
The Threat from Within: A Conjunctive Analysis of Domestic Terrorism Incidents in the United States, United Kingdom, and Ireland

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Abstract

This study examines outcomes of domestic terrorism incidents to determine if similarities exist within or between the United States, United Kingdom, and Ireland based on four perpetrator types: right-wing, left-wing, nationalist/ separatist, and single issue. We used data from the Global Terrorism Database to examine key characteristics of domestic terrorism incidents including perpetrator, target, attack, and weapon types and their relationship to incident outcomes. We identified dominant configurations of these key incident characteristics using conjunctive analysis of case configurations and used those configurations to determine if similarities existed between dominant configurations for each perpetrator type both within and between countries. Our analysis identifies the characteristics most prevalent in configurations resulting in property damage, injuries or fatalities, and successful attacks. Although differences exist in each country's experiences with domestic terrorism, the results of our analysis reveal several similarities between the incidents attributed to the perpetrator types in each country, including the targets, attack types, and weapons used. The results of this study suggest future comparative research is required to identify the causes and consequences of these similarities in each country.

Keywords: Domestic Terrorism; Conjunctive Analysis; Terrorism; Global Terrorism Database; Cross-National Comparison

Introduction

While recent international terrorism attacks in the United States and United Kingdom have led to increased levels of terrorism related research in both countries, less attention has been directed at domestic terrorism. Similar to the countries' shared experiences with international terrorism, the United States and United Kingdom have long histories of domestic terrorism involving similar perpetrator types. Centered on the prolonged conflict in Northern Ireland, any discussion of domestic terrorism in the United Kingdom must also include a discussion of domestic terrorism in Ireland and their shared history related to domestic terrorism.[1]

This study examines the characteristics of domestic terrorism incidents within and between the United States, United Kingdom, and Ireland. Due to the limited comparative research on this topic, our primary aim is to develop initial observations of key similarities and differences within and between the countries and to demonstrate the value of conjunctive analysis as a method for studying incidents of terrorism. Utilizing existing open source data and conjunctive analysis, we identify dominant configurations of several key characteristics of domestic terrorism incidents and how those configurations relate to the outcomes of these incidents. Using target type, attack type, and weapon type we identify which configurations are most commonly associated with four prominent perpetrator types: right-wing, left-wing, nationalist/separatist, and single issue. Once we identify dominant configurations based on perpetrator type, we examine the relationship between those configurations and the outcomes of terrorist incidents including fatalities and injuries, damage, and success.

Our study contributes to the literature on domestic terrorism in two significant ways. First, it adds to the limited existing comparative literature on domestic terrorism by providing a comparison of incidents between the United States, United Kingdom, and Ireland. Second, it provides the first use of conjunctive analysis to examine incidents of domestic terrorism. Conjunctive analysis provides a novel approach to examining terrorist incidents as a whole by examining configurations of multiple key characteristics and how those configurations relate to incident outcomes.

Literature Review

Four Main Perpetrator Types

Right-wing, left-wing, nationalist/separatist, and single issue domestic terrorist groups have represented the primary forms of domestic terrorism in the United States, United Kingdom, and Ireland since the 1950s.[2] Although the causes and issues that drive these groups are not universal, corresponding perpetrator types in each country share ideological similarities that may influence their activities.

Right-wing terrorist groups have a diverse range of ideologies that can be described as religiously, racially, or politically motivated. Smith found that in the United States the majority of these groups demonstrated characteristics related to the Christian Identity Movement, specifically the belief that Aryans are God's chosen people.[3] Other groups, including those in the militia and patriot movements, demonstrate a strong antigovernment sentiment. The United States has also faced attacks by groups and individuals from the antiabortion movement. In the United Kingdom, right-wing groups have most frequently been associated with white supremacy movements.

Left-wing terrorist groups are often driven by an ideology that is politically focused and that can be best described as Marxist-Leninist. For left-wing terrorists, the core goals of their operations frequently involve efforts directed at a regime change, an opposition to capitalism, and a desire for social justice.[5] Left-wing terrorism in the United States is best represented by the activities of revolutionary groups like the Weather Underground, whose attacks reached their height in the early 1970s.[6] Research on domestic terrorism in Western Europe found left-wing terrorism to account for approximately 9% of incidents in the region from 1950 to 2004.[7] Previous research utilizing an early version of the GTD to study the social origins of left-wing terrorism identified only two left-wing groups that were known to operate in the United Kingdom between 1970 and 2007: the Angry Brigades and Black Liberation Front.[8]

Nationalist/separatist terrorism often involves groups that are driven by a pursuit for independence or greater autonomy from an existing territory.[9]. The conflicts in which they engage are often directed at the state and its representatives. Nationalist/separatist groups seek independence or liberation by inflicting damage on those in power in an effort to force them to withdraw or make concessions.[10]. While violence is a central tactic for these groups, they are likely to attempt to limit innocent civilian casualties because they seek, at some level, to attract followers and gain public support. In the late 1960s and lasting until the 1980s, the United States faced its most significant threat from nationalist/separatist terrorism in the form of Puerto Rican groups pursuing independence from the United States.[11] The conflict in Northern Ireland provides the United Kingdom and Ireland with their primary source of nationalist/separatist terrorism. The modern conflict can be traced back to the 1950s, but the origins of the conflict date to the 1500s. The conflict resulted in acts of terror committed by supporters on both sides under the banner of the Provisional Irish Republican Army (PIRA), the Ulster Volunteer Force (UVF), and numerous splinter groups that originated from or claimed to be connected to the PIRA and UVF.[12]

Single issue terrorism is best characterized as attacks carried out by groups focused on a single specific policy or issue within a society. While single issue terrorist groups tend to develop and dissipate in conjunction with

a central issue, some broader issues have influenced the development of groups that have maintained prolonged operational campaigns. A significant number of these attacks were attributed to groups motivated by environmental and animal rights issues. In the past, environmental terrorist groups cited pollution and deforestation as central issues motivating their attacks. Terrorist groups related to the animal rights movement are best characterized as groups that believe animals have similar or equal rights to humans, including the “right to life and freedom from pain and suffering.”[13] Environmental and animal rights groups are known to have operated in both the United States and United Kingdom. The Earth Liberation Front (ELF) originally developed in the United Kingdom in 1992. By 1996 perpetrators in the United States began identifying themselves as being associated with the ELF. At one point, the ELF was identified as the number one domestic terrorism threat in the United States by leaders of the FBI.[14] . The Animal Liberation Front (ALF) was founded in the United Kingdom during the 1970s before expanding to the United States.[15]

The Role of Perpetrator Type in Terrorism

While there has been limited comparative research on domestic terrorism, past research on terrorism provides some guidance on which characteristics may play an important role in influencing the outcomes of terrorism incidents, including types of perpetrators, attacks, targets, and weapons. The ideology of a terrorist group can influence how it assigns blame for the issues with which the group is concerned, which targets are relevant and worth attacking, and if the use of violence is acceptable.[16] As a result, ideology can impact perpetrators’ actions, the targets they select, and the tactics they employ. Previous research also suggests similar perpetrator types will select similar targets, employ like attack types, and use comparable weapons, which is why we base our analysis on perpetrator type.[17] Because the right-wing, left-wing, single issue, and national/separatist perpetrator types are present in both the United States and the United Kingdom, and national/separatist are also present in Ireland, it is likely characteristics influenced by ideology will have some similarity between like perpetrator types operating in each country. Each country’s experience with domestic terrorism, and the similarities that exist between the perpetrator types that have threatened the countries, provide the basis for comparing domestic terrorism incidents within and between countries.

Target Selection

Target selection is a crucial step in a perpetrator’s decision to carry out a terrorist attack, and one that is influenced by ideology. The identification of a worthy target and the justification for attacking that target are often driven by the ideology of the perpetrator[18]. Examinations of the relationship between ideology and target selection have shown that different perpetrator types select different targets based on their ideology. [19] Past research has also revealed that the ideology of a terrorist group plays a role in the decision to target civilians.[20]

Right-wing groups concerned with religious, political, or racial issues that they perceive as threats have historically targeted those they feel are responsible for the threat. This includes civilians, government officials, and locations where these individuals spend time.[21] Left-wing terrorists, often concerned with political change, have focused the majority of their attacks on the government in power or symbols of the government’s authority.[22] Nationalist/separatist perpetrators concerned with establishing independence or separating from an existing government have carried out attacks against rival groups as well as government, law enforcement, and military targets more than businesses or educational institutions groups in each country. [23] Single issue perpetrators in the United States and the United Kingdom, the most prominent of which are the Earth Liberation Front and the Animal Liberation Front, have attacked similar targets including businesses and educational institutions rather than military or law enforcement targets.[24]

Attack Type

The existing research on terrorist attack types suggests that ideology can play an important role in the type of attack carried out by a perpetrator. In the United States, right-wing perpetrators have frequently targeted those they perceive as responsible for threats related to religious, political, or racial issues. Right-wing perpetrators have employed attack types that are likely to inflict harm against individuals or locations that they frequent including armed assaults, bombing/explosion attacks, and facility/infrastructure attacks.[25] Unlike the United Kingdom or Ireland, the United States has experienced a large number of anti-abortion related attacks including armed assaults, bombing/explosion attacks, and facility/infrastructure attacks.[26] The United Kingdom and Ireland's differing experiences with anti-abortion related terrorism may be the result of their existing abortion laws. The United Kingdom has less restrictive laws than other countries in the region, except in Northern Ireland where abortion is banned.[27]. Ireland had a constitutional ban on most abortions until a 2018 vote repealing the ban signaled a change for the country.[28]

In the United States, left-wing perpetrators have historically carried out attacks that have been less lethal than right-wing perpetrators.[29]. The focus on political change has resulted in numerous bombing/explosion attacks and facility/infrastructure attacks that were not intended to kill. These attacks were often meant to send a message while limiting fatalities.

Nationalist/separatist perpetrators in each country have historically carried out attacks targeting government targets, individuals associated with a ruling government, and representatives of government authority including law enforcement and military targets. The attack types employed in these incidents have often been those with the potential to cause harm to life or disrupt the operations of the government. These attack types included assassinations, armed assaults, bombing/explosive attacks, facility/infrastructure attacks, and hostage taking.

[30]

Single issue perpetrators have historically carried out attacks with little loss of life. While some groups may be willing to accept the loss of life as collateral damage, most do not employ attack types intended to kill potential victims.[31]. Attacks intended to disrupt normal operations are often used to target businesses, educational institutions, and individuals associated with both. The attack type most commonly employed by single issue perpetrators in the United States and United Kingdom is facility/infrastructure attacks.[32]

Weapon Choice

Variation among the preferred weapon types of each perpetrator type may exist based on the targets they select and their willingness to use violence. Previous research suggests that all four perpetrator types will rely on similar conventional weapons including firearms, explosives, and incendiary devices that have been historically used in other forms of terrorism.[33] Despite past calls for concern about the potential for terrorist groups to employ chemical, biological, radioactive, or nuclear weapons (CBRN), their use has not become widespread.[34] The accessibility and ease of use associated with conventional weapons are likely to make them the preferred weapon types of domestic terrorists. One way in which weapon selection may differ between the countries is in the use of firearms. In 1997, the United Kingdom implemented restrictive gun regulations that may make it more difficult for a perpetrator to acquire and utilize a firearm.[35] Similar restrictive gun regulations are not in place in the United States and Ireland.

Outcomes of Terrorist Incidents

At the international level, researchers have examined the relationship between perpetrator type and the outcomes of terrorism incidents. Masters examined the role that perpetrator type played in the casualty rates

of domestic and international terrorism from 1979-2005 for several perpetrator types including right-wing perpetrators, left-wing perpetrators, ethno-national perpetrators, and combinations of each.[36] In his examination of 1473 incidents, he found that all forms of terrorism had become more violent during the period examined. The results of his analysis indicated that the combination of right-wing and religious ethno-national terrorism was the most violent during the period examined.[37] Asal and Rethemeyer argued that ideology may also reveal which perpetrator types are less likely to use lethal force.[38] They found terrorism incidents attributed to leftwing, anarchists, and environmental focused perpetrators were much less likely to result in fatalities than those attributed to perpetrators with religious ideologies.[39]

Using Conjunctive Analysis to Examine Incident Level Data

In this study we utilize conjunctive analysis to determine what configurations of incident characteristics are most prominent, based on perpetrator type and how those configurations relate to incident outcomes. Conjunctive analysis is designed to examine how a set of characteristics is related when studied at the incident level, for example when examining incident characteristics of criminal events. Developed by Miethe, Hart, and Regocz, conjunctive analysis of case configurations can be used to explore relationships between categorical variables and builds upon qualitative comparative analysis (QCA), an approach that focuses on the configurations of components at a case level.[40]

Conjunctive analysis is based on aggregating observations with shared attributes to create counts for each possible configuration of the observed attributes. This approach helps reveal the diversity between combinations of characteristics and the prominence of specific characteristics.[41] This method builds upon existing forms of multivariate analysis and has been used in the past to examine incarceration risks, violence against college students, lethal outcomes of sexual assaults, and self-defensive gun use by crime victims.[42] For example, Miethe and Sousa examined risk factors related to carjacking and the potential outcomes. Police accounts of carjacking incidents were used to examine the outcomes of the incidents based on configurations of key characteristics.[43] They ranked configurations based on their risk of resulting in a completed carjacking, victims being injured, and a 'best case' scenario in which no injury occurred and the carjacking was not completed.[44]

While existing research has examined the relationship between terrorism incident characteristics and outcomes, our study represents one of the first analyses to utilize conjunctive analysis in terrorism research and the first to examine domestic terrorism. This approach provides a compelling new perspective from which to understand terrorism incidents. Conjunctive analysis allows for the examination of the combination of multiple incident level characteristics, including those related to the perpetrator, the victim, and the attack itself. Considering the relationship between multiple characteristics at the incident level improves upon past research by providing an analysis of incidents as a whole. Other areas of criminal justice research have successfully employed conjunctive analysis to examine the relationship between multiple incident level characteristics. It is this capability that makes conjunctive analysis well suited for examining incidents of domestic terrorism because it can help identify key incident characteristics, their relationship with each other, and the frequency in which they are included in dominant configurations. The results of this analysis can provide new insight into domestic terrorism, including which combinations of characteristics are most likely to result in injuries or fatalities, damage to property, or successful attacks.

Our study addresses four research questions:

- RQ1: What are the most dominant configurations of characteristics of domestic terrorism incidents within the United States and within the United Kingdom and Ireland?
- RQ2: Are there similarities in the dominant configurations of characteristics between each of the perpetrator types within the United States and within the United Kingdom and Ireland?
- RQ3: Are there similarities between the United States and the United Kingdom and Ireland in the dominant configurations of characteristics between the same perpetrator types?
- RQ4: Are there characteristics that are more prevalent in configurations that result in property damage, injuries or fatalities, or successful attacks?

Methods

The Global Terrorism Database

The Global Terrorism Database (GTD) is a major open source data set that researchers frequently employ to examine domestic and international terrorism. We used the GTD (Version: 8/14), created and maintained by The National Consortium for the Study of Terrorism and Responses to Terrorism (START), in the current analysis to examine incident level domestic terrorism data for each country from 1970 through 2013.[45] The GTD provides consistent coding, clear definitions, and systematic data collection for domestic terrorism incidents in the United States, the United Kingdom, and Ireland. Included in the data set is information on over 120,000 domestic and international terrorism incidents that occurred between 1970 and 2013. The GTD includes data on perpetrators, target types, attack types, and weapons used.[46]

Before discussing the strengths of the GTD, there are limitations that we must note. First, open source data sources may exclude a potential incident from the data set either because of a lack of publicly available information or potential errors in human coding. Open source data sets also face the challenge of incomplete or missing data. In cases where accounts presented by the media or other open sources do not identify a perpetrator or lack specific details, data related to that incident may be incomplete. Although data collection has improved with the availability of online news media, reducing the potential for incomplete data or missing events, the information available on older incidents is limited by the coverage offered in existing datasets or archived data. While these limitations are inherent to open source data, the GTD offers the most comprehensive data set that includes countries from around the world.

There are four key strengths to the GTD that make it the appropriate data source for this project. First, it is a comprehensive data set that includes data for the United States, the United Kingdom, and Ireland. Second, although the GTD was constructed by integrating several smaller data sets, the entire data set has been reviewed and recoded to ensure the consistency and reliability of the data. Third, the inclusion criteria used to determine whether or not an incident qualifies for the data set is based on a comprehensive definition of terrorism and the presence of at least two of three additional characteristics. This is beneficial for comparisons as incidents recorded in different countries have been evaluated by the same criteria prior to inclusion in the database. Fourth, the database contains incident level data. Using this type of data helps capture a more complete set of characteristics related to terrorist incidents than victim level data. Incident level data also includes information necessary to determine perpetrator type.

Coding the Data

We separated international and domestic terrorism incidents for the United States, the United Kingdom, and Ireland into two groups. The GTD contains data on over 2,500 terrorism incidents in the United States and 4,500 terrorism incidents in the United Kingdom and Ireland.[47] Similar to Enders et al., we used a three-step approach to classify each incident.[48] First, we classified and removed cases in which the targets were identified as foreign missions, foreign diplomatic targets, or international entities as international terrorism. Second, we classified and removed incidents that originated from or were perpetrated by recognized international terrorist groups as international terrorism. Third, we classified incidents that originated in one country and concluded in another as international terrorism, except for incidents perpetrated by nationalist/separatist operating in the United Kingdom and Ireland.[49]

The conflict in Northern Ireland presented a unique challenge because it impacted both the United Kingdom and Ireland, and the attacks related to the conflict are considered domestic terrorism. For this reason, we chose to include domestic terrorism data from Ireland in our analysis of the United Kingdom. The GTD has data on 212 terrorism incidents in Ireland between 1970 and 2013, of which 130 are attributed to groups identified as nationalist/separatist. The remaining attacks are not attributed to perpetrator types examined in this project and therefore do not impact the analysis related to incidents categorized as right-wing, left-wing, or single issue. Because our project focuses on perpetrator type, and the groups responsible for these attacks were also responsible for attacks in the United Kingdom, we chose to include these cases in our analysis.

We removed cases with incomplete or missing data related to the perpetrator type or target from the final data set. We also excluded incidents not attributed to groups and those carried out by unaffiliated individuals or unknown perpetrators because there was insufficient data to classify them. This resulted in the loss of some data, particularly from lone wolves whose ideology and motives could not be determined consistently based on available data. We excluded data from 1993 because they are missing from the GTD data set. START acknowledges that the data were lost prior to combining with the PGIS to create the GTD.[50] Other studies attempted to recreate these data or included estimations based on other data sources. We chose to exclude 1993 from our analysis because alternative methods of replacing the data, including estimations based on other data sources, would not include information consistent with the rest of the characteristics being analyzed.

There were 1,503 incidents in the United States and 4,112 incidents in the United Kingdom and Ireland that fit the criteria for inclusion. We assigned perpetrator types to each of the incidents based on identified perpetrator groups. We coded incidents as right-wing, left-wing, nationalist/separatist, and single issue. The four perpetrator types were based on the groups' ideology. We gathered information on the ideologies of the groups in the database from their START Terrorist Organization Profiles, reviews of open source documents related to the groups, and Hewitt's chronology of terrorism in America.[51]

We examined five characteristics for each incident: perpetrator type, target type, attack type, weapon type, and damage. Perpetrator information included the name of the perpetrator group and the distribution of incidents from 1970 to 2013 for each perpetrator type. Table 1(p.11) shows the 22 categories of target types including businesses, government, private citizens, educational institutions, and police. Table 2 (p.13) displays the nine attack types that include assassination, armed assault, bombing, and facility/infrastructure attacks. Table 3 (p.14) presents the 13 weapon types and their respective weapon sub-types, including chemical weapons, biological weapons, firearms, incendiary devices, and explosives. We included data on weapon sub-types as it provides a specific description of the weapon if available. For example, the weapon type "firearms" could include the sub-types automatic weapon, handgun, rifle/shotgun, or unknown gun type. Damage included information on fatalities, injuries, property damage. Each of these categories revealed important information about the incidents themselves and the groups involved.

We used three dependent variables in the conjunctive analysis. The first, property damage, is a dichotomous variable coded as one if property damage was attributed to an incident. We coded incidents in which data were missing as no reported damage. The second, confirmed injuries or fatalities, is a dichotomous variable coded as one if injuries and/or fatalities were attributed to the incident. For incidents with missing data, we coded the incidents as no attributed injuries or fatalities. We made the decision to code missing data for both of these variables as not present after closely examining the incidents with missing data. In the limited cases in which information was absent for one of the three variables, it was often present for one of the others. This suggests the original coder entered data for cases in which damage, injury, or fatalities were present and left the others blank.

Table 1: Global Terrorism Database Variables & Inclusion Criteria – Target Type (2014)

Target Type	
Abortion Related	Includes attacks on abortion clinics, employees, customers, and onsite security.
Airports & Airlines	Includes attacks on airplanes and airports. This does not include attacks using airplanes as kinetic weapons.
Business	Includes attacks on individuals or organizations that are involved in commercial activities. These attacks include customers who are frequenting a business when it is attacked, cooperate employees who are targeted because of their affiliation with a company, and hospitals.
Educational Institution	Includes attacks on schools and universities. This also includes incidents in which students and employees are attacked while at schools and universities.
Food or Water Supply	Includes attacks on food or water supplies.
Government (Diplomatic)	This includes attacks on facilities and employees of foreign missions, embassies, and consulates.
Government (General)	Includes attacks on government buildings, current and former representatives, political parties, political events, and other targets where the intent of the attack is to harm the government. Also included in these attacks are judges, courts, political leaders, intelligence agencies and their agents, and government employees excluding the military or police.
Journalists & Media	Includes attacks on individuals involved with reporting as well as attacks on media headquarters.
Maritime (Including Ports and Maritime Facilities)	Includes attacks on civilian maritime targets including ships, facilities, and ports.
Military	Includes attacks against military units and property.
NGO	Includes attacks on the operations, facilities, and employees of non-governmental organizations (NGOs).
Other	Includes attacks that do not fall into the other categories.

Police	Includes attacks on members of law enforcement and related buildings, vehicles, and other property. This category also includes attacks on jails or prisons and their staffs as well as private security.
Private Citizens & Property	Includes attacks on individuals in public areas. This does not include attacks on individuals classified in other categories.
Religious Figures/ Institutions	Includes attacks on religious leaders, institutions, and places or objects believed to hold important religious value.
Telecommunication	Includes attacks on facilities or infrastructure responsible for transmitting information.
Terrorists	Includes attacks on terrorists or members of identified terrorist groups. Also includes targets that are believed to be members of militias or guerilla groups.
Tourists	Includes attacks that specifically target tourists, including tours and tour buses. This does not include incidents in which tourists are victims but were not targeted because of their status as tourists.
Transportation (Other than Aviation)	Includes attacks that specifically target public transportation.
Unknown	The target type is unknown.
Utilities	Includes attacks on facilities or infrastructure that is responsible for the production or transport of energy. Examples of potential targets include power stations and oil pipelines.
Violent Political Parties	Includes attacks on political parties that are also considered terrorists. This includes groups that participate in elections but are also identified as perpetrators in the GTD.

Source: *Global Terrorism Database: GTD Variables & Inclusion Criteria (2014)*.

Conjunctive Analysis of Case Configurations

We considered all possible combinations of the five independent variables simultaneously and then aggregated them into case configurations based on shared values for both countries separately. Once each incident was fit into a matrix of all possible configurations, we analyzed the total counts for each configuration. For example, within the United States, 87 incidents were carried out by left-wing perpetrators, targeting businesses, using a bombing or explosive attack that employed an unknown explosive type.

We excluded configurations with fewer than 15 total cases from the main analysis reported here, though important configurations with fewer than 15 cases are discussed where appropriate. The decision to use 15 cases as the cutoff point for analysis is based on the cutoff points used in past conjunctive analysis research, the overall number of configurations that exist for the incidents included in this analysis, and the need to establish a minimum number of cases for the comparison of configurations.[52] As a result of the size of the tables, we present only the top ten configurations by total incidents. Full tables are available from the authors.

Table 2: Global Terrorism Database Variables & Inclusion Criteria – Attack Type (2014)

Attack Type	
Armed Assaults	Attacks using weapons other than explosives that are primarily meant to cause physical harm or death to human beings.
Assassination	Attacks designed to kill one or more specific individuals. These attacks are directed at specific prominent individuals. These attacks do not include those directed at general members of a group.
Bombing/Explosion	Attacks in which damage is caused by high or low explosives. This does not include attacks with nuclear or incendiary devices.
Facility/Infrastructure Attack	Attacks, excluding the use of explosives, which are designed to damage non-human targets. Examples of likely targets include buildings, resource distribution routes, or the production and distribution of utilities.
Hijacking	Attacks in which the goal is to take control of a vehicle (including aircrafts, boats, or busses) and alter its original course. These attacks often involve a political or monetary goal. This does not include hostage taking because the primary target is a vehicle.
Hostage Taking (Barricade Incident)	These attacks are different from kidnappings because they often occur in the target location and do not involve transferring hostages to another location.
Hostage Taking (Kidnapping)	These attacks are different from barricade incidents because the primary objective is to remove the hostage from one location and transport him or her to another.
Unarmed Assault	Attacks intended to cause harm or death to human targets using means other than explosives, firearms, incendiary devices, or explosives.
Unknown	An attack type is not available based on the data.

Source: *Global Terrorism Database: GTD Variables & Inclusion Criteria (2014)*.

We identified dominant configurations, including all those with 15 or more incidents, and examined their characteristics. First, we reviewed configurations to identify clustering of key characteristics. Second, we examined configurations to determine if some characteristics were more prominent than others. Third, we examined configurations based on their relationship with the dependent variables.

We compared each configuration and dependent variable against the average for all incidents in its respective country. Based on the 10% standard used in previous studies by Miethe and Sousa and Hart and Miethe, we ranked each configuration.[53] For configurations more than 10 percentage points above the total average, the risk was considered high that the configuration would result in property damage, injuries and/or fatalities, or a successful attack. For configurations 10 percentage points above or below the total average, the risk was considered medium. For configurations more than 10 percentage points below the total average, the risk was considered low.

Table 3: Global Terrorism Database Variables & Inclusion Criteria – Weapons and Possible Weapon Sub-Types (2014)

Weapon Type	Weapon Sub-Type
Biological	No Weapon Sub-Types
Chemical	Poisoning
Explosives/ Bombs/ Dynamite	Grenade Land Mine Letter Bomb Pressure Trigger Projectiles (rockets, mortars, RPGs, etc.) Remote Trigger Suicide (carried on the body) Time Fuse Vehicle Unknown Explosive Type Other Explosive Types
Fake Weapons	No Weapon Sub-Types
Firearms	Automatic Weapon Handgun Rifle/Shotgun (non-automatic)
Incendiary	Arson/Fire Flame Thrower Gasoline or Alcohol
Melee	Blunt Object Hands, Feet, Fists Knife Rope or Other Strangling Device Sharp Object other than Knife Suffocation
Nuclear	No Weapon Sub-Types
Radiological	No Weapon Sub-Types
Sabotage Equipment	No Weapon Sub-Types
Vehicle (not including car or truck bombs)	No Weapon Sub-Types
Other	No Weapon Sub-Types
Unknown	No Weapon Sub-Types

Source: Global Terrorism Database: GTD Variables & Inclusion Criteria (2014).

Results

RQ1: What are the most dominant configurations of characteristics of domestic terrorism incidents within the United States and within the United Kingdom and Ireland?

Table 4 (below) shows the distribution of domestic terrorism incidents by nation between 1970 and 2013 that were attributed to the four perpetrator types included in this study. Of the 1,503 incidents in the United States, over 75% were attributed to either left-wing or right-wing perpetrators. In the United Kingdom and Ireland, 98% of the 4,112 were attributed to nationalist/separatist perpetrators.

Table 4. Domestic Terrorists Incidents, 1970-2013

Perpetrator Type	United States		United Kingdom & Ireland	
	Incidents	%	Incidents	%
Right-Wing	472	31%	13	0%
Left-Wing	678	45%	7	0%
Nationalist/Separatist	164	11%	4048	98%
Single Issue	189	13%	44	1%
Total	1503		4112	

Of the 277,922 possible configurations (Perpetrator Type (4) x Target Type (22) x Attack Type (9) x Weapon Type (13) x Weapon Sub-type (27) = 277,922), we observed 306 unique configurations for the United States. Of these configurations, 21 included at least 15 incidents each and accounted for 47% (710 incidents) of all domestic terrorism incidents in the United States. The other 285 configurations accounted for the remaining incidents. The large number of observed configurations demonstrates the diversity in domestic terrorism incidents experienced by the United States.

Two of the top four configurations, accounting for over 9% of the total domestic terrorism incidents in the United States, involved left-wing or nationalist/separatist perpetrators and were bombing attacks on businesses using unknown explosive devices. For all but one of the top 21 configurations, the weapon of choice was either an explosive or incendiary device. This is consistent with past research indicating a preference by terrorists for homemade and easy to deploy devices.[54] Of the top 21 configurations, including the combination of bombing attacks using unknown explosives, nine accounted for nearly 30% of domestic terrorism incidents in the United States. Left-wing perpetrators were the most prominent perpetrator type, present in over half of the dominant configurations.

For the United Kingdom and Ireland, we observed 322 configurations, 47 of which had 15 or more incidents. These 322 configurations accounted for 3,331, or 81%, of all domestic terrorism incidents in the United Kingdom and Ireland. All 47 configurations with 15 or more total incidents were attributed to the nationalist/separatist perpetrator type.

Unlike in the United States, there was noticeable variation in the top ten configurations in the United Kingdom and Ireland. Five involved assassinations carried out by nationalist/separatist groups using firearms, including

three that involved unknown gun types. Four of the top ten configurations involved bombings using unknown explosive types. Another clear difference was the primary targets of the top ten configurations. Four of the configurations involved attacks targeting military or police. This is consistent with what previous researchers found regarding the target selection of groups involved in the prolonged conflict in Northern Ireland.[55] The configuration with the largest number of incidents not involving the nationalist/separatist perpetrator type included 14 incidents attributed to single issue perpetrators. This configuration included facility or infrastructure attacks on businesses using incendiary devices, which is consistent with previous research that found attacks attributed to these groups were often carried out against businesses using incendiary or homemade devices with the intent to damage buildings, structures, or non-human targets.[56]

Overall, the clustering of characteristics differed in both countries. In the United States, there was variation among the perpetrator types of the dominant configurations, but most configurations involved a combination of bombings or facility/infrastructure attacks carried out by explosives or incendiary devices. In the United Kingdom and Ireland there was consistency in perpetrator types, as nearly all of the top configurations were attributed to nationalist/separatist perpetrators whose selection of attack and weapon types demonstrated noticeable variation.

RQ2: Are there similarities in the dominant configurations of characteristics between each of the perpetrator types within the United States and within the United Kingdom and Ireland?

We identified several similarities between the characteristics of the attacks carried out by the four perpetrator types in the United States based on the dominant configurations. First, each perpetrator type targeted businesses and carried out attacks on facilities or infrastructure. Second, the primary weapons of choice were explosives and incendiary devices. Third, dominant configurations attributed to left-wing, nationalist/separatist, and single issue perpetrators resulted in medium and low risk for injuries or fatalities.

In the United Kingdom and Ireland, all the dominant configurations were attributed to nationalist/separatist perpetrators. Prominent among these were the targeting of private citizens and property, police, and military. For each target type, we identified a combination of armed assaults, assassinations, and bombings as the attack type. Each of the other three perpetrator types shared similar weapon selection with nationalist/separatist. Although not classified as dominant configurations, ten configurations were attributed to right-wing groups, each accounting for three or fewer total incidents. Six of these attacks involved bombings. We identified five configurations with three or fewer incidents each in which left-wing perpetrators used explosives or incendiary devices. Finally, 22 configurations were attributed to single issue groups, 18 of which employed explosives or incendiary devices. Single issue groups also accounted for two configurations using biological weapons and two configurations using chemical weapons.

In both countries, there were similarities in the dominant configurations of characteristics among perpetrator types. In the United States, similarities in target, attack, and weapons led to shared characteristics in the dominant configurations among the four perpetrator types. These included businesses as targets and explosives or incendiary devices as a primary weapon. Comparisons within the United Kingdom and Ireland are limited by the small number of incidents attributed to left-wing, right-wing, and single issue perpetrators, though there were similarities. As in the United States, targeting businesses and private citizens and their property and use of explosives and incendiary devices were common among the four perpetrator types.

RQ3: Are there similarities between the United States and United Kingdom and Ireland in the dominant configurations of characteristics between the same perpetrator types?

The dominant configurations of incidents attributed to right-wing perpetrators in the United States differed from the right-wing incidents in the United Kingdom. Although none of the configurations attributed to right-

wing perpetrators in the United Kingdom met the minimum of 15 incidents needed to be considered a dominant configuration, some comparisons can be made. Dominant right-wing configurations in the United States included mostly abortion-related targets and businesses, while right-wing configurations identified in the United Kingdom included not only businesses but also transportation, airports and airlines, police, and diplomatic government targets. This may indicate important differences in the targets and goals of right-wing perpetrators in the United States relative to the targets and goals of right-wing perpetrators in the United Kingdom. Though their targets differed, right-wing perpetrators in both countries relied heavily on explosives as the primary weapons used in their attacks.

Although the number of incidents attributed to left-wing perpetrators in the United Kingdom is small, the configurations attributed to left-wing perpetrators in both countries suggest some similarities in targets and weapon choices. In both countries left-wing attacks were directed at police, government, and business targets. The reliance on explosives and incendiary devices by left-wing perpetrators in the United Kingdom is a shared characteristic with the dominant left-wing configurations in the United States.

In the United States and in the United Kingdom and Ireland, the dominant nationalist/separatist configurations included attacks on businesses and government targets using explosive and incendiary devices. As a result of the military nature of the prolonged conflict in Northern Ireland, several of the dominant nationalist/separatist configurations in the United Kingdom and Ireland include assassinations as the primary attack type. While configurations that include assassination attacks by nationalist/separatist in the United States exist, there are far fewer than in the United Kingdom and Ireland.

In the United States and the United Kingdom, single issue perpetrators preferred different weapon types. Unlike the single issue perpetrators in the United Kingdom that relied heavily on explosive weapons, the single issue perpetrators identified in the dominant configurations in the United States relied primarily on incendiary devices including the sub-types gasoline or alcohol and arson. While these weapon types are different, both have the same effect of damaging property and disrupting operations, a motive behind many attacks attributed to single issue perpetrators. Targeting businesses, educational institutions, and private citizens and their property by single issue perpetrators was common in both countries, as was the absence of firearms as a primary weapon. The similarities between single issue perpetrators in targets, attacks, and weapon types are in agreement with past research on single issue groups, which suggests single issue perpetrators, including animal rights and environmental groups, may select similar targets, methods of attack, and weapons as a result of their efforts to work together, share tactics, and at times share members.[57]

RQ4: Are there characteristics that are more prevalent in configurations that result in property damage, injuries or fatalities, or successful attacks?

Table 5 (p.17) shows the dominant configurations of characteristics in the United States ranked by the likelihood of resulting in property damage. In the United States, 12 dominant configurations had a high risk of resulting in property damage. Of these, four targeted businesses and three were directed at abortion-related targets. Leftwing (five configurations) and right-wing (four configurations) perpetrator types accounted for most of these configurations. All of the dominant configurations considered high or medium risk for resulting in property damage involved explosives or incendiary devices.

Table 6 (p.18) shows the same information for injuries and/or fatalities. Only one configuration posed a high risk. These incidents involved right-wing perpetrators targeting private citizens or property with armed assaults using handguns. For the eight configurations identified as medium risk, either incendiary or explosive weapons were used. Of the dominant configurations, 12 posed a low risk and 8 resulted in no injuries or

fatalities. These configurations largely involved left-wing or single issue groups using incendiary devices in attacks on facilities or infrastructure.

Table 5. Dominant Configurations of Characteristics based on Level of Risk for Attacks that Result in Property Damage in the USA

Perpetrator Type	Target Type	Attack Type	Weapon Type	Weapon Sub-Type	Incidents	Percentage Resulting in Property Damage	Risk
Nationalist/ Separatist	Business	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	51	98%	High
Right-Wing	Abortion Related	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	87	94%	High
Right-Wing	Abortion Related	Facility/Infrastructure Attack	Incendiary	Arson/Fire	53	94%	High
Single Issue	Business	Facility/Infrastructure Attack	Incendiary	Arson/Fire	50	94%	High
Left-Wing	Business	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	87	92%	High
Single Issue	Business	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	32	78%	Medium
Left-Wing	Government (General)	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	44	77%	Medium
Left-Wing	Government (General)	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	31	77%	Medium
Left-Wing	Military	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	29	66%	Low
Left-Wing	Military	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	37	51%	Low

***Note:** This table includes the 10 most common configurations based on total incidents. Full tables with all configurations are available from the authors. Risk level is based on the relative risk of a successful attack for each configuration. A risk level of high is at least 10 percentage points higher than the average risk of 76%. A risk level of medium is within 10 percentage points above or below the average risk. A risk level of low is at least 10 percentage points below the average risk.

Table 6. Dominant Configurations of Characteristics based on Level of Risk for Attacks that Result in Injuries or Fatalities in the USA

Perpetrator Type	Target Type	Attack Type	Weapon Type	Weapon Sub-Type	Incidents	Percentage Resulting in Injuries or Fatalities	Risk
Left-Wing	Government (General)	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	44	9%	Medium
Nationalist/Separatist	Business	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	51	8%	Medium
Left-Wing	Military	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	29	7%	Medium
Right-Wing	Abortion Related	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	87	6%	Medium
Left-Wing	Military	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	37	3%	Low
Right-Wing	Abortion Related	Facility/Infrastructure Attack	Incendiary	Arson/Fire	53	2%	Low
Left-Wing	Business	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	87	1%	Low
Single Issue	Business	Facility/Infrastructure Attack	Incendiary	Arson/Fire	50	0%	Low
Single Issue	Business	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	32	0%	Low
Left-Wing	Government (General)	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	31	0%	Low

**Note: This table includes the 10 most common configurations based on total incidents. Full tables with all configurations are available from the authors. Risk level is based on the relative risk of a successful attack for each configuration. A risk level of high is at least 10 percentage points higher than the average risk of 15%. A risk level of medium is within 10 percentage points above or below the average risk. A risk level of low is at least 10 percentage points below the average risk.*

Table 7 (p.20) displays the same information but is for the risk level for a successful attack. Right-wing, leftwing, and single issue perpetrator types were associated with high risk configurations. The majority of the high risk configurations involved attacks on facilities or infrastructure using incendiary devices. Armed assaults using handguns and targeting private citizens and property were successful 100% of the time for right-wing perpetrators. All but one of the dominant configurations presented a medium or high risk for resulting in a successful attack.

Table 8 (p.21) shows the dominant configurations attributed to nationalist/separatist perpetrators based on the risk of property damage resulting from domestic terrorism incidents in the United Kingdom and Ireland. Fifteen of these configurations involved bombings. Unlike the dominant configurations in the United States, these perpetrators employed several unique weapon sub-types including landmines, vehicles rigged with explosives, explosive projectiles, and remotely triggered devices. The configurations with the lowest risk of causing property damage often involved armed assaults or assassination attempts using firearms.

Table 9 (p.22) shows dominant configurations with a high risk of injuries and/or fatalities in the United Kingdom and Ireland. Unlike in the United States, these configurations frequently involved assassination attempts on military or police targets using firearms. The large number of configurations with high risk levels highlights the violence associated with the conflict in Northern Ireland and how frequently these incidents resulted in injuries or death. The configurations least likely to result in injuries or death were attacks using incendiary devices to target facilities or infrastructure.

Table 10 (p.23) displays configurations with a high risk of a successful domestic terrorism incident in the United Kingdom and Ireland. Seven of the high risk configurations were directed at military or police and utilized armed assaults, assassinations, or bombings as the primary attack type. These results reveal the nature of the conflict in Northern Ireland. Even configurations with a classification of medium risk had a success rate of 77% or higher. The high level of success among dominant configurations is consistent with research showing the difficulties law enforcement and military forces had responding to domestic terrorism and the potential their efforts had to incite additional attacks against their forces during the conflict in Northern Ireland.[58]

There were similarities between the characteristics of configurations that resulted in property damage, injuries or fatalities, or successful attacks. In the United States, dominant configurations most likely to result in property damage, injuries or fatalities, or successful attacks frequently involved attacks using explosives or incendiary devices as weapons. For the United Kingdom and Ireland, the military nature of the conflict in Northern Ireland had a clear impact on the prominent characteristics in the dominant configurations. While explosives and incendiary devices were often present in attacks that were likely to result in property damage, assassinations targeting military, law enforcement, and private citizens were the most likely to result in injuries or fatalities.

Table 7. Dominant Configurations of Characteristics based on Level of Risk for a Successful Attack in the USA

Perpetrator Type	Target Type	Attack Type	Weapon Type	Weapon Sub-Type	Incidents	Percentage Resulting in a Successful Attack	Risk
Right-Wing	Abortion Related	Facility/Infrastructure Attack	Incendiary	Arson/Fire	53	94%	High
Single Issue	Business	Facility/Infrastructure Attack	Incendiary	Arson/Fire	50	94%	High
Left-Wing	Government (General)	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	31	94%	High
Right-Wing	Abortion Related	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	87	93%	Medium
Nationalist/Separatist	Business	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	51	92%	Medium
Left-Wing	Military	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	37	92%	Medium
Left-Wing	Government (General)	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	44	91%	Medium
Left-Wing	Business	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	87	85%	Medium
Left-Wing	Military	Bombing/Explosion	Explosives/Bombs/Dynamite	Unknown Explosive Type	29	79%	Medium
Single Issue	Business	Facility/Infrastructure Attack	Incendiary	Gasoline or Alcohol	32	78%	Medium

**Note: This table includes the 10 most common configurations based on total incidents. Full tables with all configurations are available from the authors. Risk level is based on the relative risk of a successful attack for each configuration. A risk level of high is at least 10 percentage points higher than the average risk of 84%. A risk level of medium is within 10 percentage points above or below the average risk. A risk level of low is at least 10 percentage points below the average risk.*

Table 8. Dominant Configurations of Characteristics based on Level of Risk for Attacks Resulting in Property Damage in the UK and Ireland

Perpetrator Type	Attack Type	Target Type	Weapon Type	Weapon Sub-Type	Incidents	Percentage Resulting in Property Damage	Risk
Nationalist/Separatist	Facility/Infrastructure Attack	Business	Incendiary	Unknown Type	305	99%	High
Nationalist/Separatist	Bombing/Explosion	Military	Explosives/Bombs/Dynamite	Unknown Explosive Type	180	97%	High
Nationalist/Separatist	Bombing/Explosion	Business	Explosives/Bombs/Dynamite	Unknown Explosive Type	256	96%	High
Nationalist/Separatist	Bombing/Explosion	Police	Explosives/Bombs/Dynamite	Unknown Explosive Type	149	95%	High
Nationalist/Separatist	Bombing/Explosion	Private Citizens & Property	Explosives/Bombs/Dynamite	Unknown Explosive Type	180	93%	High
Nationalist/Separatist	Assassination	Military	Firearms	Unknown Gun Type	171	1%	Low
Nationalist/Separatist	Assassination	Private Citizens & Property	Firearms	Unknown Gun Type	472	0%	Low
Nationalist/Separatist	Assassination	Private Citizens & Property	Firearms	Handgun	116	0%	Low
Nationalist/Separatist	Assassination	Police	Firearms	Unknown Gun Type	112	0%	Low
Nationalist/Separatist	Assassination	Terrorists/Non-State Militia	Firearms	Unknown Gun Type	109	0%	Low

**Note: This table includes the 10 most common configurations based on total incidents. Full tables with all configurations are available from the authors. Risk level is based on the relative risk of a successful attack for each configuration. A risk level of high is at least 10 percentage points higher than the average risk of 49%. A risk level of medium is within 10 percentage points above or below the average risk. A risk level of low is at least 10 percentage points below the average risk.*

Table 9. Dominant Configurations of Characteristics based on Level of Risk for Attacks Resulting in Injuries or Fatalities in the UK and Ireland

Perpetrator Type	Attack Type	Target Type	Weapon Type	Weapon Sub-Type	Incidents	Percentage Resulting in Injuries or Fatalities	Risk
Nationalist/Separatist	Assassination	Private Citizens & Property	Firearms	Unknown Gun Type	472	100%	High
Nationalist/Separatist	Assassination	Military	Firearms	Unknown Gun Type	171	100%	High
Nationalist/Separatist	Assassination	Terrorists/Non-State Militia	Firearms	Unknown Gun Type	109	100%	High
Nationalist/Separatist	Assassination	Police	Firearms	Unknown Gun Type	112	99%	High
Nationalist/Separatist	Assassination	Private Citizens & Property	Firearms	Handgun	116	96%	High
Nationalist/Separatist	Bombing/Explosion	Military	Explosives/Bombs/Dynamite	Unknown Explosive Type	180	76%	Medium
Nationalist/Separatist	Bombing/Explosion	Police	Explosives/Bombs/Dynamite	Unknown Explosive Type	149	58%	Medium
Nationalist/Separatist	Bombing/Explosion	Private Citizens & Property	Explosives/Bombs/Dynamite	Unknown Explosive Type	180	57%	Low
Nationalist/Separatist	Bombing/Explosion	Business	Explosives/Bombs/Dynamite	Unknown Explosive Type	256	37%	Low
Nationalist/Separatist	Facility/Infrastructure Attack	Business	Incendiary	Unknown Type	305	3%	Low

**Note: This table includes the 10 most common configurations based on total incidents. Full tables with all configurations are available from the authors. Risk level is based on the relative risk of a successful attack for each configuration. A risk level of high is at least 10 percentage points higher than the average risk of 67%. A risk level of medium is within 10 percentage points above or below the average risk. A risk level of low is at least 10 percentage points below the average risk.*

Table 10. Dominant Configurations of Characteristics based on Level of Risk for a Successful Attack in the UK and Ireland

Perpetrator Type	Attack Type	Target Type	Weapon Type	Weapon Sub-Type	Incidents	Percentage Resulting in a Successful Attack	Risk
Nationalist/Separatist	Assassination	Terrorists/Non-State Militia	Firearms	Unknown Gun Type	109	98%	High
Nationalist/Separatist	Assassination	Private Citizens & Property	Firearms	Unknown Gun Type	472	97%	High
Nationalist/Separatist	Assassination	Military	Firearms	Unknown Gun Type	171	96%	High
Nationalist/Separatist	Assassination	Police	Firearms	Unknown Gun Type	112	94%	Medium
Nationalist/Separatist	Bombing/Explosion	Business	Explosives/Bombs/Dynamite	Unknown Explosive Type	256	91%	Medium
Nationalist/Separatist	Bombing/Explosion	Military	Explosives/Bombs/Dynamite	Unknown Explosive Type	180	89%	Medium
Nationalist/Separatist	Assassination	Private Citizens & Property	Firearms	Handgun	116	89%	Medium
Nationalist/Separatist	Bombing/Explosion	Private Citizens & Property	Explosives/Bombs/Dynamite	Unknown Explosive Type	180	84%	Medium
Nationalist/Separatist	Bombing/Explosion	Police	Explosives/Bombs/Dynamite	Unknown Explosive Type	149	79%	Medium
Nationalist/Separatist	Facility/Infrastructure Attack	Business	Incendiary	Unknown Type	305	73%	Low

**Note: This table includes the 10 most common configurations based on total incidents. Full tables with all configurations are available from the authors. Risk level is based on the relative risk of a successful attack for each configuration. A risk level of high is at least 10 percentage points higher than the average risk of 85%. A risk level of medium is within 10 percentage points above or below the average risk. A risk level of low is at least 10 percentage points below the average risk.*

Discussion

The primary goal of this study was to provide descriptive initial observations of the characteristics of domestic terrorism incidents in the United States, the United Kingdom, and Ireland. We accomplished this through the use of open source data and conjunctive analysis. Our research is novel because it is the first to employ conjunctive analysis in the examination of domestic terrorism. This methodological approach is uniquely situated for studying these type of questions, and our results are not only important in themselves but provide important initial observations that can serve as a foundation for theory construction.

In relation to our first research question, we found that while the four perpetrator types in the United States were each present among the dominant case configurations, only nationalist/separatist were present in the dominant case configurations for the United Kingdom and Ireland. In the United States, 21 case configurations accounted for 47% of the country's domestic terrorism incidents. The top two configurations by total incidents, each accounting for approximately 6% of all domestic terrorism incidents in the United States, were left-wing bombing or explosive attacks on businesses using unknown explosive types and right-wing attacks on the facilities or infrastructure of abortion-related targets using gasoline or alcohol based incendiary devices. In the United Kingdom and Ireland, 47 case configurations accounted for over 81% of the country's domestic terrorism incidents. The top two configurations by total incidents, accounting for 12% and 8% respectively, were nationalist/separatist assassinations using unknown firearms targeting private citizens and nationalist/separatist attacks using unknown incendiary devices on the facilities or infrastructure of businesses. The small number of case configurations that account for the majority of domestic terrorism incidents in both countries suggests that although domestic terrorism can take many forms, it is often manifested in a limited number of configurations. For both countries, this often included attacks on businesses or private citizens and their property using explosives, incendiary devices, or firearms.

The similarities shared by perpetrators of domestic terrorism are not limited to the characteristics analyzed in this study, but also include similarities in the ways they differ from international terrorism. The attack and target types found in the case configurations of domestic terrorism incidents differ from attack and target types found in recent high profile international terrorist attacks in the United States and the United Kingdom. The primary method of attack used in these high profile international attacks was suicide terrorism, an attack type that has been on the rise among international terrorists in recent years.[59] While suicide terrorism has been commonly employed by groups or individuals influenced by or connected to al-Qaeda, there were no attacks identified as suicide bombings included in any of the case configurations for domestic terrorism incidents in the United States, the United Kingdom, and Ireland. One shortcoming of GTD data is that they only have a separate weapon sub-type for suicide attacks when a weapon is worn on the body, which makes it difficult to classify complex suicide attacks like those carried out on September 11, 2001.

The target types of recent international attacks also differ from those attacked by domestic terrorists. Attacks on airlines, airports, and mass transportation in both countries by international terrorists have occurred in recent years.[60] Our analysis of the case configurations in this study suggests domestic terrorists in the United States, the United Kingdom, and Ireland have rarely attacked these targets.

For the second research question, we found similarities in the dominant configurations of characteristics between perpetrator types within the United States. Each of the four perpetrator types was responsible for attacks on businesses. Also common among the four perpetrator types was the reliance on explosives or incendiary devices. Fewer similarities existed in the characteristics of the incidents between perpetrator types in the United Kingdom and Ireland. Given the distribution of dominant case configurations, comparisons between perpetrator types are restrained. The use of explosives and incendiary devices were present for each

of the perpetrator types and were the most frequently used weapons for right-wing, left-wing, and single issue perpetrators.

In the United Kingdom, firearms were not identified as the primary weapon type for any configurations that included right-wing, left-wing, or single issue perpetrators. Law and location likely influenced the prevalence of firearm use by nationalist/separatist groups engaged in the conflict in Northern Ireland compared to the absence of firearm use by the other perpetrator types. The United Kingdom has strict gun regulations that limit the types of firearms that can be owned or carried.[61] Although Northern Ireland is part of the United Kingdom, the Good Friday Agreement allowed for the passage of less restrictive gun regulations that has resulted in individuals still being permitted to own and carry handguns.[62] Because attacks carried out by right-wing, left-wing, and single issue groups all occurred in the United Kingdom, it is likely that the country's restrictive gun laws impacted the availability of firearms, making explosive and incendiary devices the more convenient weapon choice.[63] Similarly, the absence of the use of firearms by right-wing and left-wing perpetrators in the United Kingdom provides an interesting comparison to right-wing and left-wing groups in the United States. Gun ownership laws and the prevalence of firearms in the United States make firearms more easily accessible than in the United Kingdom. Although limited within the dominant configurations, an examination of all configurations supports the findings of past research that identified firearms as a frequent weapon choice of right-wing and left-wing domestic terrorists in the United States.[64].

The findings for our third research question indicate that similarities existed between the incidents carried out by the same perpetrator types in each country based on their weapon selection and, in some cases, target selection. In each country the prominence of explosives, incendiary devices, and firearms in dominant configurations demonstrates reliance of domestic terrorists on traditional weapons. This is in agreement with past research on the weapon selection of international terrorists. Hoffman found the tactics, targets, and weapons used by international terrorists remained consistent and was driven in part by the weapon choice of terrorists. The weapons used by international terrorists were largely conventional, including the use of firearms and explosives. [65] He argued that the use of conventional weapons was likely influenced by their wide availability, efficient cost, and ease of use.[66]

Both of these arguments are supported by our results. First, the results of the conjunctive analysis reveal domestic terrorists in the United States, the United Kingdom, and Ireland relied heavily on weapons that were widely available, cost efficient, and easy to use. In the United States, explosives, incendiary devices, and firearms were found among the most dominant case configurations, with explosives or incendiary devices used by each of the four perpetrator types. In the United Kingdom and Ireland, explosives, incendiary devices, and firearms were prominent in the dominant case configurations. In the United Kingdom right-wing, left-wing, and single issue groups did not utilize firearms, unlike nationalist/separatist groups who relied heavily on firearms in attacks associated with the conflict in Northern Ireland.[67] This is a significant finding because it suggests right-wing, left-wing, and single issue groups carrying out their attacks in the United Kingdom faced difficulty obtaining firearms, a challenge likely created by the country's strict firearm regulations.[68]

Second, in United States, the United Kingdom, and Ireland, the use of chemical, biological, or nuclear weapons was rare. Nuclear weapons were not present in any domestic terrorism incidents in either country. In the United States, only seven incidents involved chemical or biological weapons, and in the United Kingdom and Ireland eight incidents involved chemical or biological weapons. Although the existing fear that international terrorist groups will continue to seek out chemical, biological, or nuclear weapons remains high, our results suggest domestic terrorists have not found these weapons to be effective or efficient choices. Because most domestic terrorists have historically focused on meaningful targets and have not directed their attacks randomly at the general public, these weapons are not likely to be as cost efficient, worth the increased risk of use or

production, or as easy to use as the more traditional weapons that we found among the dominant case configurations.

One area in which noticeable similarities existed across nations was between single issue perpetrators, as they primarily targeted businesses, private citizens and their property, and educational institutions. These groups also relied heavily on explosives and incendiary devices to carry out attacks that were likely to result in property damage. These similarities are significant because they support earlier research that predicted single issue animal rights and environmental groups would strengthen their cooperation within the United States and United Kingdom and influence each other across countries.[69] Given the growth of the internet and social networking websites, it is now easy for members of these groups to connect over great distances and increase their level of cooperation. Additional research is needed to determine whether there are connections between single groups within and between the United States and the United Kingdom.

There is growing interest among researchers in the use of the internet in the radicalization process of terrorists. [70] An examination of message boards, websites, and social networking profiles of individuals involved in these groups could reveal if there are connections between supporters of the groups and if they are sharing information on targets and tactics. If online connections exist between single issue groups within or between countries, it may be possible to examine if and how group members influence recruitment or radicalization of members.

The results for our fourth research question revealed characteristics that were prevalent in each country for attacks leading to property damage, injuries and/or fatalities, and success. All 12 configurations considered high risk for property damage in the United States were carried out using explosive or incendiary devices. For the 13 configurations with a high risk of causing property damage in the United Kingdom and Ireland, 10 were carried out using incendiary or explosive devices as the primary weapon, accounting for 26% of the domestic terrorism incidents in the United Kingdom and Ireland.

In the United States, one configuration, involving armed assaults by right-wing perpetrators using handguns to attack private citizens and their property, presented a high risk of resulting in injuries and/or fatalities. Attacks with a medium risk level relied mostly on explosives or incendiary devices. Armed assaults or assassinations utilizing firearms dominated the configurations considered high risk in the United Kingdom and Ireland.

The most common characteristics among incidents with a high risk of success in the United States were attacks on facilities or infrastructure using incendiary devices. This configuration was used to attack private citizens and their property, educational institutions, businesses, government, and abortion related targets. These attacks were most likely to be successful when primary targets were not human. This may result from the limited resistance non-human targets provide in the face of an immediate threat or the lack of human bystanders who are able to disrupt or deter an attack. Thus, target hardening or other efforts to increase the difficulty perpetrators face when attacking may be an effective response to these case configurations. In the United Kingdom and Ireland, the configurations with a high risk level of success targeted other terrorists, private citizens, military, and police with bombings, armed assaults, and assassinations. These configurations accounted for over 1,000 incidents. Given the military nature of the conflict in Northern Ireland, these configurations targeting humans with armed assaults or assassinations coincide with past research on the tactics of nationalist/separatist terrorists.

[71]

Future theory construction can build upon the comparison of incidents by perpetrator type by exploring differences between weapon type, weapon sub-type, and attack type frequently employed by each perpetrator type. Research by Phillips used modern portfolio theory to examine choice of terrorist attack methods based on risk and return.[72] Our results and additional analysis focusing on specific groups within each of the perpetrator types could be used to explore how case configurations changed over time in response to attack outcomes, law enforcement responses, or group stability.

Key Contributions of this Study

The results of this study contribute to the literature on domestic terrorism and terrorism in four key ways. First, this is the first study to provide a systematic comparison of domestic terrorism incidents between the United States, the United Kingdom, and Ireland. In addition to facing threats from similar perpetrator types, similarities were found in the targets, attack types, and weapons attributed to the perpetrator types in the United States and in the United Kingdom and Ireland. The identification of these similarities suggests avenues for future comparisons of issues related to domestic terrorism in both countries – including examinations of the four perpetrator types, their ongoing operations, and law enforcement responses to each of the perpetrator types – and theorizing about the causes of these similarities.

Second, this is the first study to compare the characteristics of domestic terrorism incidents in the United States, the United Kingdom, and Ireland based on the four perpetrator types prominent in domestic terrorism literature. This comparison revealed similarities between them. Right-wing perpetrators in the United States and the United Kingdom frequently utilized explosives in their attacks. Left-wing perpetrators in the United States and the United Kingdom directed their attacks at businesses, law enforcement, and government related targets using explosives and incendiary devices. Nationalist/separatist perpetrators in the United States and in the United Kingdom and Ireland shared similar target and attack types, with perpetrators in each country targeting businesses and government targets using explosives or incendiary devices. Single issue perpetrators, including animal rights and environmental groups, shared target, attack, and weapon types. In both countries, these perpetrators targeted businesses, educational institutions, and private citizens and their property using explosives or incendiary devices.

Third, this study joins a growing body of criminal justice research utilizing conjunctive analysis to examine criminal activity at the incident level and represents the first application of conjunctive analysis to domestic terrorism. By providing a way to examine the configurations of characteristics, conjunctive analysis serves as an appropriate tool for determining how incident-level characteristics relate to each other and if specific combinations of these characteristics influence the outcomes of terrorist incidents. Future work could build upon this study by examining specific types of attacks, for example assassinations, and additional characteristics associated with the attacks. Further, conjunctive analysis may be a useful tool for law enforcement and the intelligence community as they prepare to prevent and respond to terrorism. Although the open source data we used in the current study is limited by the information that is made public, access to official government data could expand the usefulness of this method. For example, with additional official data law enforcement could examine how the attacks carried out by a specific perpetrator type differ based on the motives of the perpetrators. Access to additional information on the motives of perpetrators would allow researchers to use conjunctive analysis to examine lone actor attacks and determine if there are similarities in the common attack types and weapon types employed by lone actor terrorists with similar motives. Researchers could also use conjunctive analysis to examine the preparatory crimes of a specific terrorist group prior to an attack. Identifying dominant case configurations of these crimes could help law enforcement agencies direct their efforts at disrupting future preparatory crimes.

Finally, the initial observation of similarities in the case configurations between like perpetrator types creates a foundation for future research on why these similarities exist. While past research explored why domestic terrorists rely on conventional weapons for their attacks, additional research is needed to determine why specific perpetrator types select the conventional weapons they use. For instance, why are incendiary devices preferred over explosives by single issue groups in both countries? Past work on single issue terrorism has speculated on the preference for explosives or incendiary devices, but it has yet to explore why one is preferred over the other in both countries.[73] This, along with questions about similar target selections by each of the four perpetrator types in both countries, are important to explore as they may help reveal why similarities exist between the perpetrator types.

Limitations

Using conjunctive analysis to examine characteristics of an event can result in the loss of information related to the larger event. By focusing on characteristics of an incident, we are unable to examine the symbolism of an attack or the motives of an individual perpetrator. The only way to address this is to gather additional information on the motives of the perpetrators, a task that is difficult for incidents that occurred long ago. In the future this problem may be less of a concern, as terrorism related incidents receive significantly more media coverage today than in the past.

Second, there are limitations to open source data, including the potential for events to be excluded from the data set because of a lack of publicly available information or potential errors in human coding. The use of multiple sources can also present a challenge, as coders must decide which source provides the most accurate information, sometimes in the face of conflicting information about the incident. Further, because the GTD gathered data on incidents dating as far back as 1970, it is possible that information on less publicized events may be missing.

Third, as a result of missing or incomplete data, there were additional characteristics we were unable to examine. Information including an identified perpetrator, the number of perpetrators involved in an attack, and detailed descriptions of the events were not present for each incident. Future research could address this limitation by attempting to incorporate these cases into their analysis. This would require doing additional research on each of these cases in order to locate the missing information. This response is complicated by the age of some of the incidents and the lack of reliable data on incidents that received little attention or occurred nearly 50 years ago. If this information was available for more of the incidents, it would be possible to discuss in further detail characteristics of the perpetrators and specific details related to the weapon type, target type, attack type, and damage done associated with the incidents.

Conclusion

This study presents initial observations on the experiences of the United States, the United Kingdom, and Ireland with domestic terrorism based on four perpetrator types; right-wing, left-wing, nationalist/separatist, and single issue. Utilizing conjunctive analysis of case configurations, this study revealed that specific configurations of characteristics were more likely than others to result in property damage, injuries and/or fatalities, and successful attacks. In the United States, we found similarities in the characteristics of incidents carried out by different perpetrator types in the most frequent targets (businesses), attack types (bombings and facility or infrastructure attacks), and weapons used (explosives and incendiary devices).

We also found similarities between the United States and the United Kingdom and Ireland among the case configurations based on perpetrator type. First, right-wing perpetrators in the United States and the United Kingdom attacked similar targets, including businesses and private citizens and property. Second, although the number and proportion of incidents attributed to nationalist/separatist perpetrators was significantly

different, the dominant configurations of incidents for this perpetrator type in the United States and in the United Kingdom and Ireland revealed similar targets, attack types, and weapon choices. Finally, single issue perpetrators in the United States and the United Kingdom carried out attacks on similar targets and utilized comparable attack types and weapons.

Our findings contribute directly to the growing domestic terrorism and conjunctive analysis literature by providing the first comparison of domestic terrorism incidents in these countries based on perpetrator type and the first comparative research on domestic terrorism utilizing conjunctive analysis. The results of the analysis also demonstrate the value of conjunctive analysis as a method for improving our understanding of terrorism incidents. Those working in counter-terrorism, and practitioners in general, could utilize the approach employed in this project to improve their understanding of the perpetrator types that may target their jurisdictions. For those in the field with access to data that is not publicly available, it may be possible to examine additional characteristics that would provide new insights into the incidents, and their outcomes, attributed to each of the perpetrator types.

This project was a first attempt to establish whether similarities existed between domestic terrorism incidents in the United States, the United Kingdom, and Ireland. Given the existing comparative literature between the United States and the United Kingdom based on the perception of a shared threat from international terrorism, additional comparative research related to domestic terrorism is necessary. Future research can build upon this project by examining additional perpetrator types and incidents attributed to lone actors. While this study included anti-abortion related incidents in the right-wing perpetrator type, others researchers have attributed these attacks to lone-actors or single issue perpetrators.[74]. Future research should examine these anti-abortion incidents and compare them directly to incidents attribute to lone-actors and single issue perpetrators to determine if similarities exist.

Future research is needed to determine if there are theoretical explanations for the similarities that we found in this study. Future theoretical development and research may help determine why similar configurations attributed to different perpetrator types result in different outcomes and risk levels for property damage, injuries and/or fatalities, and successful attacks. Additional research is also required to determine how the similarities we found in this study may influence legislative and law enforcement responses to domestic terrorism in the United States, the United Kingdom, and Ireland.

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Notes

[1] Domestic terrorism in Ireland is discussed throughout this paper where appropriate. Of the four perpetrator types examined in this project, the nationalist/separatist perpetrator type was the only one identified in the available data from the Global Terrorism

Database. Our analysis did not identify any incidents attributed to right-wing, left-wing, or single issue perpetrators in Ireland. Additional information on the inclusion of Ireland and the presentation of data is included in the methods section of this paper.

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