislative debate in the analyses allows my project to make conclusions about the trends in status quo salience.

Theory and Hypotheses

The extensive background on guns in each of these countries is a window into the complexity of studying gun control. The various factors that I have highlighted are those that have appeared the most important in the existing literature, and the insights they provide have allowed me to develop theories about the rhetoric of both politicians and the media in discussing such issues. My primary theory concerns the discourse surrounding gun control in each country. The methodology that I use (which will be described in further detail below), allows me to calculate the salience of particular frames in each piece of text in my database, whether that is a legislative speech or a newspaper article. Given that legislative approaches, gun culture, and history are unique to each country, I expect that frames will differ across countries. Furthermore, given the relationship between the media and legislators as described by the nature of the policy process, I expect that the usage of such frames will be consistent across the media and political discourse in each country.

> H1: Discourses will be different across countries, particularly in terms of which frames are most salient.

> H2: Frame salience in the media coverage and legislative debates within each country will be very similar.

Gun culture is one of the most complex parts of this study, as it draws on various elements from each country's history. The existing scholarship on gun culture has sought to differentiate between the cultures of different countries based on legislative and societal factors. The United States, and to a lesser extent Canada, have stood out as countries whose gun cultures maintain a great deal of influence over legislation. It is for this reason that I expect that cultural and identity-based frames will have a higher prevalence in the rhetoric in these countries when compared to the United Kingdom.

H3: Cultural and identity-based frames will be more salient in the media coverage and legislative debates in Canada and the United States than in the United Kingdom.

Hurka and Nebel provided the context for studying the difference between explicitly "gun-specific" rhetoric and tangential rhetoric around guns (Hurka and Nebel 2013). There are varieties of ways in which both the media and politicians discuss the issue of gun violence and gun control. This leads me to believe that the articles and speeches will contain distinct frames that focus on guns and gun control as the issue, and distinct frames that focus on issues related to guns that do not explicitly refer to gun control, which I call "tangential frames". Given that the United States has a much more complex relationship with guns than Canada or the United Kingdom, I expect that these "tangential frames" will be more present in both the media and legislature. These could include references to rights-based arguments for gun ownership, country-specific matters, or other prominent policy issues (health, crime, drugs, etc.). I also expect that in the wake of mass shootings, these "tangential frames" will be more salient in media and legislature, as these actors will be attempting to define the problem in different ways, leading to a muddled approach to solutions.

H4a: Each country will have some "tangential frames" (especially the United States) which do not explicitly refer to guns or gun control as the issue, but rather discuss other issues.

H4b: Tangential frames in each country's media coverage and legislative debates will be more salient after mass shootings.

Lastly, I cannot discuss gun control without recognizing the role that the lobbying industry plays in influencing policy discussions. In the gun debate in particular, interest groups have come to embody the issue; for example, in America, groups like the NRA becoming the face of the pro-gun coalition, and groups like the Brady Campaign as the face of the pro-control coalition. Part of what has made gun control particularly difficult to implement in the United States is the prominence and consistent opposition of these two lobbying forces, who play a large role in shaping the discourse around guns (Steidley and Colen 2017). I expect that such groups are heavily featured in the legislative discourse on gun control in the United States, and that they will appear as distinct frames.

H5: Interest groups will be salient and featured frequently in the legislative discourse on gun laws in the United States.

Data and Methods

Introduction

To best capture the varying ideas brought up during the policy process, I decided to use legislative debates as the medium for legislative rhetoric. Lawmakers have many mediums for expressing their ideas and opinions, but the discussions they have with each other are more revealing of their intentions. Parliamentary discourse, or Congressional debates in the case of the United States, is a means for politicians to display their beliefs and priorities through debate

(Naderi and Hirst 2016, Hirst et al. 2014). The frames they use aim to convince their fellow members and constituents about the validity of their proposed actions. The direct and indirect questions that members ask also reveal the stances of opposing parties, as members are forced to acknowledge their stances during the debate (Zhang et al. 2017). I also chose to include the articles from each country's major newspaper(s) to represent the information that citizens access more frequently and easily. Including newspapers also adds to the robustness of this analysis, as political and media rhetoric are two major forms of communication at the national level. Compiling legislative debates and newspaper articles in full is a very intensive undertaking, but in order to ensure the validity of the study, I had to acquire comparable datasets for each country.

Data Collection

The structure for legislative debates is not completely consistent across all three countries, but the bodies that make up the legislatures are comparable in nature. America, Canada, and the United Kingdom each have a branch of their legislative body wherein representatives each account for equal numbers of constituents (the House of Representatives in the United States and the House of Commons in Canada and the UK). The Congressional Record, available at Congress.gov, contains the House of Representatives debates from 1995 to the present. In order to collect this data, my team at the Systematic Text Analysis for International Relations (STAIR) Lab developed a Python web-scraper to gather the relevant debate information. For the debates between 1979 and 1994, I was able to acquire the data from a compilation provided by scholars at Stanford University (Gentzkow et al 2018). I used Hansard's digitized collection of Parliamentary debates to collect data for the British record from 1965 to 2009. The Canadian debates had already been scraped and parsed by scholars at the University of Toronto, so I used their data from 1970 to 2018 for the analysis (Beleen et al 2017). As I outlined in the literature review, our primary focus for the analysis was from the 1960s onward, so for all three countries, the data represented that era.

For the media data, I used articles from the primary newspapers of record in each country: *The New York Times* and *The Washington Post* for the United States, *The Globe and Mail* for Canada, and *The Times* and *The Guardian* for the United Kingdom. For each of these newspapers, all articles were available for downloading via LexisNexis. The articles could be downloaded 500 at a time, and the output was a text file for each set. The STAIR Lab had been collecting these data for a few years, and I was able to gather several decades' worth of articles for each newspaper. For the United States I had data from 1980 to 2018, for Canada 1978 to 2018, and for the United Kingdom 1986 to 2018.

Format

For my analysis, I broke each debate down by individual speaker. The reason for this is to allow my program to attribute rhetoric specific features to each individual speech. The debate data was stored in comma-separated-values (CSV) files, which consist of rows and columns. The columns indicate aspects of each debate, such as a unique ID, the date, committee, speaker, and text. Each row contains the individual contributions by different representatives, so the entire debate from a particular day is divided into several pieces based on how many lines were spoken by different individuals. I went through the same process for the newspaper article data. I broke each text document of 500 articles into individual articles, with each article taking up a row in a

CSV file for the country. Each column included an ID, date, newspaper, author, and text, so I could pull out the specific details about any given article if needed.

Filtering Gun Debates

In order to determine what debates to conduct my analysis on, I had to create a method for creating a subset the data to have just gun-policy related debates and articles. I used the existing literature on gun control and popular news outlets to find the terms that actors use most frequently to discuss gun violence and gun control. In order to be consistent, I created an exhaustive list that accounted for the variations in terminology used across the three countries in my paper (for example, the inclusion of shotgun, rifle, etc.) My list also included combinations of terms, such as "gun crime", "firearm death", and more[3]. Using a previously curated methodology, I created a Python notebook to subset the scraped data to display only the debates and articles that include these terms. Once we had created sub-setted datasets, we could conduct the rest of our analyses.

Topic Modeling

For the primary parts of my analysis, I chose to use topic modeling, a form of statistical modeling that helps identify "topics" that exist within a body of text. Because topic modeling is a relatively new form of text analysis and has recently become quite sophisticated. Topic modeling allows us to find patterns and in large amounts of text and assign categorizations. With manual data coding, your judgment and assignment of categories is based on close readings of each individual text. Topic modeling, on the other hand, reduces the complexity of the language in the text and identifies words that often occur together[4]. These co-occurring words are identified as clusters, and after observing various patterns and usage of the word clusters, the model is able to assign categories to the word clusters. Topic modeling is a very convenient method of analysis for data this large, with hundreds of thousands of individual texts.

The topics identified in the analysis are based on the statistically significant associations between words that are used in similar contexts, so it is intuitive to think that the topics are a representation of groups or kinds of debates/articles. These groups could be interpreted as frames, and there is growing scholarship on the effectiveness of topic modeling as means of conducting frame analysis. Some scholars have argued that topic modeling is advantageous because it allows me to analyze larger amounts of data systematically, and it "enables exploratory discovery of patterns not previously found in qualitative inspection" (Ylä-Anttila et al 2018). Others point out that while agenda setting is a reflection of the salience of a larger issue, framing is about the salience of the "aspects (or subtopics)" of said issue (Nguyen 2015).

Using a dataset that is limited to the "larger issue" - in this case gun laws - the subtopics that we can find within the debates and articles will likely be more indicative of frames. The frames that we can identify within the gun debate are representative of the policies and solutions that exist in the Policy Stream in each country (Kingdon 2011). Using Python, my adviser and I developed a script that is able to identify frames that occur in the corpora and list the terms that

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[3] See Appendix A.2
[4] For more information on how topic modeling works, see Appendix A.3

fall under each topic[5]. In order to determine a consistent set of topics for each country, I ran the script on the entirety of the gun-related debates in each country. By doing this, I created a set of country-specific topics that we could evaluate over time.

First Look at the Data

After narrowing down the full corpora into gun-related corpora, I had a much easier group of data frames to work with. The first thing I want to address is the size of the data I was working with; the following is a count of the number of individual articles and individual political speeches from each country after filtering down with my search terms. The range of years included here are different, so I had to make sure I accounted for that difference.

	United States	**Canada**	**United Kingdom**
Media	109,224 (1980-2018)	26,643 (1978-2018)	56,576 (1986-2018)
Legislature	5,234 (1979-2016)	4,572 (1970-2018)	3,969 (1965-2009)

This averages out to this many articles/speeches per year (accounting for the fact that I used multiple sources for national news in the United States and United Kingdom). Clearly, we can see that gun-related articles and speeches are more prominent in the United States than the other nations I am looking at.

	United States	**Canada**	**United Kingdom**
Articles per Year (per Publication)	1,400	649	857
Speeches per Year	138	93	88

After running my topic modeling notebooks on each country's media and legislative data, I was able to find the number of topics that was most coherent for each dataset. The numbers are indicated below:

	United States	**Canada**	**United Kingdom**
Media	33	27	30
Legislature	39	22	16

The function to eliminate general/common terms worked well, but left in much of the procedural language used in the legislature data. Additionally, some of the media coverage included topics not at all related to gun control, which made their way into the cleaned data sets due to the usage of terms like "shooting". The model identified topics including various sports, the Sex Pistols, music, and television, and other irrelevant groups in the different media data frames.

It is worth noting that a large portion of gun-related media covers international affairs, primarily war zones. Afghanistan and Iraq featured in all three countries, and each country's media sources had coverage of other nations, including covering the Bosnian War, Israel and

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[5] See Appendix B

Palestine, South Africa, Syria, and Russia. The description of key terms featured in these articles indicated that these topics pertained to events occurring on foreign soil; while they might have involved national military involvement, they were not specific to the home country. Other topics that showed up frequently in media were obituaries; many appeared because those who had died were part of the military (i.e. "rifleman"), or were victims of suicide or shootings. While this information is superficially interesting because it covers some amount of gun deaths, it does not explicitly concern gun control.

One foreign topic I included that was salient for both the British and Canadian media was American politics. American media has no prominent mention of either British or Canadian politics; though one could attribute this to the prominence of American culture in other countries because of its superpower status, it is still interesting to note that it is prominent in articles about gun control. This finding aligns with my background research on international coverage of the United States regarding gun control. The chart below indicates the number of relevant topics remaining.

	United States	Canada	United Kingdom
Media	18	15	13
Legislature	26	17	11

Cutting the Data

In order to make the presence of the topics useful, I had to figure out how salient they were for each given country in a given year. In order to do this, I summed the overall weight of the topics and the weight for each individual topic, and calculated the percent of articles/speeches that contained each topic. In doing so, I was able to include all of the data I needed (rather than filtering by a certain threshold of salience), and the overall effect was captured much better. The total topic weight added to 1, so the representations of the individual topics were relative to all relevant topics as a whole.

Findings and Analysis

Topics in Each Country

The first part of my theory is based on the cultural and political differences in each country, and in H1, I hypothesized that each country would have a different and unique set of topics that were present in their media and legislative rhetoric[6]. After running the topic modeling, I found this to be partially true. In both corpora, there were certain topics that appeared across all countries, albeit in slightly different forms.

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[6] H1: Discourses will be different across countries, particularly in terms of which frames are most salient.

United States House of Representatives Frames		
Budget	*dollar, budget, programs*	8%
Background Checks (1)	*unanimous, expanded, consent*	3%
Terrorism	*terrorist, list, watch*	3%
Assault Weapons	*assault weapons, ban, semiautomatic*	7%
Waiting Period	*brady, waiting period, staggers*	4%
Criminals	*crime, violent, tough*	5%
2nd Amendment	*bear arms, rights, constitution*	4%
Partisanship	*republican, leadership, democrats, majority*	4%
Law Enforcement	*firearms, federal, enforcement*	7%
Tragedy	*violence, lives, families, newtown*	10%
Veterans	*medal of honor, marine, service*	7%
Police	*police officers, law enforcement*	4%
Opposition to Amendments/Laws	*amendment, opposition, strike*	6%
Hunting	*wildlife, conservation, hunting*	3%
Gun Control	*advocate, reasonable, gun control, brady*	3%
Hunting/Sports Guns	*insterstate, sportsmen, volkmer, provisions*	2%
Background Checks 2	*background checks, mentally ill, gun shows*	3%
Lawsuits/Manufacturing	*lawsuits, manufacturers, industry*	2%
Children/School	*children, school safety, columbine*	2%
NRA	*NRA, organizations, campaign*	3%
Mental Health	*mental illness, treatment, suicide*	2%
Prosecution	*exile, project, Richmond*	1%
Illegal Immigration	*border, mexico, cartels*	1%
Sentencing	*mandatory, minimum, sentence*	2%
Background Checks 3	*NICS, database, disqualifying*	1%
Concealed Carry	*concealed, permit, reciprocity*	1%

Table 1: Topics, keywords, and average salience in the United States House

United States Media Frames		
Partisanship	*republican, campaign, voters, democratic*	8%
Police Incidents	*police, shot, officer, hospital*	9%
Military (1)	*soldiers, army, military, troops*	5%
Robbery	*stolen, block, residence, entered*	4%
Gun Control	*firearms, NRA, laws, gun control*	6%
Courts	*trial, jury, testified*	5%
School Shootings	*students, school shootings, campus*	4%
Money	*dollar, company, business*	9%
City Crime	*city, crime, mayor, streets*	5%
Investigation	*officials, investigation, department*	7%
Hunting	*hunting, deer, wildlife*	4%
Congress	*senate, legislation, house*	5%
Arrests/Crime	*arrested, charged, police*	5%
Social Media	*trump, twitter, facebook*	4%
Military (2)	*government, forces, foreign, military*	9%
Supreme Court	*supreme court, amendment, ruling, appeals*	4%
Drugs	*drug, cocaine, drugs, mexico, dealers*	3%
Prison	*prison, sentenced, convicted, guilty*	4%

Table 2: Topics, keywords, and average salience in the United States Media

Canadian Parliament Frames		
Argumentative	*modify, support, unenforceable, laws*	2%
Anti-Regulation/Hunting	*registry, wasteful, ineffective, farmers, hunters, rural*	5%
Sentencing	*mandatory minimum, sentences, crimes*	3%
Criminals	*crime, offenders, victims*	8%
Women/École Polytechnique	*women, violence, polytechnique, massacre*	6%
Programs	*program, auditor, public safety*	5%
Punishment	*punishment, capital, prison, parole*	8%
Legislation	*introduce, amend, criminal code, sunset provisions*	4%
Petitions/Constituents	*petition, parliament, constituents, signatures*	3%
Money	*dollar, money, budget, tax, spending*	12%
Military	*war, military, forces, defense*	12%
Licensing/Registry	*firearms, license, restricted, registration*	13%
Police	*police, chiefs, officers, rcmp*	5%
Quebec	*Quebec, Quebeckers, conservatives*	2%
Provinces	*provinces, jurisdiction, alberta, Ontario*	4%
Registry Results	*rifles, shotfuls, registration, reduce, statistics*	5%
Firearm Acquisition	*acquisition, certificate, possession*	4%

Table 3: Topics, keywords, and average salience in Canadian Parliament

Canadian Media Frames		
Police Incidents (1)	*shot, police, gunman, incident*	10%
Military (1)	*government, military, armed forces*	15%
Partisanship	*liberals, minister, party, conservative, election*	7%
Courts	*court, trial, judge*	9%
School Shootings	*school, students, teacher, columbine*	4%
Gang Crimes	*violence, toronto, gang, city, crimes*	7%
Gun Types/Registry	*guns, weapons, control, legislation, registration*	7%
Police Incidents (2)	*constable, officer, inquest, police*	5%
Manufacturing	*company, dollar, market*	8%
Robbery	*robbery, bank, holdup*	4%
Military (2)	*soldiers, military, war, troops*	6%
Drugs/Police	*charged, possession, cocaine, police*	6%
Hunting	*hunting, deer, wildlife, moose*	4%
US Politics	*republican, clinton, democrats, bush, obama*	5%
Montreal	*montreal, Quebec, provincial, polytechnique*	3%

Table 4: Topics, keywords, and average salience in Canadian Media

United Kingdom Parliament Frames		
Shootings/Gun Laws (Reactive)	*handguns, shooting, dunblane, amendment, ban*	10%
Crime	*crime, gun, violent, London*	12%
IRA	*ireland, northern Ireland, Belfast, terrorists*	14%
Belfast Agreement	*decommissioning, sinn fein, process*	2%
Military	*army, defense, forces*	20%
Hunting	*fox hunting, shooting, hounds*	5%
Gun Control	*shotguns, control, registration, stringent*	7%
Penalties	*offense, sentence, imprisonment*	9%
Process for Gun Laws	*clause, revolver, amendments, insert*	2%
Gun Types/Laws	*rifles, pistols, licensing, clause, misuse*	7%
Certificates	*certificate, firearms, fees, application*	11%

Table 5: Topics, keywords, and average salience in the British Parliament

United Kingdom Media Frames		
Crime/Gangs	*crime, violence, offenses, gangs*	6%
Military (1)	*government, troops, forces, army*	13%
Gun Laws	*firearms, laws, ban, legislation*	6%
Killings	*shot, dead, killed, gunman, murder*	12%
Courts	*court, trial, judge*	9%
Military (2)	*army, soldiers, regiment, battalion*	7%
Money	*pounds, company, market*	10%
Partisanship	*government, labor, conservative, opposition, vote*	10%
Terrorism	*terrorist attack, security, bomb*	7%
IRA	*ira, belfast, sinn fein, northern ireland*	3%
US Politics	*republican, democratic, clinton, obama, trump*	6%
School Shootings	*school, students, teachers, massacre*	4%
Police	*police officers, armed, firearms, metropolitan*	8%

Table 6: Topics, keywords, and average salience in the British Media

First, I will start by breaking down the media topics, in which the shared topics were not ultimately surprising[7]. Given that I had narrowed the overall corpora data by the same gun-related search-terms, the kinds of contexts in which guns appeared would inevitably overlap between nations. I overlooked the smaller semantic differences to determine which major topics were shared or unique to each country. Aside from Gun Laws/Control themselves (which obviously appeared in all of the data), the most common topics were those linked to national concepts related to guns: Partisanship, Military, Police, Crime, School Shootings, and Money. These shared frames have accounted for approximately 49% of American media coverage, 57% of British media coverage, and 63% of Canadian media coverage. Major national political newspapers have similar responsibilities regardless of country, including reporting and following up on criminal activity, violent events, and political decision-making. The military and police are the group professionally associated with firearms, thus it makes sense that they show up in all countries.

The topics that were individual to each country's media were quite interesting. In American and British media, Terrorism shows up as a salient topic, while it does not in Canada. This is likely because terrorism has been a much more prominent national security threat in those countries. Both the United Kingdom and United States have very comprehensive counter-terrorism programs; British counter-terrorism legislation has been in place since the early 20th century in response to the Irish Republican Army, and the Patriot Act in the United States has spurred significant counter-terrorism efforts (including the Global War on Terror). These two countries have taken the lead on counter-terrorism efforts, and it is not surprising that they may show up near gun debates, especially considering firearms are used to carry out many such attacks. On a related note, mass shootings and similar violent events and gun control sometimes overlap when perpetrators are labeled as terrorists. The categorization of mass shooters as terrorists is a contested issue, and it would be interesting to see how often terrorists and guns are related in these texts (Mercier et al 2018).

In American and Canadian media, Hunting showed up as its own topic, while it was not salient in British media. This finding aligns with my hypothesis (H3) about cultural values playing a greater role in countries whose national identity appear to play a significant role in gun policy[8]. Hunting is particularly common in rural America and Canada, and many pro-gun arguments are rooted in this long-standing culture. The most interesting result, which also relates to the background information I provided, is that both Canadian and British media have a US Politics topic, which really discusses US Politics in the context of guns and gun laws. American media did not include any salient topics about other such developed countries, making this finding stand out more. Each country had unique topics, but not ones that were particularly important for the hypotheses I put forward. In Canada, Montreal was salient; in the UK, the Irish Republican Army (IRA) was salient; and in the United States, Social Media was salient. It is quite interesting that this frame only shows up as salient in the United States, and I am inclined to believe it has to do with a couple of factors: firstly, social media has become a large outlet for sharing stories and perspectives on the gun debate (think about political organizing and movements started online). The response to the Sandy Hook massacre largely took place online,

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[7] See Appendix B.2,4,6
[8] H3: Cultural and identity-based frames will be more salient in the media coverage and legislative debates in Canada and the United States than in the United Kingdom.

as did the aftermath of most subsequent mass shootings (Wasike 2016). Secondly, if you look at the table of top terms, Trump and Twitter are very salient, so there is the likelihood that the proclivity for American politicians to communicate via social platforms contributes to its salience in the media coverage of the issue.

In terms of H2, my findings indicated that there were some similarities between media and legislative frames, but they were not as consistent as I was expecting[9]. In the legislative rhetoric, the shared topics were quite similar, including Military, Gun Laws/Control, and Crime[10]. Additionally, all three countries had salient topics dedicated to Hunting and Penalties. In Canada, hunting appeared in the same topic as anti-regulation arguments, which tells us that hunting is used in the pro-gun discourse, with culture serving as a justification for more relaxed gun laws. In general, the legislative debates were more focused on more fine-grained policies, which is intuitive. There were, however, far more unique topics in the legislative debates, as the country-specific issues are discussed with more detail in the government. Topics about foreign states were minimal compared to the media, and instead were focused on more granular policies and issues. In Canada and the United States, Partisanship was a salient topic in the legislature. This finding aligns with my hypothesis about identity-based arguments playing a larger role in the political debates. General political ideology is associated closely with perspectives on gun control, and this connection was salient in the two countries with more contention over gun laws.

In Canada and the United Kingdom, Licensing/Certificates and Registry were present; this points to the specific, more stringent policies that were enacted in each country (the requirement for gun-owners to have licenses and for all guns to be registered). The United States does not have national laws as stringent as these, so Background Checks appear in different forms (which I count toward "Gun Laws/Control"). Several unique topics in each country are worth noting. In Canada, Provinces, Quebec, Women, and Firearm Acquisition were all individually salient. Canada's gun laws are made at the federal rather than provincial level, so the contexts around that topic would be interesting to look into. Firearm Acquisition was part of the strict licensing laws, and Quebec and Women are likely salient because of the mass shooting at the École Polytechnique in Montreal that killed 15 people. In the British parliamentary discourse, similar to the British media, the IRA and the Belfast Agreement are unique. It is worth noting that in the UK, practically all other salient topics referred to gun control in some form, and were so specific that the topic model was able to divide gun laws into separate categories. This could occur if I had increased the number of topics calculated for the United States and Canada, but the frames were already so splintered that I did not see the value in further categorizing the text.

As I hypothesized in H4a, the United States had the largest number of unique topics, most of which I consider "tangential", in that they do not explicitly refer to gun control policies[11]. These included Illegal Immigration, Mental Health, Children, Tragedy, Budget, and Veterans. Other topics were more relevant to gun control, such as Concealed Carry and Waiting Periods. The presence of this many policy areas discussed within gun debates shows the

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[9] H2: Frame salience in the media coverage and legislative debates within each country will be very similar.
[10] See Appendix B:1, 3, 5
[11] H4a: Each country will have some "tangential frames" (especially the United States) which do not explicitly refer to guns or gun control as the issue, but rather discuss other issues.

proclivity of the United States legislature to attribute non-gun related issues to gun laws. This phenomena is clearly distinct from the other two countries, and the scale of the variation makes it such that there is no clear winning framework that effectively captures the discourse on gun laws.

As I discussed in the literature review, there is plenty of scholarship and media coverage on the discussion of tangential issues such as rights-based stances, criminal activity, and illegal immigration when discussing gun laws (McGinty et al 2014, Pearson and Riopell 2018). I do believe that mental health, another tangential issue, is more closely associated with the gun debate because of the calls for restricted firearm access for those dealing with mental illnesses. Therefore, as I expected to see with H4a, these issues would stand out as independently salient. The quotes below are prime examples of the ways in which the gun issue is discussed with tangential frames. There is a marked difference between the intentions that each statement carries in terms of gun legislation.

> *Perhaps most importantly, almost 40 percent of them [convicted felons] said there was at least one time they did not commit a crime because they thought the prospective victim was armed. This should tell us that **we need crime control rather than gun control**.*
> *– Bill Emerson (R) (MO-8)*
> *May 8th, 1991*

> *"My point is, Madam Speaker, that **American guns are not the major problem that Mexico has. The major problem Mexico has is the violent drug cartels** vicious attacks on their competitors and the law enforcement in Mexico and spilling over into the United States."*
> *– Congressman Steve King (R) (IA-5)*
> *May 7th, 2009*

> *The sad fact is that the anti-gun lobby vision of gun control just does not work. It cannot because it targets exactly the wrong group of people law-abiding gun owners. **Gun control is not crime control, it is only about divesting law-abiding citizens of their rights**.*
> *– Bruce Mills*
> *Op-Ed in the Globe and Mail*
> *July 29th, 2006*

Two culture topics I expected to show up in the US data were the Second Amendment and the NRA, both of which did indeed appear as salient topics in Congress. Both the Second Amendment and the NRA are unique to the United States, and contribute hugely to the gun culture that is present in the country, again fulfilling my theory in H3. The rights-based argument for gun ownership is derived from the text of the Second Amendment, and its presence in political debates as a salient topic displays that this cultural line of thought is reflected in the legislature. Similarly, the NRA is an American pro-gun interest group, known for having a strong influence on policy-making. The NRA is the oldest pro-gun advocacy group in the country, and has become embedded in the fiber of the gun culture in the United States. The presence of such topics, in addition to the multitude of other policy issues brought up around guns indicates the breadth of issues that the House attempts to cover in limited time. I would attribute these topics to difficulty in effectively forming and debating policy aimed at solving a particular problem.

Rhetoric after Focusing Events

With the relevant topics identified, my next step was to see whether their salience changed after major mass shootings in each country. I hypothesized that in the wake of such violent events, arguments in favor of guns will be more prevalent and will appear in the form of tangential issues (H4b)[12]. My findings indicated that this notion is partially supported by the data on topic salience. I was primarily interested in observing this effect in the United States and Canada, where the presence of tangential issues in both media and legislative discourse were higher. What I found was that only in the United States did tangential issues become more salient after mass shootings, particularly in the legislative debates. For more detail on these changes, please visit Appendix C.

In order to understand what effect mass shootings had on each country, I calculated the significance of the change in salience of the various topics over time. I used the average of the topics' salience in the 5 years before the shooting, and compared it to the average of the 5-6 years including and after the event (i.e. for Columbine, 1994-2004). I used a 95% confidence interval to determine whether or not the change in salience was statistically significant and could thereby be attributed to the focusing event and not mere chance. I determined if there were any enduring changes in rhetoric in the long-term discussion on guns after events in each country which might have led to any changes in legislation or shifted national attention either towards/away from the issue of gun control. In the United States, there were some significant changes in issue salience after the Columbine shooting. In the legislative debates, many of the previously identified frames experienced changes (Table 7).

More Salient	Less Salient
Criminals	Partisanship
Law Enforcement	Tragedy
Police	Background Checks
Opposition to Amendments/Laws	Lawsuits/Manufacturing
Gun Control	
Sentencing	

Table 7: US House of Representatives - change in frame salience in the 5 years after the Columbine shooting (1999) - difference statistically significant at 95% confidence interval

Budget, Waiting Periods, Criminals, Law Enforcement, Police, Opposition to Legislation, Gun Control, and Sentencing all experienced significant increases in salience between 1999 and 2004. Background Checks, Terrorism, Partisanship, Tragedy, and Lawsuits all experienced significant declines in salience during this same window. If we consider that the increases in both Opposition to Legislation and Gun Control cancel each other out, we see that the net effect of this mass shooting in terms of gun laws was the significant decrease of the salience of background checks, which had previously been the most salient form of gun control discussed by the House. The legislative agenda in the years following gun events such as mass shootings are known to play a large role in determining gun law outcomes (Hogan and Rood, 2015). In the five years after Columbine, no major gun legislation was passed in the United States except for the Law Enforcement Officers Safety Act in 2004, which allowed present and former law

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[12] H4b: Tangential frames in each country's media coverage and legislative debates will be more salient after mass shootings.

enforcement the right to concealed carry firearms anywhere in the United States regardless of state or local laws. This could account for the increase in discourse about police, but it has nothing to do with gun control that would affect the vast majority of the American population.

Columbine is only one of several mass shootings that the United States has experienced in recent history. While we know that no major gun control legislation has passed between 1999 and the present, I examined whether the legislative response to other major mass shootings had similar results. Below are the results of the same significance test for the 5 years after both the Virginia Tech and Sandy Hook massacres (Tables 8 and 9).

More Salient	Less Salient
Partisanship	Budget
Tragedy	Assault Weapons
Background Checks	Criminals
	Law Enforcement
	Police
	Opposition to Amendments/Laws
	Hunting
	NRA
	Sentencing

Table 8: US House of Representatives - change in frame salience in the 5 years after the Virginia Tech shooting (2007) - difference statistically significant at 95% confidence interval

More Salient	Less Salient
Budget	Background Checks
Police	Terrorism
Prosecution	Tragedy

Table 9: US House of Representatives - change in frame salience in the 5 years after the Virginia Tech shooting (2007) - difference statistically significant at 95% confidence interval

We can clearly see that there is no consistency in the American legislative response to mass shootings, and the salience of gun control fluctuates without ever leaving a policy impact. The sheer number of frames utilized by policymakers makes the process very difficult to navigate, as no clear policy agenda was set in the wake of these events. It is also worth noting that I am only pointing out the topics whose salience changes significantly. These topics are among many more that were used with varying levels of frequency by Congress, thus giving each frame a limited space on the legislative agenda.

In the American media, we see different results, primarily because the topics themselves are different[13]. In the five years after the Columbine shooting, Robbery, School Shootings, Money, and the Supreme Court all became more salient in the news (Table 10). Police Incidents, City Crime, Hunting, Arrests, Drugs, and Prison all became less salient. These results did not change much when expanding the period to include all years before and after Columbine. Unsurprisingly, the Partisanship, Investigations, and Social Media topics also became more salient after Columbine. Courts and the Military joined the other negatively affected topics in

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[13] See Appendix B.2

become less salient. Money was not significantly affected in the long run. Notably absent from either list is the only topic on Gun Control, whose salience did not change significantly after Columbine. This stagnation could be a reflection of the lack of discussion of gun control in the legislative body. It could also be that gun control itself was not of major interest to readers.

More Salient	Less Salient
Robbery	Police Incidents
School Shootings	City Crime
Money	Hunting
Supreme Court	Arrests
	Drugs
	Prison

Table 10: US Media - change in frame salience in the 5 years after the Columbine shooting (1999) - difference statistically significant at 95% confidence interval

The absence of Gun Control did not last through the other two shootings, however, and the change in framing by the media is very stark over time (Tables 11 and 12). After the Virginia Tech shooting, we see that Gun Control, Social Media, the Supreme Court, and Drugs increase in salience. After Sandy Hook, it is only Gun Control and Social Media. At the same time, more and more other frames decrease significantly in salience, showing that there is a clear difference in the reporting of news after these events. This filtration of issue importance is not fully represented by either the legislative rhetoric or policy actions after the same events, indicating disconnection between the public discourse network and the political network.

More Salient	Less Salient
Gun Control	Partisanship
Social Media	Police Incidents
Supreme Court	Military
Drugs	Robbery
	Courts
	Hunting
	Arrest

Table 11: US Media - change in frame salience in the 5 years after the Virginia Tech shooting (2007) - difference statistically significant at 95% confidence interval

More Salient	Less Salient
Gun Control	Police Incidents
Social Media	Military
	Robbery
	Courts
	Hunting
	Arrest
	Supreme Court
	Drugs
	Prison

Table 12: US Media - change in frame salience in the 5 years after the Sandy Hook shooting (2012) - difference statistically significant at 95% confidence interval

In Canada, I looked at the changes in legislative and media rhetoric directly following the massacre at the École Polytechnique in Montreal (Table 13). In the House of Commons, unsurprisingly, Women and the École itself are a salient topic; the shooting was inspired by misogyny, so the issue of violence against women was quite salient. Punishment also became more salient, and this is likely because in 1991, Bill C-17 was introduced and passed, and later implemented between 1992 and 1994. Bill C-17 prohibited several types of shotguns and handguns, and reclassified many firearms so that would fall under the "restricted" or "prohibited" lists. The penalties for firearm-related crimes were also increased, which is a large part of the Punishment topic[14]. The Argumentative, Military, and Registry topic were less salient in the five years after the shooting, which generally makes sense. Partisanship and focus on the military decreased, and as the registry had gone into effect in 1977, the focus was less on its creation but rather supplementing it with new laws.

More Salient	Less Salient
Women / École Polytechnique	Argumentative
Punishment	Military
	Registry

Table 13: Canadian Parliament - change in frame salience in the 5 years after the École Polytechnique shooting (1989) - difference statistically significant at 95% confidence interval

Based on the existing literature, I expected a combination of cultural or identity based frames as well as legislative frames to be more salient in the Canadian media in the wake of shootings. The changes after the École Polytechnique shooting display a combination of effects. Partisanship, School Shootings, Gang Crime, and Gun Types/Registry became more salient in the five years after the shooting; this encompasses political disagreement but also gun control, which are the two prominent aspects of the political debate on gun laws (Table 14). The salience of Police, Courts, and Hunting decreased; hunting in particular is a major part of Canada's gun culture, so the fact that the major newspaper mentioned it less could signify that the legal (rather than cultural) side of gun control was more important at the time.

More Salient	Less Salient
Partisanship	Police
School Shootings	Courts
Gang Crime	Hunting
Gun Types/Registry	

Table 14: Canadian Media - change in frame salience in the 5 years after the École Polytechnique shooting (1989) - difference statistically significant at 95% confidence interval

The United Kingdom is an interesting case, because their push toward stricter gun laws started before the Dunblane shooting, when a mass shooter killed 16 people in a shooting spree in Hungerford, England in 1987. The discussion of strict laws began almost immediately, with the passage of the Firearms (Amendment) Act of 1988, which tightened gun control and moved several types of rifles and shotguns to the "Prohibited" category in all of the United Kingdom except for Northern Ireland. Knowing this, I decided to see how the Parliamentary debates changed after the Hungerford shooting as well as the Dunblane shooting, to see if British governmental strategy was better defined than the Americans' (Tables 15 and 16). The debates

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[14] See Appendix B.5

are inherently much easier to interpret, as there are approximately one-third the number of salient frames pertaining to gun laws in the UK than there are in the United States.

More Salient	Less Salient
Shooting / Gun Laws	IRA
Certificates	Belfast Agreement
	Penalties

Table 15: UK Parliament - change in frame salience in the 5 years after the Hungerford shooting (1987) - difference statistically significant at 95% confidence interval

More Salient	Less Salient
Process for Gun Laws	IRA
Gun Types / Laws	Certificates
	Penalties
	Gun Control

Table 16: UK Parliament - change in frame salience in the 5 years after the Dunblane shooting (1996) - difference statistically significant at 95% confidence interval

The British media coverage in the years following Dunblane are very similar to the Parliamentary debates in that the only topics that become more salient are directly related to the shooting (Table 17). Non-related topics, in particular the IRA and the military are less prominent during those years. Neither the debates nor the media coverage is over-crowded with frames, unlike the American legislature and media. This could contribute to the relative ease with which their government was able to pass stricter gun control in the wake of tragedy.

More Salient	Less Salient
Gun Laws	Military
Money	Killings
School Shootings	Courts
	IRA
	Police

Table 17: UK Media - change in frame salience in the 5 years after the Dunblane shooting (1996) - difference statistically significant at 95% confidence interval

Interest Groups and Lobbying

For interest groups, I was primarily interested in looking at the United States legislature, and its relationship with interest groups. I chose the two most prominent groups that have been referenced in the literature as dominating the pro-gun and pro-control camps: the National Rifle Association (NRA) and the Brady Act/Campaign. The Brady Act was a piece of legislation that became synonymous with gun control, and in 2001, Handgun Control Inc. was renamed the Brady Campaign to Prevent Gun Violence. I had hypothesized that these groups that show up distinctly in the legislative debates on gun control[15]. The role of lobbying groups in influencing gun legislation has been long observed as well, especially as gun control has become a larger national discussion (Hofstadter 1970, Ray 2008, Steidley and Colen 2017).

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[15] H5: Interest groups will be salient and featured frequently in the legislative discourse on gun laws in the United States.

After running the topic model on the United States legislature, I found that the NRA was indeed a salient topic, and it was featured prominently within the debates. The Brady Act/Campaign did not appear as a salient frame, which is important, because it indicates that in terms of interest groups, the pro-gun lobby is more prominent in the policy process. Having found that the data supports half of my hypothesis, I decided to dig a bit deeper into the data to find exactly how many times these groups were referenced in the legislative debates.

I filtered the legislative gun debates with specific search terms for each side of the debate. For the pro-gun side, I used the search terms: "National Rifle Association", "NRA", and "gun lobby", because I had to capture the most pointed references to their organization. For the pro-control side, I used the search terms: "Brady Act" and "Brady Campaign". I restricted the filter to include only the sentences appearing directly before and after the search terms, so I could see the context in which the groups were referenced. Because I had this data accessible to me, I decided to also conduct a simple sentiment analysis to see what kinds of words were being used around these references. To identify the sentiment I used the "bing" lexicon, which categorizes words into a positive/negative binary, and attributes sentiment to individual words used in the text. I calculated the presence of such words in the entire subset of the data before scrutinizing at the partisan level.

The NRA was featured in 851 unique speeches, which means it was present in roughly 16% of all House speeches on gun laws between 1979 and 2016. The net sentiment for the phrases in which the NRA is invoked was slightly more negative, with approximately 53.5% of the weighted text featuring negative terms. When the texts are broken down at the party level, however, we see a very different result. Democrats have referred to the NRA far more than their Republican colleagues have in the same time span, as their speeches have included 1,298 references, compared to 239 within Republican speeches. This comes as a slight surprise, as I had assumed that they would likely discuss the NRA in equal measure, just with differing perspectives on its function. When Republicans, who are typically aligned with the pro-gun/pro-rights side of the gun control debate, reference the NRA, their speech has a net positive sentiment; approximately 63% of their speech is positive. Democrats' speech, on the other hand, has a net negative sentiment when referring to the NRA, with only 43% of their speech having positive sentiment.

I observed the data to see if a similar trend could be found with the pro-control lobby groups. My first superficial observation was that there are far fewer speeches referencing the Brady Act/Campaign than there are speeches referencing the NRA; the search terms only appeared in 297 unique speeches. This difference likely explains why Brady did not show up as a salient frame; it seems that the pro-control lobby was overshadowed by the pro-gun lobby in the House. The net sentiment around the Brady Campaign was also slightly negative, with 52.7% of speeches having negative attributes. This is nearly identical to the net sentiment regarding the NRA, so I wondered if the partisan divide would yield similar results. Once more, Democrats had more references in their speech, with 571 compared to the 371 Republican references. In this case, the partisan difference did not exist; both the Democrats and Republicans had net negative speech around the Brady Campaign. Approximately 52% of the Democrats' speeches contained negative sentiment, while 53.5% of Republican speeches contained negative sentiment.

Upon closer examination, I think it is difficult to truly understand or interpret the sentiment attributed to the speech. For example, Kentucky Democrat Carroll Hubbard stated the following in a floor debate in 1990:

"I added my name as a cosponsor to legislation which would prevent the importation and domestic manufacture of semiautomatic assault weapons with large ammunition feeding devices and to the Brady bill which would impose a 7 day waiting period on firearms sales."

The program identified this speech as moderately negative, since it contained the words "prevent", "assault", and "impose". Yet, Hubbard is clearly a supporter of the legislation, since she is a cosponsor. These sorts of inconsistencies make it hard to come to any decisive conclusions about the exact role these interest groups play in legislative debates. A further examination of the contexts would yield more conclusive findings about the specific language that legislators use around these lobby groups. What we can definitely observe, however, is that there is a partisan struggle over the gun debate in which these interest groups play a large role. Interest groups exist for the purpose of influencing lawmakers, and they clearly do a good job of keeping the debates in a deadlock.

Conclusion

The purpose of writing this paper was to further explore the notion that there are distinct ways in which both politicians and the media frame issues, particularly that of gun control. In order to understand what makes these different, I asked if the discussions around gun laws were systematically different, and in what ways. In particular, what makes it so difficult for the United States to pass effective gun laws? When you take into consideration the responses we have seen in other countries after violent events, the incapacity for the United States to act in a similar manner is thrown into relief. Policy makers and the media are largely responsible for shaping the political and social mood toward an issue, so I decided to discover how those actors operate differently in different contexts. Did America's fault lie in its cultural differences, or its political differences? Or perhaps something else altogether? The difference is how each country operationalizes national institutions, culture, and identity in the frames they use to discuss guns and gun laws.

For this study, I had several hypotheses about media and legislative rhetoric that I tested. Firstly, I saw if there were commonalities between the frames used by both actors in each country (H1). I was able to determine that all three countries had similarities, due to the national institutions related to the discourse on guns, however there were not always consistent alignments between frames used by the media and by the legislature (H2). More importantly, I was able to identify the frames unique to each country. The discourse surrounding guns in the United States is far more complex than it is in either Canada or the United Kingdom, indicating the many ways that both policymakers and the media attempt to address the issue.

I also determined if cultural or identity based frames play a larger role in the United States and Canada, both of whom justify gun ownership on these bases (H3). I found that such

factors are salient, primarily in the political discourse in the United States; rights-based arguments, hunting, legal precedent, and the NRA were salient frames. In Canada, this effect was almost non-existent, which is surprising considering the existing scholarship on Canada and its relationship with guns. Hunting appeared as a salient topic in the media of both countries, confirming one aspect of the culture argument. This is important because we often use cultural and identity based arguments to defend gun ownership and we venerate our rights because they are a signal of superior freedom. The results from this study could flip that argument on its head and argue that such values are distractions from the issue at hand, which countries like Canada and the United Kingdom have addressed without cultural constraints.

Similarly, I tested to see whether tangential arguments were prevalent in each country (H4a) and if they were more salient after focusing events, such as mass shootings (H4b). The results show us that frame salience did change in each country, but the ends of the means are certainly different. The American response to gun events has been inconsistent and, with the political and media actors prioritizing differently. We know that there has been no significant national gun control enacted in the United States since before Columbine, and now, we can see a possible reason for why this was the case. Displaying American reactions to comparable events in Canada and the United Kingdom makes this observation even more clear, and gives us concrete examples of how they have been acting differently so as to get different legislative results.

I included an additional hypothesis informed by the conventional wisdom regarding the importance of the interest groups in the United States (H5). I found that interest groups both on the pro-gun and pro-control side were heavily featured in legislative speeches. The sentiment deadlock between the parties and the interest groups indicates the divisive presence of interest groups in an already divided system. It would be worth further looking into the contexts in which these groups are brought up, and within what frames they are referenced more.

This study opens up opportunities to many more points of inquiry about the rhetoric surrounding gun control in each of these countries. While I sought to merely observe what exists within the data, further studies could attempt to find a causal mechanism between the frames used and the policies passed. It would be very interesting to test what frames exist if we put different constraints on the data, or perhaps use modified search terms. I purposely left out partisan and other politician characteristics as variables from my study, because they require their own body of scholarship and theory. It would fascinating to see if there are systematic differences in the partisan or gendered approach to gun control in each country.

Now, more than ever, these kinds of questions need to be answered. Information is readily available at our fingertips, so it is a matter of what we seek to do with it, and what questions we want to answer. By asking these questions, I have been able to identify certain obstacles the United States faces in passing effective gun control policies. Judging by the rhetorical approaches taken by other countries, perhaps it is time to take a leaf out of their books and set aside the tangential arguments and focus on the issue at hand. It should not take the deaths of hundreds more for the American approach to gun laws to change.

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Appendix A: Additional Information

1. In the United States, each party often uses limitations on time for debate to check the other when trying to debate or pass controversial legislation. In the Senate, bills are placed on the calendar and are available for debate. While the schedule for the Senate is not as restrictive due to its smaller size, restrictions on time still exist. Unanimous consent agreements set time limits on the debate, motions to table can stop debate entirely, and the ability for Senators to filibuster can result in the Senate blocking a bill for the sake of continuing business (usually ended by cloture). In the House, bills are sent to committees, which set time limits for debates. Suspension of rules limit debate on the bill to 40 minutes and sets restrictions on any proposed amendments (LexisNexis 2007).

   In Canada, almost every step of the debate proceeding has specific time limits, except for the second or third reading of a bill. The details are too nuanced to fully describe here, but since the rules are the same for every bill, our focus on this particular constraint in the policy process is the length of time debating during the readings (House of Commons - Canada n.d.)In the United Kingdom, there are time limits on most debates in the House of Commons. Debates are set into the House schedule, and typically, they last for a few hours a day (UK House of Commons n.d.). Similar to the United States, bills without time limits on debates are subject to filibustering (which representatives end by invoking "closure"). Not all members get to contribute what they would like to, unfortunately, which adds to the limited time for actors in this system. Lastly, in Australia, members in both the House and Senate are given a specific period of time to spend giving speeches during debates of bills which vary given what stage of the process the body is in (Harris 2005).

2. Search Terms for gun-related legislative debates and media coverage:
   [('(gun|firearm) (violence|death*|suicide|incident*|crime|control)', '(school|mass) shooting*', '(victim*|survivor*|witness*) of shooting*','black market (gun*|firearm*|weapon*|arms)', 'revolver*', 'shotgun*', 'assault weapon*', 'pistol*', 'rifle*', 'access to (gun*|firearm*|weapon*)', 'pro-gun*',)]

3. The notebook we created took several steps to identify these topics, which I will outline. The first step was to combine the subcorpora that contained the topics of interest to us. In this case, that meant combining all gun-related debates from one country into a larger corpus. We then filtered the combined corpus in several ways. We fed the program a list of "stopwords", which are frequently occurring terms that do not have any effect on the substance of the debates themselves. The list has been included in the appendix. We then calculated the Pointwise Mutual Information (PMI) value of the remaining words in the corpus. Mutual information measures the information overlap between two random variables, in this case words (Bouma 2009). When the two variables are perfectly correlated, they determine each other. PMI measures to what extent the real probability of a co-occurrence of events is different from our expectations based on the probabilities of individual, independent events. We used PMI to determine what words were more common around the gun debate than around the baseline.

To maintain consistency and avoid any minor semantic inconveniences, we "translated" words with alternate spellings using a file with a list of UK to US conversions. We also "de-nationalized" terms to ensure that we were capturing the essence of each speech. For example, all country names would be changed to "homecountryX", that way we could consider the presence of national identity across the board. We then simultaneously removed the stopwords from our corpus and calculated the PMI values for the remainder of the text. Now I had with the relevant text that we could run our analysis on.

In order to compare different topic models, we had to assess the word-vector coherence of the primary words in each topic, which required training a word2vector model on the corpus. Word2vec models take the text corpus as input and output a set of vectors for the words in the corpus. The net helps to quantify the representation of certain phrases, such as the context of individual words themselves. With enough data, frequency, and context, Word2vec can make very accurate guesses of the meaning of words based on their occurrences in the corpus. The association that it creates between these groups of words helps in determining topics and their relevant terms. We adjusted the dimensionality of the estimated vectors to get the best estimation of the association between words, with each iteration called an "epoch".

After getting the best estimation of this association, (we) generate two different document-term (DT) matrices. The first is for the latent semantic analysis (LSA) algorithms, which adjust word counts by the inverse of the number of documents in which a word appears. The second is for latent dirichlet analysis (LDA) algorithms, which are a simplified version of Fisher's method (used in machine learning) and is probabilistic, thus using straight word counts. These two DT-matrices, once created, include only interesting words, or the words from which we can find patterns. We then had to reduce these matrices to include only certain frames, or topics. Three distinct algorithms can be used to conduct this analysis: singular value decomposition (SVD), non-negative matrix factorization (NMF), and LDA (defined above). In previous tests conducted with these different analyses, NMF has consistently outperformed SVD. LDA takes much more time to calculate, and its results vary in quality. I decided to use NMF over a broad range of topics, between 10 and 40, to ensure I was able to determine the topic number that yielded the greatest coherence and term salience.

Once I had run the NMF analysis, I could see which number of topics had the greatest coherence, and used that number of topics to divide the text. Given that a large number of topics can make analysis difficult, I used my discretion to choose the best number of topics; where there was a very small marginal increase in coherence when using over 35 topics, I opted to use the next best group of topics (35 or below). I went through each topic to determine what each topic's name would be (determined by the common factor that bound the significant words together). I then appended this information to the relevant metadata, leaving me with a data frame with each article or speech broken down into the various topics included in its text. The broken down texts is representative of Entman's notion that a single text can contain multiple frames; the next step is to see what those frames look like and to use the existing theory to interpret their purpose (Entman 1993).

Appendix B: Topics

The following lists display the terms that were used to determine what frames were being used in the legislative and media data. The notebook I used identified these topics (which I call frames) by calculating the statistical significance of the relationships between frequently used words. If a topic had a particular weight in the speech or article, we can find at least one of these key terms in the text that tells us how the frame was attributed to the content. The words in these lists are only single words; you may notice that some of these terms can be combined to form phrases (i.e. assault + weapons + ban). For an even more in-depth study, a similar analysis of the text could be done to pull out two or three word phrases that are affiliated with topics.

1. USA House Topics

Budget: dollar, budget, programs, program, funding, spending, money, tax, cut, funds, cuts, deficit, increase, fiscal, appropriations, federal, fund, cost, education, social, reduction, grants, defense, funded, pay

Background Checks 1 (Procedural): 1217, unanimous, expanded, consent, memory, victim, moment, silence, received, checks, honor, bipartisan, background, ask, bring, floor, legislation, violence, house, action, rhoden, dooley, williams, victims, Davon

USA General: president, states, united, state, american, congress, government, way, country, know, great, house, fact, america, world, today, work, number, nation, important, want, good, national, think, ago

Terrorism: terrorist, list, terrorists, watch, suspected, buy, loophole, purchase, fbis, dangerous, fly, store, mass, orlando, suspects, terror, legally, silence, close, able, walk, guns, weapon, 2dot000, terrorism

Assault Weapons: assault, weapons, ban, weapon, semiautomatic, banned, streets, hunting, kill, guns, crime, killing, repeal, rifles, 4296, choice, vote, today, 1994, banning, police, support, nra, designed, 19

Waiting Period: brady, waiting, period, handgun, staggers, check, handguns, 7day, purchase, instant, periods, records, background, felons, purchases, criminal, states, convicted, criminals, support, state, substitute, instantaneous, days, national

Criminals: crime, violent, criminals, crimes, tough, streets, penalty, prevention, prisons, death, drug, criminal, programs, offenders, cops, anticrime, prison, provisions, sentences, problem, penalties, drugs, lawabiding, punishment, justice

2nd Amendment: bear, arms, rights, right, constitution, constitutional, amendment, citizens, lawabiding, protect, court, supreme, militia, americans, infringed, defend, freedom, shall, believe, protection, executive, free, individual, protected, founding

Russia: soviet, soviets, union, afghanistan, afghan, freedom, nuclear, fighters, tanks, world, military, weapons, missiles, invasion, rifles, capability, defense, forces, moscow, arms, struggle, lithuania, missile, strategic, helicopter

Partisanship: republican, nra, republicans, leadership, house, vote, democrats, majority, american, congress, legislation, floor, senate, passed, reform, party, colleagues, bipartisan, safety, pass, democratic, lobby, votes, members, action

Law Enforcement: firearms, firearm, law, guns, criminals, enforcement, federal, lawabiding, laws, owners, act, dealers, legislation, criminal, crimes, citizens, current, illegal, sale, crime, bureau, possession, tobacco, purchase, alcohol

Tragedy: violence, lives, families, action, victims, newtown, americans, tragedy, lost, commonsense, mass, killed, congress, communities, shooting, shootings, silence, country, community, act, hook, day, senseless, sandy, prevent

Veterans: medal, honor, enemy, marine, service, sergeant, army, platoon, vietnam, veterans, corps, served, awarded, wounded, corporal, division, company, men, lieutenant, marines, war, infantry, hero, duty, combat

Police: police, officers, enforcement, law, officer, bulletproof, local, vests, bullets, line, sheriffs, chiefs, armorpiercing, officials, communities, lives, support, duty, vest, ammunition, community, cop, city, protect, armor

Washington DC: columbia, dc, district, residents, capital, city, washington, laws, citizens, 3193, council, districts, home, mayor, nations, heller, repeal, court, childers, local, supreme, guns, registered, registration, rate

Opposition to Amendments/Laws: amendment, chairman, support, rise, opposition, urge, strong, oppose, vote, mccollum, offered, colleagues, balance, language, consume, gentlemans, member, rifle, strike, amendments, simply, rifles, defeat, requisite, reserve

Hunting: wildlife, conservation, fish, hunting, lands, refuge, management, fishing, acres, alaska, hunters, refuges, land, national, sportsmen, hunt, wilderness, sportsmens, species, park, safari, resources, service, parks, habitat

Gun Control: control, alaska, laws, strong, advocate, reasonable, guns, brady, issue, need, colleagues, york, crime, sensible, aisle, 49, 1968, washington, passes, congress, zuhdi, disparities, disparate, disparaging, disoriented

Hunting/Sports Guns: volkmer, substitute, hughes, handguns, interstate, sportsmen, shotguns, hunters, 4332, 1968, handgun, hunting, transport, provisions, rifles, state, sporting, committee, law, chairman, transportation, sale, mcclurevolkmer, jersey, legitimate

Background Checks 2: background, checks, check, guns, buy, mentally, abusers, dangerously, ill, domestic, shows, criminals, sales, hands, online, loopholes, buying, bipartisan, loophole, dangerous, universal, terrorists, fly, felons, commonsense

Lawsuits/Manufacturing: lawsuits, manufacturers, industry, frivolous, liability, suits, negligence, product, dealers, lawsuit, 397, sellers, legal, products, 1036, liable, negligent, immunity, lawful, court, victims, commerce, manufacturer, courts, protection

Children/School: children, school, safety, schools, child, juvenile, parents, guns, students, violence, columbine, locks, youth, kids, high, safe, young, childrens, littleton, legislation, colorado, teachers, access, day, need

NRA: association, rifle, national, nra, organizations, organization, supported, groups, charles, turn, america, clear, politically, support, legislation, member, motivated, chiefs, mccollum, strong, nras, campaign, league, sheriffs, fraternal

Mental Health: mental, health, illness, need, treatment, mentally, issues, ill, services, stigma, shootings, professionals, tragedies, help, suicide, prevention, individuals, illnesses, counselors, thank, mass, able, parity, dealing, crisis

Prosecution: exile, project, richmond, program, prosecutors, 4051, prosecution, laws, virginia, enforce, works, criminals, prosecutions, prosecute, attorneys, florida, neighborhoods, federal, state, existing, states, prosecuted, approach, prison, Clinton

Illegal Immigration: border, mexico, mexican, patrol, cartels, drug, atf, agent, furious, agents, cartel, immigration, thats, smuggling, arizona, trafficking, texas, operation, terry, fast, illegal, brian, illegally, attorney, borders

Sentencing: mandatory, sentence, minimum, prison, sentences, commission, sentencing, convicted, parole, firearm, crimes, felony, committing, offense, court, commit, punishment, violent, penalties, felon, possession, criminal, trafficking, federal, 5year

Background Checks 3: nics, database, restraining, improvement, troy, information, records, check, update, instant, 1415, states, automated, background, peter, disqualifying, save, domestic, felons, purchase, grants, lady, orders, criminal, able

Concealed Carry: concealed, permit, concealedcarry, permits, carry, 822, reciprocity, righttocarry, state, states, laws, carrying, florida, floridas, loaded, requirements, require, holders, training, individuals, safety, rates, weapon, allow, standards

2. USA Media Topics

Partisanship: republican, campaign, voters, democratic, democrats, party, election, candidates, candidate, republicans, race, governor, political, conservative, issues, primary, bush, clinton, presidential, democrat, state, vote, abortion, senator, polls

Police Incidents: police, shot, shooting, officer, hospital, fired, man, officers, wounded, val, killed, gunman, condition, shots, pm, identified, car, dead, street, yesterday, avenue, night, scene, apartment, suspect

Military 1: soldiers, army, military, troops, war, combat, marines, marine, soldier, commander, forces, force, unit, gen, infantry, battalion, command, base, col, training, enemy, units, pentagon, corps, battle

Robbery: stolen, rd, block, residence, pm, val, ct, entered, vehicle, ave, cash, st, male, window, lane, door, robbed, fled, unlocked, purse, reported, blvd, property, jewelry, forcing

Gun Control: gun, guns, firearms, weapons, nra, laws, handguns, handgun, ban, control, association, law, rifle, background, owners, checks, assault, national, sales, semiautomatic, criminals, violence, dealers, weapon, brady

Courts: trial, jury, testified, murder, prosecutors, testimony, judge, case, defense, attorney, jurors, prosecution, court, evidence, prosecutor, lawyer, witness, charges, lawyers, defendant, courtroom, shooting, verdict, witnesses, guilty

School Shootings: school, students, student, schools, high, parents, teachers, teacher, children, shootings, education, kids, campus, shooting, columbine, class, elementary, classroom, principal, boy, violence, youth, college, parkland, classes

Money: dollar, company, companies, business, 000, money, industry, tax, economic, market, pay, financial, program, nationalx, budget, government, health, cost, economy, sales, programs, costs, plan, trade, executive

City Crime: city, crime, officers, mayor, police, residents, violence, department, district, community, crimes, violent, streets, homicides, york, neighborhoods, neighborhood, dc, council, street, cities, officer, rate, homicide, commissioner

Investigation: officials, investigation, department, agents, investigators, enforcement, security, authorities, official, information, nationalx, report, agency, bureau, law, office, police, case, terrorist, evidence, agent, intelligence, documents, comment, attorney

Hunting: hunting, deer, hunters, wildlife, hunt, hunter, birds, season, animals, animal, woods, fish, bird, wild, species, conservation, game, land, population, fishing, park, shoot, geese, state, shotgun

Congress: senate, legislation, house, republicans, committee, democrats, vote, parliamentx, measure, lawmakers, republican, senators, proposal, legislative, ban, majority, sen, bills, votes, senator, passed, congressional, voted, approved, president

Arrests/Crime: arrested, charged, police, yesterday, dc, robbery, possession, charges, district, suspect, block, man, arrest, street, car, pistol, nw, court, avenue, held, murder, weapon, men, allegedly, suspects

Social Media: trump, obama, twitter, mass, president, com, 2016, news, facebook, shooting, media, zone, washpost, distribution, shootings, newtown, massacre, violence, html, america, parkland, times, video, 2012, white

Military 2: government, minister, forces, military, troops, foreign, rebels, capital, united, nations, country, today, political, leaders, armed, president, army, leader, officials, war, western, rebel, peace, russian, ethnic

Supreme Court: court, supreme, amendment, ruling, appeals, law, decision, judge, rights, justice, constitutional, case, legal, courts, justices, right, district, constitution, judges, ruled, circuit, nationalx, cases, laws, states

Drugs: drug, cocaine, drugs, mexico, mexican, dealers, agents, trafficking, narcotics, marijuana, traffickers, crack, heroin, seized, border, cartel, illegal, enforcement, undercover, cartels, arrested, gang, nationalx, colombia, dealer

Prison: prison, sentenced, sentence, convicted, guilty, pleaded, parole, sentencing, inmates, judge, court, murder, life, plea, sentences, jail, prosecutors, death, penalty, crime, inmate, prisoners, serving, crimes, charges

3. UK Parliament Topics

Shootings/Gun Laws: handguns, shooting, pistols, clubs, 22, cullen, guns, ban, sport, gun, pistol, dunblane, column, club, amendment, weapons, shooters, home, calibre, 1996, learned, compensation, 1997, target, lord

Crime: crime, gun, violent, police, crimes, knife, cent, london, guns, home, figures, recorded, communities, doubled, policing, young, increase, knives, drugs, drug, criminal, statistics, officers, problem, measures

IRA: ireland, northern, ira, ulster, irish, belfast, terrorists, ruc, terrorist, army, arms, catholic, terrorism, republic, security, udr, men, provisional, regiment, soldiers, kingdom, united, protestant, forces, situation

Belfast Agreement: decommissioning, sinn, fein, bann, ira, decommission, upper, process, parties, agreement, chastelain, unionist, executive, devolution, trimble, transform, governments, talks, mandelson, ireland, walsall, winnick, mitchell, negotiated, huntingdon

Military: army, defence, forces, regiment, armed, troops, territorial, military, royal, equipment, soldiers, units, infantry, battalion, rifle, nato, iraq, training, war, force, battalions, regular, reserve, ta, men

Hunting: foxes, fox, hunting, shooting, hounds, cruel, hunt, countryside, cruelty, packs, shot, animals, kill, lamping, animal, night, farmers, burns, hunts, deer, dogs, rifle, wild, control, mammals

Gun Control: shotguns, firearms, control, gentleman, weapons, controls, guns, home, introduce, legislation, stringent, licences, restrictions, prohibit, registration, criminals, department, secretary, regulations, legitimate, possession, aware, asked, crimes, licence

Penalties: offence, offences, sentence, imprisonment, penalty, criminal, penalties, maximum, prison, courts, sentences, carrying, possession, criminals, punishment, firearms, act, murder, weapon, clause, firearm, life, court, person, cases

Process for Gun Laws: insert, page, amendment, line, number, beg, clause, pistol, leave, 16, douglas, hogg, convenient, revolver, section, lords, proposed, nos, amendments, subsection, revolving, gun, discuss, act, 24

Gun Types/Laws: rifles, air, weapons, pistols, rifle, weapon, gentleman, went, minister, licensing, airguns, guns, aware, age, restrictions, clause, shooting, permitted, arms, misuse, magazine, 11670, legislation, rounds, dangerous
Certificates: certificate, shotgun, firearms, certificates, firearm, police, person, chief, section, fees, act, possess, clause, 1968, applicant, ammunition, rifle, weapon, holder, possession, constable, application, renewal, shooting, officer

4. UK Media Topics

Crime/Gangs: crime, violence, gangs, violent, figures, offenses, gun, police, gang, drug, rise, crimes, knife, increase, cent, drugs, murder, murders, number, recorded, rate, capitalx, community, wales, incidents
Military 1: government, troops, forces, army, military, city, rebels, soldiers, armed, capital, 000, town, president, fighting, war, men, rifles, country, security, border, rebel, miles, yesterday, streets, thousands
Gun Laws: gun, guns, firearms, weapons, laws, ban, control, nra, shooting, legislation, checks, lobby, law, handguns, background, association, massacre, owners, shootings, rifle, ownership, amendment, weapon, obama, assault
Killings: shot, dead, shooting, police, killed, man, gunman, hospital, fired, car, died, shots, told, yesterday, killing, heard, family, injured, gun, murder, incident, shotgun, wounded, night, death
Courts: court, trial, judge, murder, jury, guilty, crown, case, jailed, told, prosecution, sentence, justice, convicted, prison, evidence, charges, accused, sentenced, appeal, qc, possessing, jail, admitted, charged
Military 2: army, soldiers, regiment, soldier, royal, military, battalion, defense, troops, officer, rifles, training, corporal, nationalx, gurkha, sergeant, forces, infantry, ministry, mod, 1st, colonel, commander, corps, force
Money: pounds, 000, company, market, cent, business, companies, money, industry, sales, dollar, sold, financial, price, homecountryx, sale, bank, trade, shares, pay, cost, worth, sell, buy, executive
Partisanship: government, minister, labor, party, parliamentx, prime, secretary, mps, tory, political, election, ministers, blair, leader, mp, public, conservative, homecountryx, policy, vote, tories, opposition, committee, cabinet, office
Terrorism: terrorist, attack, attacks, security, terrorism, police, paris, terror, islamic, french, terrorists, arrested, france, bomb, group, intelligence, authorities, suspected, officials, explosives, killed, suspects, muslim, suspect, islamist
IRA: ira, belfast, ulster, northern, sinn, fein, ruc, loyalist, homecountryx, republican, unionist, bomb, armagh, adams, arms, nationalx, provisional, gerry, republic, security, paramilitary, unionists, catholic, ceasefire, tyrone
US Politics: republican, clinton, trump, obama, president, republicans, campaign, presidential, democratic, senator, democrats, candidate, hillary, sanders, voters, election, donald, vote, candidates, senate, governor, state, white, bush, political
School Shootings: school, students, teacher, pupils, children, teachers, schools, parents, student, high, shooting, classroom, columbine, boy, massacre, pupil, shootings, education, university, boys, florida, campus, kids, college, parkland
Police: police, officers, armed, arrested, firearms, officer, capitalx, yesterday, yard, shotgun, robbery, raid, scotland, man, constable, men, car, detectives, chief, gang, operation, robbers, detective, metropolitan, pc

5. Canadian Parliament Topics

Argumentative: proven, modify, laws, punish, severely, existing, support, repeal, recreational, unenforceable, overly, improved, firearms, recognize, petitions, commission, complex, criminals, ineffective, safety, provisions, citizens, violent, code, protect
Anti-Regulation/Hunting: registry, long, wasteful, ineffective, farmers, hunters, criminals, cost, canadians, scrap, data, money, member, rural, conservative, liberal, register, liberals, crime, ndp, rid, officers, leader, dollars, waste
Sentencing: mandatory, minimum, sentences, crimes, liberal, crime, liberals, penalties, tough, minimums, prison, party, election, offences, sentence, tougher, offence, platform, violent, gang, opposition, related, double, sentencing, leader
Criminals: crime, offenders, victims, violent, communities, crimes, streets, safer, protect, sexual, canadians, justice, prevention, measures, youth, safety, tackling, offender, tough, safe, bail, young, commit, ensure, act
Women/École Polytechnique: women, violence, polytechnique, acole, killed, victims, massacre, montreal, december, 14, young, men, 1989, tragedy, day, woman, lives, murdered, remember, domestic, spousal, families,

society, action, children

Programs: program, auditor, public, safety, general, report, cost, costs, reports, plan, canadians, recommendations, hession, firearms, management, canadian, tabled, estimates, registration, proceeding, action, licensing, department, effective, information

Punishment: punishment, capital, murder, penalty, death, prison, sentence, parole, murderers, solicitor, deterrent, convicted, abolition, murders, life, criminal, society, murderer, imprisonment, crime, 1976, general, guards, rate, committed

Legislation: introduce, amend, leave, code, criminal, act, amendments, moved, printed, warren, deemed, omnibus, allmand, motions, private, adopted, east, read, law, sunset, provisions, legislation, section, robinson, respecting

Petitions/Constituents: petition, petitioners, present, petitions, parliament, signed, pray, madam, constituents, humbly, legislation, 36, signatures, behalf, undersigned, pursuant, firearms, laws, target, request, criminal, today, deals, citizens, order

Money: dollar, money, budget, tax, spending, dollars, care, health, cost, finance, taxes, 000, programs, economy, jobs, taxpayers, funding, economic, cut, program, debt, liberals, spend, pay, income

Military war, world, military, forces, canadian, defence, arms, veterans, soldiers, troops, weapons, rifles, international, affairs, armed, countries, equipment, hong, nations, kong, peacekeeping, winnipeg, men, allies, peace

Liecnsing/Registry: firearms, guns, owners, firearm, registration, weapons, handguns, registered, licence, safety, restricted, register, criminal, licensing, illegal, criminals, prohibited, hunting, crime, homicides, committed, weapon, safe, storage, police

Police: police, association, chiefs, officers, canadian, rcmp, associations, tool, registry, conservatives, forces, chief, toronto, times, president, officer, enforcement, 000, crime, support, law, victims, groups, street, tools

Quebec: bloc, quebec, qua, ba, cois, du, bec, quebeckers, des, conservatives, quebecois, assembly, registry, conservative, suicide, favor, fa, dawson, ration, da, national, femmes, sa, et, college

Provinces: provinces, provincial, federal, province, jurisdiction, quebec, saskatchewan, governments, alberta, manitoba, territories, court, attorneys, administration, constitution, data, ontario, constitutional, consultation, supreme, national, consulted, territorial, registration, proposals

Registry Results: rifles, shotguns, registration, hunting, weapons, homicides, register, registering, handguns, guns, firearms, sidearms, registered, long, shot, reduce, deaths, clear, 80, aimed, statistics, sniper, hand, result, spousal

Firearm Acquisition: acquisition, certificate, possession, certificates, firearms, ownership, purpose, legislation, relating, present, extend, firearm, stipulated, ammunition, apply, criteria, 1978, purchase, 1979, applicant, require, strict, screening, application, guns

6. Canadian Media Topics

Police Incidents 1: shot, police, man, hospital, fired, shooting, yesterday, val, shots, gunman, wounded, car, killed, condition, dead, shotgun, rifle, night, injured, incident, dateline, bullet, pm, apartment, suspect, woman, gun

Military 1: government, officials, military, yesterday, security, president, rebels, armed, forces, army, troops, capital, reported, guerrillas, foreign, united, official, rifles, 000, attack, minister, country, state, killed, group, leaders, authorities

Partisanship: liberal, liberals, minister, party, government, election, conservative, conservatives, prime, mps, parliamentx, leader, reform, harper, chretien, vote, political, mp, ndp, campaign, tories, tory, voters, nationalx, support, opposition, registry

Courts: court, trial, judge, murder, guilty, jury, crown, lawyer, sentence, justice, sentenced, case, accused, testified, evidence, convicted, defense, told, prison, pleaded, charges, supreme, charge, testimony, jail, lawyers, hearing

School Shootings: school, students, student, high, teacher, schools, columbine, shootings, shooting, teachers, boy, littleton, parents, youth, taber, massacre, colo, colorado, elementary, teen, grade, rampage, university, kids, children, class, classroom

Gang Crimes: violence, crime, toronto, gang, city, gangs, police, community, mayor, shootings, crimes, violent, gun, homicide, chief, homicides, officers, street, youth, victims, neighborhoods, drug, cent, streets, rate, blair, shooting

Gun Types/Registry: gun, firearms, guns, weapons, control, handguns, owners, legislation, laws, registry, law, registration, ban, homecountryx, firearm, handgun, registered, association, nationalx, rifles, dateline, shotguns, ammunition, capitalx, register, weapon, lobby

Police Incidents 2: constable, officer, officers, police, inquest, revolver, policeman, force, ontario, coroner, testified, opp, provincial, investigation, inquiry, chief, metro, told, shooting, service, shot, unit, sgt, car, jury, suspect, policemen

Manufacturing: company, dollar, cent, companies, market, incorporated, business, industry, sales, stock, corp, financial, shares, homecountryx, 000, investors, investment, nationalx, price, money, buy, management, share, sell, deal, markets, firm

Robbery: robbery, bank, robbers, store, robbed, armed, men, robberies, holdup, robber, cash, dollar, police, jewelry, branch, money, stolen, toronto, shotgun, bandits, car, 000, fled, thieves, employees, escaped, guard

Military 2: soldiers, military, war, army, troops, soldier, nationalx, forces, regiment, battle, iraq, iraqi, combat, infantry, homecountryx, commander, battalion, rifles, royal, defense, training, officer, unit, enemy, canadians, force, command

Drugs/Police: charged, police, charges, arrested, possession, seized, toronto, weapons, metro, man, weapon, firearm, ammunition, stolen, investigation, yesterday, ontario, arrest, regional, assault, cocaine, drug, faces, loaded, provincial, counts, court

Hunting: hunting, hunters, hunt, deer, wildlife, animals, hunter, ontario, animal, conservation, fish, natural, birds, season, seal, area, seals, ministry, herd, moose, resources, bear, inuit, caribou, population, fishing, meat

US Politics: republican, clinton, republicans, president, democrats, bush, obama, presidential, democratic, campaign, senator, senate, election, vote, states, political, voters, candidate, state, americans, party, governor, candidates, trump, house, reagan, united

Montreal: montreal, quebec, pq, cp, homecountryx, provincial, police, dateline, pierre, laval, lepine, polytechnique, jacques, women, nationalx, marc, michel, andre, claude, du, École, city, angels, st, jean, serge, Mohawk

Appendix C: Graphs

The graphs in this section display the major frames that were salient in the five years before and after major mass shootings in each country. Here, as described in the Analysis and Findings section, salience is measured by the total weight of these frames as a percent of the total weight of gun-related frames in each corpora. We can see the salience of each frame change over time, and I will take a closer look at the country level data. For each country, there were many similarities in the most salient topics, with Partisanship, Gun Control/Laws, Tragedy, Military, and the Police showing up in some capacity. It is worth noting that these graphs do not indicate changes in salience that were statistically significant; they do, however, provide a visualization of the notable differences directly before and after shootings. The colors are coordinated across graphs to make visual comparison easier.

United States Frames over Time

In the United States House of Representatives, we can see some very stark changes in frame salience in the years leading up to the Columbine shooting and in the years after. Most noticeably, Background Checks were extremely salient in 1995, due to the fact that both the Brady Handgun Violence Prevention Act and the Federal Assault Weapons ban (passed in 1993 and 1994, respectively) were being implemented at the national level. We see a steep decline in its salience after 1996, even after the Columbine shooting, and becomes statistically less significant in the five years after. We see Law Enforcement and Budget spike after 1996, and Hunting also becomes more salient. Gun legislation in general is minimally salient between 1999 and 2004.
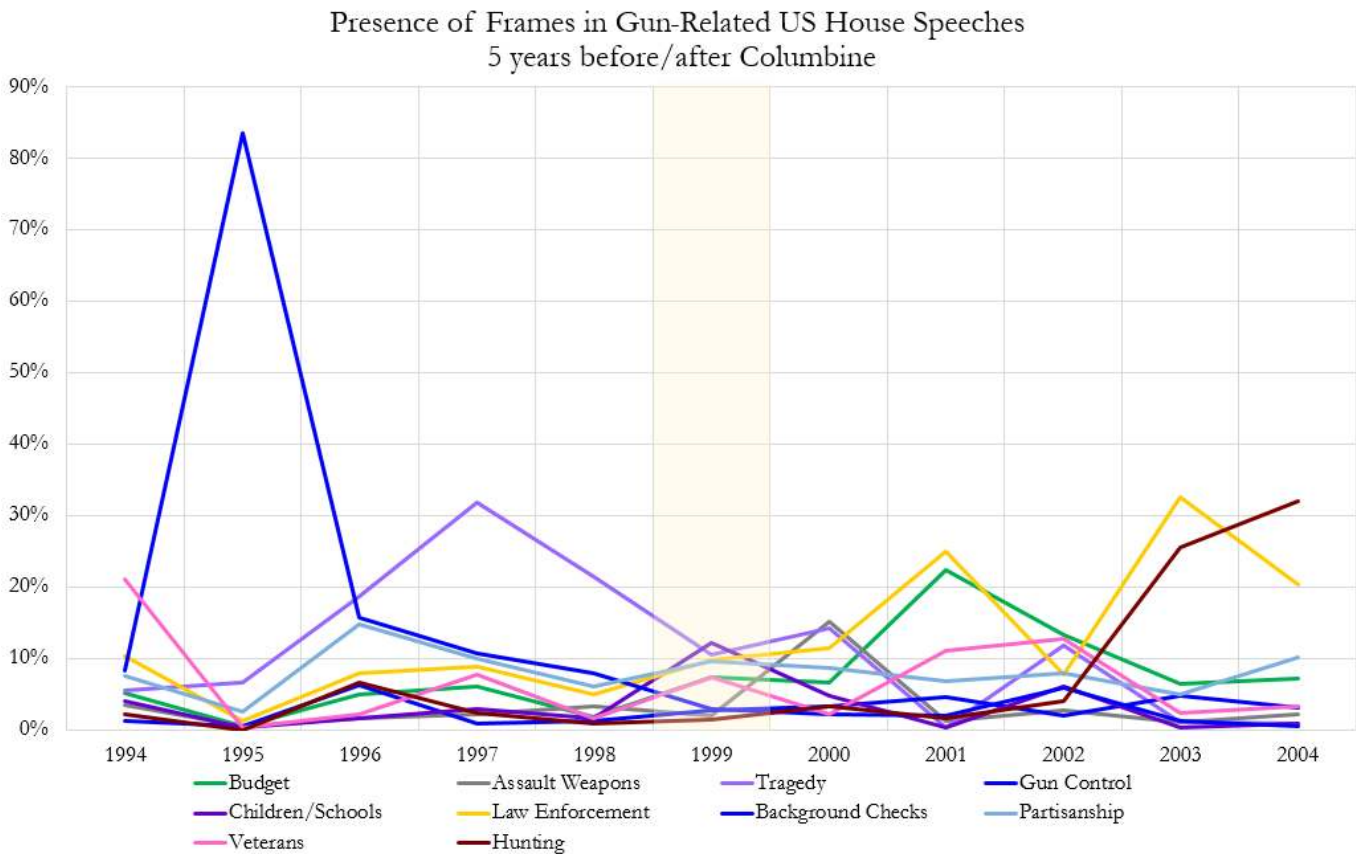
Figure 1: US House Speeches frames before/after Columbine - with Background Checks frame

48
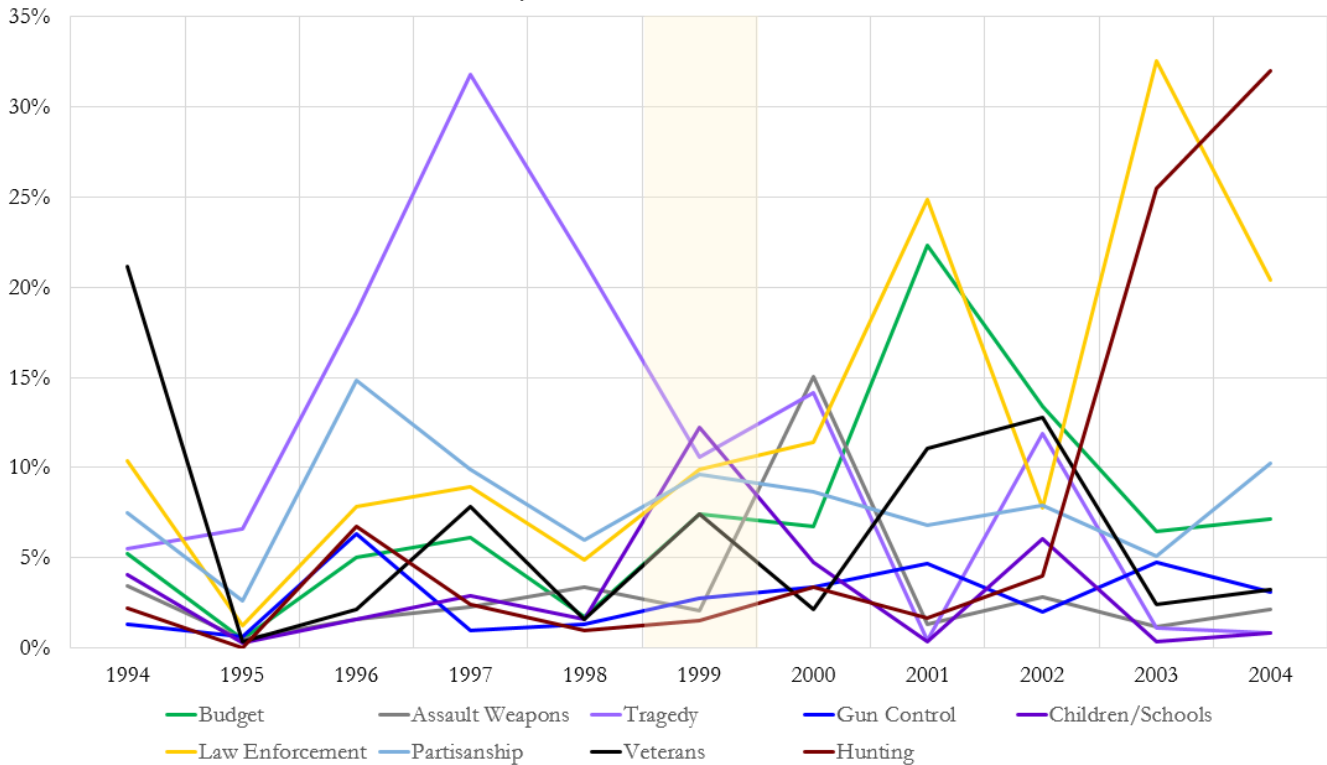
Figure 2: US House Speeches frames before/after Columbine - without Background Checks frame

This graph provides a closer look at the same data without the Background Checks frame. Now we can see more easily the changes in frames. Tragedy was high in 1997, likely because of the wave of school shootings that had crossed the country and the growing awareness of the mortality rate of young people as a result of gun violence. This frame actually decreases distinctly after 1999. We see Hunting and Law Enforcement become the most salient frames around the gun debate in the House by the early 2000s, with little attention being paid toward laws or tragedy.

Presence of Frames in American Gun-Related Media
5 years before/after Columbine
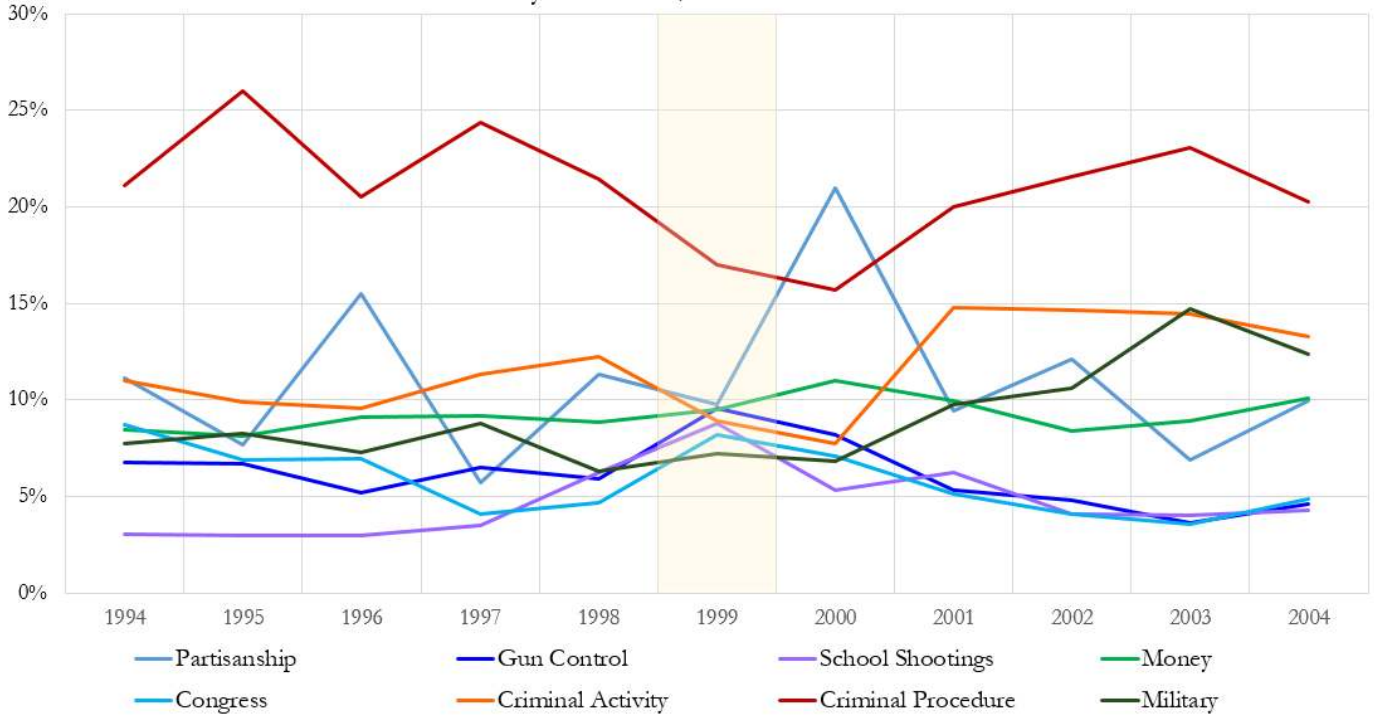
Figure 3: US Media frames before/after Columbine

In the American media, we can see a few notable changes in frame salience after Columbine. Most frames have topic weights between 5% and 15%, with Criminal Procedure being an exception. It was likely more salient because newspapers report on crime and the processes that follow them. After 1999, we see Partisanship spike, which is likely due to the political and politicized reactions to the shooting. We also see Criminal Activity and Criminal Procedure increase slightly. School Shootings become slightly more visible in the aftermath of Columbine, and Military also increases toward 2004 (likely due to the Iraq War).
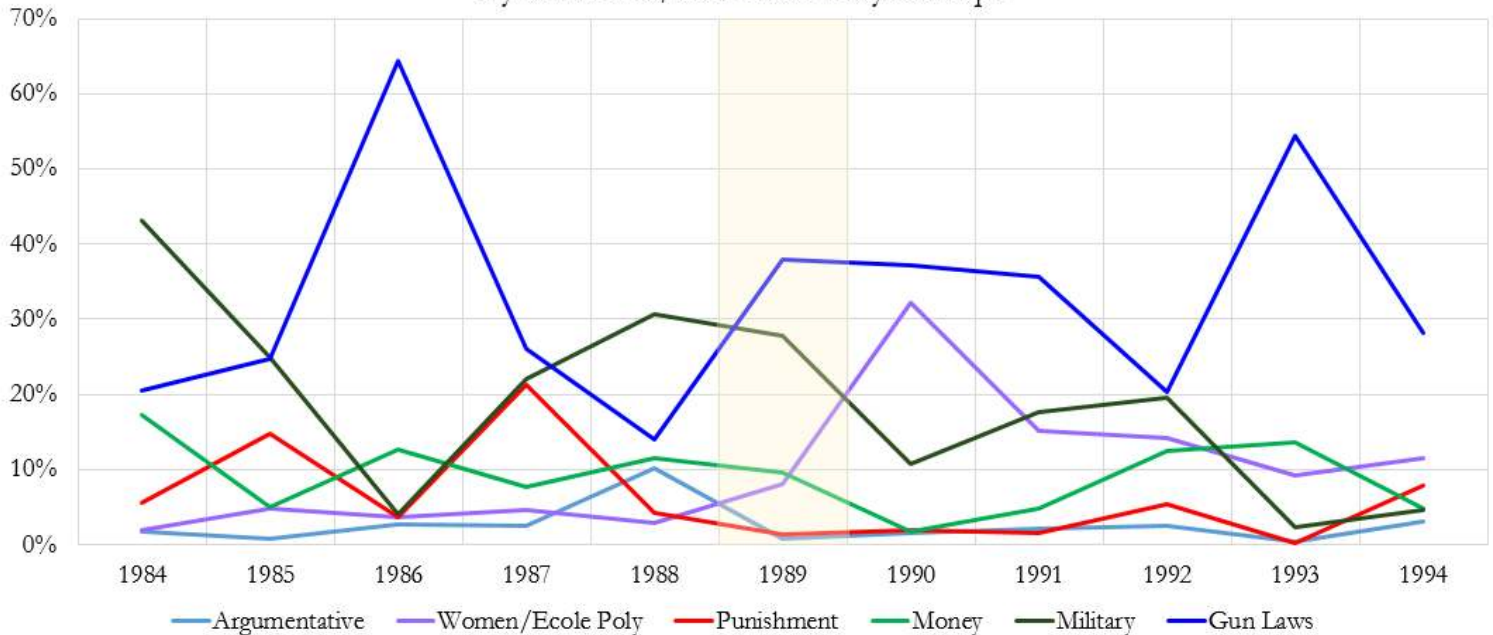
Canadian Frames over Time

Figure 4: Canadian Parliament Speeches frames before/after École Polytechnique

The changes in the Canadian Parliament are not as dramatic as they were in the United Kingdom, but we can see that Gun Laws are the most salient frame in gun-related debates, which indicates that it was of great import to the issue in Canada. After looking at the 1986 debates, I determined that Gun Laws were salient in that year due to the discussion of updating the firearm control provisions in the Criminal Code (the classification of weapons was being debated). We see Gun Laws become more salient the year of the shooting, and again in the early 1990s, which is likely due to the formation and passing of C-17, which updated background check laws, waiting periods, weapon classification, weapon storage and handling, and penalties. Women become more salient due to the fact that the École Polytechnique shooting targeted female students.

Presence of Frames in Canadian Gun-Related Media
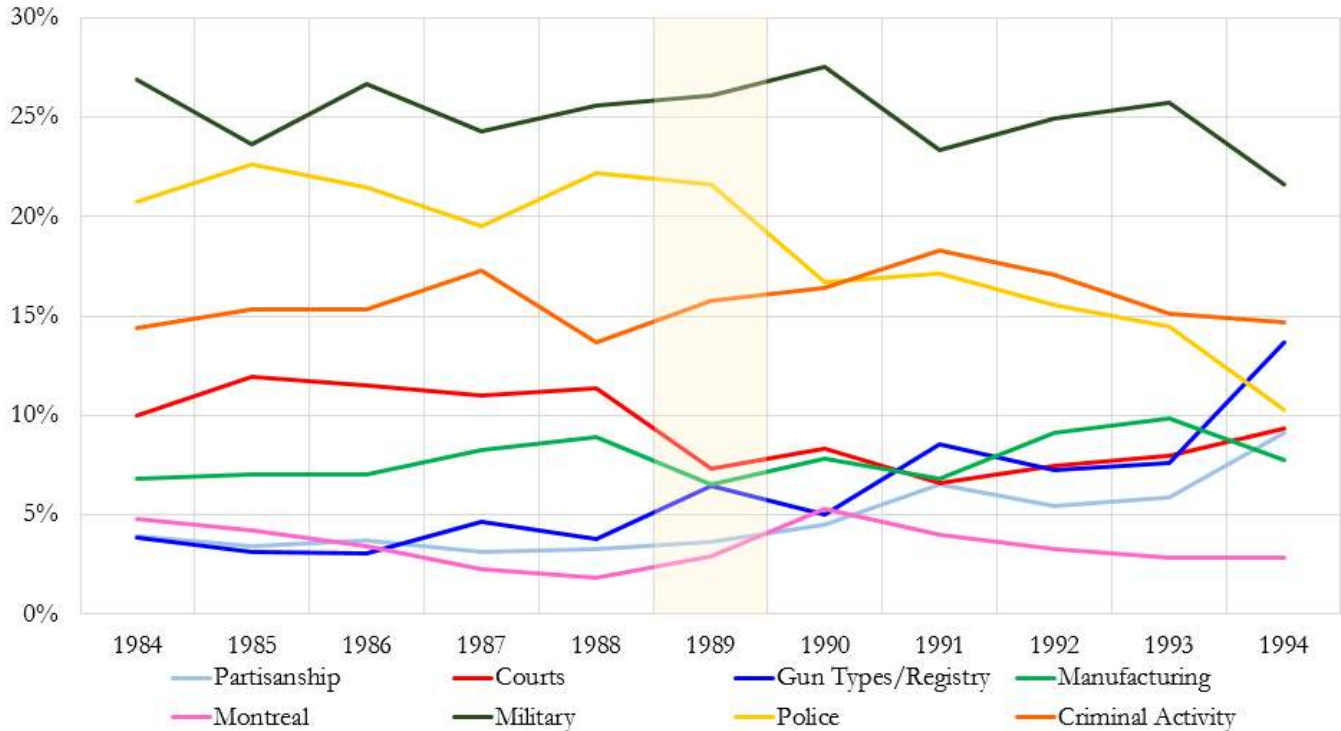5 years before/after Ecole Polytechnique

Figure 5: Canadian Media frames before/after École Polytechnique

In the Canadian media, we can see that the level of salience for most of the primary frames remains quite steady over time. The Gun Types/Registry increases substantially after 1989, however, and we see that it continues to climb into the early 1990s. At the same time, Police become less salient as a media frame around guns. These are the two major notable changes, and indicate a slight shift in focus from law enforcement to the laws themselves in the aftermath of the shooting.

United Kingdom Frames over Time

Presence of Frameworks in British Parliament Gun-Related Speeches
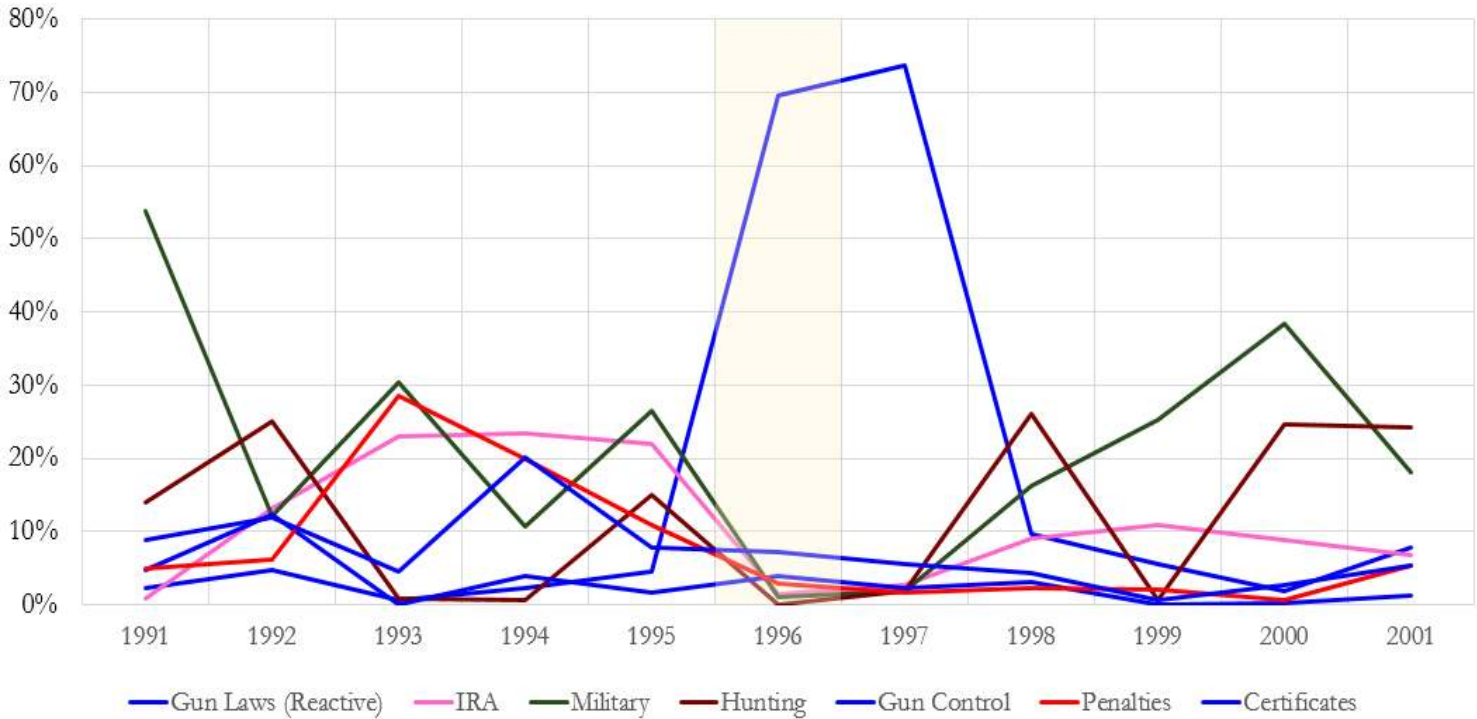5 years before/after Dunblane

Figure 6: British Parliament Speeches frames before/after Dunblane

This graph shows a very clear picture of the nature of the gun debates in the United Kingdom following the Dunblane shooting in 1996. In the years prior to the shooting, the major frames used were Military, Hunting, the IRA, and Penalties. The rest of the frames depicted have to do with gun laws, and were not as salient prior to 1996 as the others. In 1996 and until 1998, every previously salient frame dropped to almost a zero presence in the Parliamentary debates, with Gun Laws (Reactive) spiking to make up a vast majority of debates. After 1998, we see gun laws take a backseat once more, after the Firearms (Amendment) (No. 2) Act 1997 was passed, and Military and Hunting resume their earlier presence. This is starkly contrasted with the reaction of the American legislature, as the clear focus of gun debates after the shooting was gun legislation and no other frames.
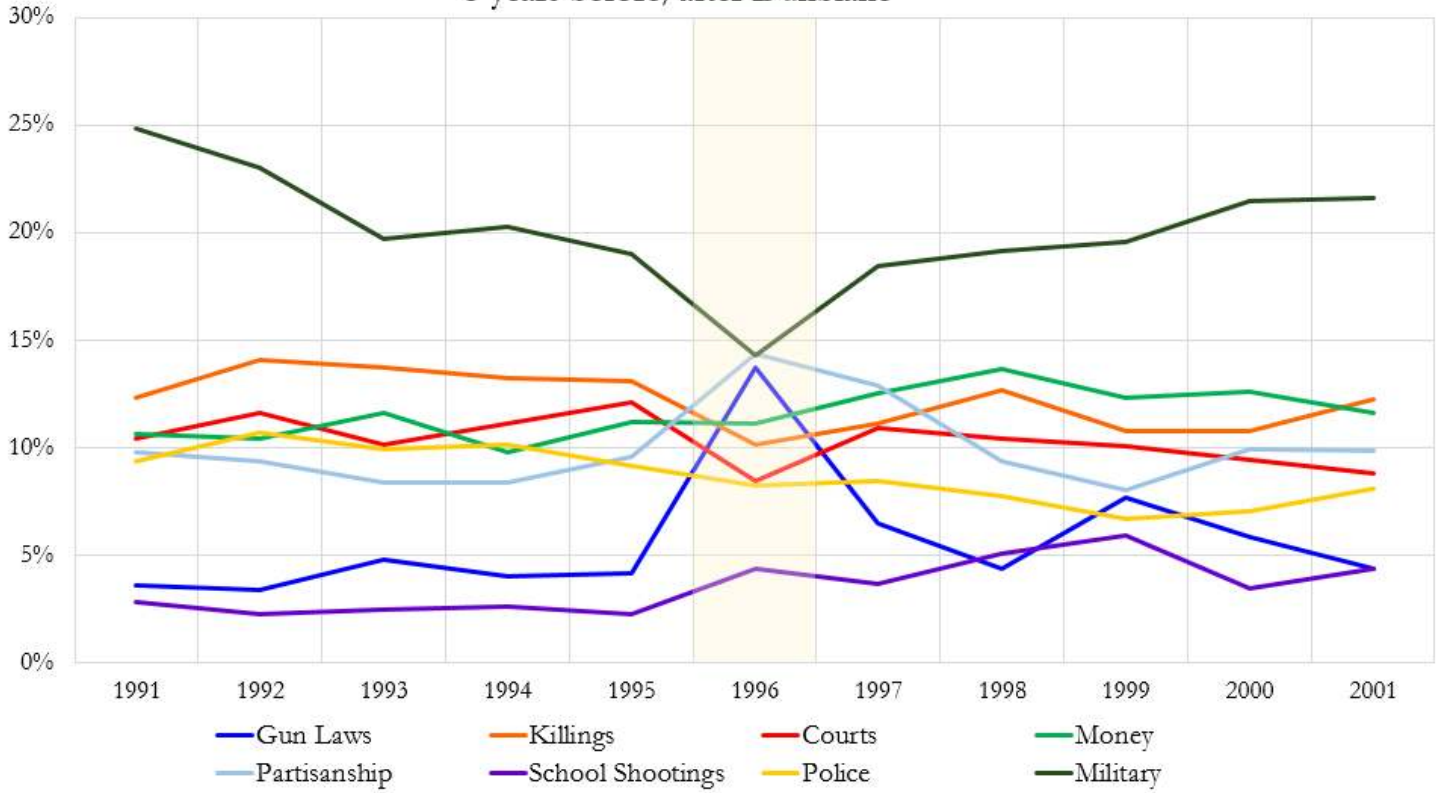
Figure 7: British Media frames before/after Dunblane

Similar to the Parliament, we see a very distinct change in frame salience in 1996. The Military was the most salient topic until 1996, where we see it decrease. At the same time, Partisanship and Gun Laws spike, which is likely a reflection of the political processes occurring at the same time. After the laws are passed, we see these topics reduce once more.