Article

Homicide Studies
2018, Vol. 22(3) 235–255

DOI: 10.1177/1088767918770704
journals.sagepub.com/home/hsx
SAGE

A Distinction Without a Difference? Examining the Causal Pathways Behind Ideologically Motivated Mass Public Shootings

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Abstract

This study utilizes crisp-set qualitative comparative analysis to assess 306 mass shootings. We compare non-extremist and extremist mass shooters according to characteristics that capture mental health histories of offenders, their grievances, and strains. We discover that offenders who sympathized with extremism were driven by grievance against a social group and were suffering from either mental health issues or from general strain. Extremist sympathizers differ from non-extremists in the nature of their grievances and the strains they experience. These results imply there may exist different causal mechanistic activity underpinning extremist and non-extremist violence, specifically with regards to mass shootings.

Keywords

mass public shooting, lone wolf terrorism, homicide, qualitative comparative analysis, ideologically motivated violence

Introduction

Due to their motivations, ever-increasing incidence, and lethality, ideologically motivated mass public shootings represent a pressing threat to the national security of the United States (Capellan, 2015). Extremist ideologies may be causally associated with mass murder due to a combination of strains and grievances held by offenders (Hamm

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& Spaaij, 2015). For example, Omar Mateen (Orlando Nightclub shooting, 2016) sympathized with Al Qaeda and Islamic State of Iraq and Syria (ISIS) but also had lifelong struggles with mental health, aggression, obsession with violence, and thwarted career goals. These factors can indeed make Mateen seem indistinguishable from the nonideological mass murderers such as the Sandy Hook shooter—Adam Lanza or the Aurora—and Colorado movie theater shooter—James E. Holmes. Empirical research has revealed that the demographic profiles and background characteristics of ideologically driven and nonideological perpetrators are remarkably similar (Capellan, 2015; Horgan, Gill, Bouhana, Silver, & Corner, 2016; Lankford, 2013; McCauley, Moskalenko, & Van Son, 2013). Individual-level characteristics of extremist and non-extremist offenders such as their age, sex, and occupation tend to be similar across time. These parallels have led researchers to believe that extremist and non-extremist violence is brought about by similar if not the same social and psychological processes.

Extremist and non-extremist violence have also been observed to impact macro-societal outcomes in similar ways. Criminologists have presented evidence that points to linkages between adverse social outcomes in both crime and homicide (Bursik & Grasmick, 1993; Sampson & Bean, 2006). When there are high rates of homicide in a given society, social trust and cohesion tend to be eroded (Kirk & Matsuda, 2011). Similarly, low levels of social capital have been associated with higher rates of homicide (Rosenfeld, Baumer, & Messner, 2001). There is also a long tradition associating ideologically and nonideologically motivated violence with social disorganization (Freilich & Pridemore, 2007). In this tradition, scholars have noted that societies with higher levels of social cohesion tend to experience lower levels of antisocial behavior (Durkheim, 1951). Cross-nationally, Fahey and LaFree (2015) discovered that social disorganization was linked with increased numbers of terrorist attacks and fatalities. Further adding to this debate, research on lone wolf terrorism has revealed that most lone wolves are indeed loners and socially isolated, and around one third suffered from mental illness (Gill, Horgan, & Deckert, 2014). Interestingly enough, many of history's well-known mass shooters also have been observed to be loners and bearers of mental health problems such as Seung Hui Cho who killed 32 at Virginia Tech University in 2007.

When it comes to extremism and mass shootings, it remains unclear if violence carried out by extremist sympathizers and extremists, in general, differs from violence carried out by non-extremist offenders. To the best of our knowledge, all of the comparative research carried out thus far on extremist and non-extremist violence has relied on traditional statistical methods, including descriptive statistics, linear regression, and multivariate analysis. Approaches of this sort are based on "net-effects" thinking (Ragin, 2008), in which researchers purposely isolate variables and estimate their effect on an outcome. In contrast, this study adopts a methodological framework in qualitative comparative analysis (QCA) that provides several advantages. As an explanatory framework, QCA has been extensively used throughout social science but surprisingly has not been exploited in the study of mass shootings or criminological investigations of extremist violence. We utilize a recent R Programming software

package to assess mass shootings and attempted mass shootings according to the ideological characteristics of offenders, as well as other factors such as offender grievance(s), mental health history, and personal strains.

We assess data on 306 mass public shootings and shooting attempts that occurred in the United States from 1965 to 2016. Here, we carry out numerous procedures that have yet to be implemented in scholarship on extremist and non-extremist violence—including set-theoretic assessments between explanatory conditions and several outcomes, Truth Table analysis, logical minimization (based on the Quine–McCluskey algorithm), and visualization of output through Venn diagrams. In addition, this study differs from previous criminological inquiries into mass shootings because we analyze offenders that were sympathetic to extremist ideologies but were not formally affiliated with any extremist organization. We then compare this shooter type to non-extremist offenders. Most "lone-actor" terrorists in the post–9/11 era have not been affiliated with a formal extremist group (Hamm & Spaaij, 2015). Through assessing shooters that sympathized with extremism, but were not necessarily aided by an extremist group to carry out violence, this study provides new comparative insight into a previously unaddressed area. Our assessment of this outcome is fruitful for both crime prevention and theory building, given that the overwhelming majority of ideologically motivated mass shootings have been perpetrated by extremist sympathizers who were not formally affiliated to an extremist group or network.

Research on Extremist Violence

Similarities and Differences

Even though mass murder and nonideological violence have traditionally been interpreted through criminological perspectives (Dietz, 1986; Fox & Levin, 2003), and ideologically motivated violence has been understood through political paradigms (Michael, 2012; Pape, 2003), it is necessary to overview both literatures. Beginning with those that identified similarities between extremists and non-extremists (Capellan, 2015; Gill et al., 2014), here scholars observed that offenders tended to be loners who are socially marginalized, single, and unable to maintain thriving careers. Similarly, researchers have pointed to factors pertaining to an offender's obsession with extreme violence as a possible explanation for extremism (Dietz, 1986). In his study of ideological mass public shootings, Capellan (2015) concluded as follows:

> [The similarities between both types of offenders] . . . suggests that "lone wolves" and "deranged shooters" may be outcomes of the same social and psychological processes. The only meaningful difference may be that for ideological shooters ideological extremism is intertwined with their personal frustrations and aversions toward society. These findings are consistent with the idea that lone wolves and deranged shooters are but a part of a larger phenomenon of lone-actor grievance-fueled violence. (p. 13)

Ideological and nonideological mass murderers often display a deep-rooted fascination with violence, military-grade apparel, tactics, and weaponry, as well as a

fixation with prior massacres and the resulting infamy (Dietz, 1986; Lankford, 2016b; Spaaij, 2010). For some individuals, this obsession may act as a self-fulfilling prophecy. Another relevant factor that holds importance for an individual's ability to cope with negative emotions is mental illness. Out of a sample of nearly 300 ideological and nonideological mass shooters, half were observed to have suffered from a variety of mental illnesses, including personality disorder (Capellan, 2015). Along similar lines, strain has been associated with both extremist and non-extremist violence. Agnew's (1992) general strain theory (GST) captures how social-economic stressors lead a given individual to experience anger, frustration, disappointment, and depression. If not dealt with in a healthy way, these negative forces may ultimately lead to violence (Agnew, 1992). Lacking the ability to cope, offenders who experience strain often find themselves in a vicious cycle of isolation, maladjustment, and frustration. Unfortunately, these offenders often lack the social support needed to work through these negative feelings (McCauley & Moskalenko, 2008). Such cycles render these individuals particularly vulnerable to traumatic events and acute stressors, such as the loss of a relationship, job, or social standing. This perceived catastrophic failure may lead to acute strain, which may serve as a catalyst for violence (Levin & Madfis, 2009). Such precipitating events have been consistently linked to ideological and nonideological mass murderers (Capellan, 2015; Lankford & Hakim, 2011). Social-economic strains, acute strains, and a diminished ability to cope have been found to play a pervasive role in violent behavior (Pratt & Cullen, 2000).

Despite these commonalities, previous research has also identified significant differences among offenders. Horgan (2008) contends that no single pathway can explain radicalization and extremist violence. Evidence has also been presented to support this line of thinking. For example, Gruenewald and Pridemore (2012) identified and compared the crimes of far-right extremists in the United States, who were observed to be predominantly White males that were driven by combinations of anti-gay, anti-abortion, and anti-governmental grievances. Offenders were also observed to hold antagonistic opinions toward ethnic minorities. These characteristics set far-rightists apart from regular, non-extremist criminals who are likely to target other victims. Similarly, Parkin and Freilich (2015) analyzed homicides carried out by far-right extremists and compared them to nonideological homicides in the United States. Here, the authors discovered far-right extremists were more likely to commit crimes in public areas, and excerpt violence toward certain types of civilians (such as the homeless). Finally, in an analysis of 98 different offenders, Hamm and Spaaij (2015) identified further differences between lone wolf terrorists and non-extremists. Whereas non-extremists tended to be White males who were relatively young, lone wolfs were older and suffered from mental illness to a greater extent than non-extremists.

Grievance and Strain

Mass shootings and attempted mass shootings are a grievance-fueled phenomenon. A grievance may range from a marital problem to workplace dissatisfaction to anti-governmental sentiments. Therefore, it is not surprising that both extremists and

non-extremists have been observed to be motivated by grievances (McCauley et al., 2013). In detail, mass murderers and lone wolf terrorists both tend to externalize blame, holding others responsible for their misfortunes (McCauley et al., 2013; Spaaij, 2010). In their framework of "Lone Actor grievance fueled violence," McCauley et al. (2013) found that the mixture of two factors—grievance and outrage—was responsible for the actions of terrorists as well as school attackers and assassins. Research conducted by Osborne and Capellan (2017) supports a similar logic. Using script analysis, they developed a typology of mass shooters based on the attack or type of grievance: victim-specific, autogenic, and ideological mass shooters. Victim-specific shooters were motivated by grievances against specific individuals (i.e., personal grievances). Ideological shooters were motivated by grievances against groups of people, government, and religious institutions. Autogenic shooters motivations for the attack were not external but "self-generated" due to the offender's internal/psychological processes and issues. Their results revealed relevant differences among the social and psychological determinants among these shooters. Shooters with personal grievances (victim-specific) were driven mostly by acute strain; ideological shooters were driven by a combination of social-economic stress and psychological factors (e.g., history of mental illness). Autogenic shooters were mostly motivated by psychological processes stemming from varying types of mental illness.

Grievance, and especially the type of grievance, is of paramount importance to understanding the etiology of ideologically motivated violence. Different types of grievances are associated with different causal pathways to violence. Agnew's (2010) recent framework on strain and terrorism is of substantial relevance for understanding a specific form of grievance and its relation to individual and collective manifestations of extremism. This framework differs than the earlier noted GST as Agnew (2010) lays out several propositions to account for contemporary terrorism. Here, it is argued that collective strains can arise from the perceptions of civilians who experience or become aware of acts of violence aimed at their own group. When individuals who are already part of a marginalized group perceive that their own social group is being unjustly treated by a stronger and more powerful foe, this may serve as a precursor to extremist violence. Collective strains increase the likelihood of terrorism due to a mixture of negative emotions and reductions of coping abilities (Agnew, 2010). Hamm and Spaaij (2015) point out that most lone wolf offenders experienced varying combinations of grievances. Along these lines, grievances can lead individuals to radicalization. In a subsequent study of 123 different far-right serial killers, mass shooters, political assassins, and lone-actor terrorists (1940-2016), Hamm and Spaaij (2017) associated five different factors with lone-actor violence. These include the presence of personal and political grievances: sympathizing with extremism on the Internet, the occurrence of a climatic event in the offender's life, and leaking his or her intention of carrying out acts of violence.

In this present study, we also consider multiple and different types of grievances that were held (or not held) by offenders across each of the 306 shootings under attention. However, we do so with the intention to assess set-theoretic relationships between several outcomes and different types of grievances, along with other factors such as strain, mental health issues, and acute stressors. Our aim in subsequent sections will be

to comparatively assess different offenders who carried out either a mass shooting or an attempted mass shooting across a large number of cases.

Method

QCA has origins in the mathematical study of logic. Today, there are multiple variants of QCA, including multi-value QCA, fuzzy-set QCA, and crisp-set QCA, among others. We will utilize the latter (crisp-set QCA). QCA is based on Boolean Algebra and is used by researchers to assess set-theoretic relations between conditions and an outcome (Ragin, 2000, 2008). A set is synonymous with a category (Duşa, 2018). For example, when we speak of a set of offenders with mental health issues (which is one of the five explanatory conditions in this study), we observe offenders who experienced mental disturbance(s) across each of our 306 cases. Those who did not experience mental disturbance(s) would fall outside of the set. Along these lines, set relations are fundamentally different from statistical correlations and specifically, statistical levels of analyses. One of the primary aims of QCA has to do with weighing the degree to which a given condition or a combination of conditions are present or absent when the outcome occurs or does not occur. This can help ascertain which conditions are either sufficiently or necessarily associated with the outcome. Rather than providing a descriptive account of the occurrence of a mass shooting and attempted mass shooting, QCA will enable us to utilize methodological tools that have several advantages above traditional approaches used in the aforementioned literature. In detail, in QCA, causality is considered to be asymmetric, equifinal, and conjunctural, rather than probabilistic and symmetric (Schneider & Wagemann, 2010). Equifinality is the ability to identify more than one causal pathway that can account for the presence of an outcome. Conjunctural causation states that an empirical phenomenon may only be brought about by conditions that are reliant upon either the presence or absence of other condition(s). This assumption entails that the effect of a single condition may only be observable in conjunction with the presence or absence of other conditions. To contrast, in regression analysis, conjunction is viewed and treated as interaction.

As part of standard practice in QCA, there are several steps that are taken throughout the analysis.[1] First, we will define our outcome(s), then theoretically choose, and then calibrate our explanatory conditions. These characteristics are observed in our data featuring 306 cases. Second, we will engage in Truth Table analysis followed by minimization, also known as Standard Analysis. Here, a Boolean minimization process takes place based on the Quine–McCluskey algorithm. This enables us to arrive at solutions that account for the outcome under attention to varying parameters of consistency and coverage. We then will utilize Venn diagrams that represent these solutions to further assess whether there exist notable differences between different shooting types.

Defining our Outcome

The outcome under attention is binary and captures mass shootings and attempted mass shootings that were carried out by offenders which sympathized with an extremist

ideology. A mass public shooting is an incident of targeted violence where an offender or offenders killed or attempted to kill four or more victims on a public stage within a 24-hr period. In other words, this study includes incidents where offenders unambiguously attempted to kill four or more individuals but did not meet the Federal Bureau of Investigation (FBI)'s death-toll criterion. Cases where the perpetrator clearly attempted to kill four or more victims but failed are theoretically relevant cases, as the underlying psychological and sociological processes that propel an offender to commit a mass public shooting are not associated with his or her ability to do so successfully. Therefore, cases featuring offenders such as Robert Lewis Dear (who attacked a Planned Parenthood clinic in Colorado, killing three and injuring nine others) are just as relevant as the massacre committed by Omar Mateen.

We define an extremist sympathizer as an offender who sympathizes with extremist symbols and ideologies but is not formally affiliated with any known extremist movement. The outcome is coded according to the occurrence of an attempted or completed mass shooting carried out by an offender who was an extremist sympathizer (0 = *non-extremist*; 1 = *extremist sympathizer*). We have chosen to assess this outcome (and later, we will assess its logical negation) because most mass shootings and mass shooting attempts have been carried out by individuals who were not formally affiliated with an extremist group. Of the 306 shooters, only six offenders were formally affiliated with an extremist movement. To contrast, there are 45 extremist sympathizers in our data. Mass shootings historically have been carried out by loners and, in rare cases, few individuals (e.g., Columbine). It is worth noting that in the post–9/11 era, terrorists in the United States are also increasingly getting radicalized without directly being affiliated with a terrorist group (Hamm & Spaaij, 2015). Importantly, our analysis will also feature the negation of the outcome. Analyzing the negation (non-presence of the outcome) can "help grasp the causal logic" that drives positive cases, on one hand, while, on the other hand, such an empirical test can produce interesting new insights (Schneider & Wagemann, 2010).

Data

There are 306 total offenders under attention in this study. The dataset includes characteristics of each offender's experience with (a) general strain, (b) reported history of mental disturbance, (c) acute/temporal stressor, (d) group grievance, and (e) personal grievance. Although our data do not capture every single mass shooting and mass shooting attempt in U.S. history, we do have a representative sample in terms of the geographical location of the shooting, the specific venue of the shooting (e.g., school or workplace), variance in both offender age and race, among a variety of other factors. More importantly, our data capture some of the deadliest shootings in history. There are no missing values across cases, as QCA cannot handle missing values. Like most studies on the subject, this study employed an open-source data collection strategy to identify and collect information on both failed and successful mass public shootings that occurred in the United States from 1984 to 2015 (Blair, Nichols, & Burns, 2013; Capellan, 2015; Kelly, 2012; Lankford, 2013). Open-source data are

information that are open to the public (Chermak, Freilich, Parkin, & Lynch, 2012). These data often come in the shape of searchable electronic documents (e.g., newspaper articles and government documents) which can be accessed via the Internet. To identify all relevant cases, specific search terms (e.g., mass shooting, mass public shooting, random shooting, and deranged shooting) were employed in eight different search engines.[2] Double quotations and Boolean operators were used to increase the number of relevant results. Once the initial list of potential mass public shootings was compiled, it was then cross-referenced with 52 lists of mass shooting lists and databases provided by peer-review journals, new organizations, school-sponsored reports, blogs, and online encyclopedias. After the final list of mass public shootings was generated, the same eight online search engines were used to obtain detailed information on the offenders, victims, and incidents. Open-source materials, such as media accounts, legal documents, blogs, videos, and government documents, were used to create files on each incident. Media reports and government documents include the names of offenders and victims, their motives, criminal histories, preparation, execution, and conclusion of homicides. Thus, open-source data enable researchers to reconstruct these events in great detail in a nonintrusive manner.

While open-source data provide researchers with detailed accounts of events, there do tend to be reliability concerns associated with it (see Huff-Corzine et al., 2014). Reliability problems come in the shape of conflicting accounts of the same event. When inconsistencies in the open-source data where encountered, we followed the guidelines established by Sageman (2004). More weight was given to trusted sources of information. In decreasing order of reliability, we favored (a) court documents, police reports, news reports that provided corroborated accounts of witnesses, family members, friends; (b) uncorroborated statements from witnesses, family members, friends; and (c) accounts from people that heard information secondhand. While open-source data are susceptible to this and other forms of error, when done systematically, open-source data have been shown to be as effective as official sources of data (Parkin & Gruenewald, 2015).

Furthermore, an extremist refers to a person who holds a set of beliefs that diverge from mainstream policy preferences. This study assesses mass public shootings committed by offenders who adhered to either far-right radicalism (racial, religious, among others) or Islamic or Jihad-inspired radicalism, and Black nationalist ideologies. Further adding to our conceptualization of extremist ideologies (except Black nationalist extremist), two techniques are relied on, the first of which is found directly in Freilich, Chermak, Belli, Gruenewald, and Parkin (2014):

- Far-right extremists are fiercely nationalistic, anti-global, and suspicious of centralized federal authority, and reverent of individual liberties. They believe in conspiracy theories involving national sovereignty, personal liberty, and often believe their "way of life" is under attack.
- *Jihad*-inspired extremists believe that only the acceptance of Islam promotes human dignity. *Jihad*-inspired extremists believe Western culture is hedonistic and threatens Muslim values; instead, they believe that Islamic law—Sharia—provides the

blueprint for a modern Muslim society and should be forcibly implemented. *Jihad*-inspired extremists believe that the American people are responsible for their government's actions and that there is a religious obligation to combat this assault.

- Black nationalist extremists oppose racial integration, racial intermarriage, and advocate for separate institutions (Davis & Brown, 2002). They are anti-White, anti-Semitic—these racial and religious groups are seen as "devils" and the source of the suffering of Black people in America. Black nationalist extremists advocate conflict/revolution to reclaim their heritage, rights, and dignity.

Another technique which we relied on while coding our cases has to do with identifying and coding information on which perpetrators sympathized with extremism. We specifically utilized the Extremist Crime Dataset's (ECDB) Strength of Association measurement protocol to code our extremist sympathizer outcome. This coding protocol is based on individual pieces of "pro association" and "con association" evidence (Freilich et al., 2014). It ranges from 0 to 4, with four being the highest level of certainty that the perpetrator is an extremist, and that the attack was ideologically motivated. Perpetrators who scored greater than "one" were classified as ideological offenders and ideologically motivated attack, respectively.

Explanatory Conditions

We identify five explanatory factors that are relevant to the occurrence of a mass shooting. These conditions have been calibrated as required by standard QCA practice—to theoretically informed knowledge (Ragin, 2008). By theoretically informed knowledge, we draw from previous causal arguments and frameworks, such as Agnew's GST, while, we incorporate other measures of potential risk factors such as acute stressors, mental health issues, and grievances held against personal acquaintances of the offender or against a social group. We do not contend that any of these conditions can account for the outcome on its own. For example, many civilians experience strains, negative emotions, and other adverse developments, but not all civilians carry out mass shootings. Nonetheless, combinations of these conditions can potentially be salient for explaining the occurrence of mass shootings and attempted mass shootings as they capture some of the most important risk factors that researchers can observe when investigating this particular form of violence. For example, grievances that individuals hold against social groups may be especially important as researchers have hinted extremist ideologies provide a psychological mechanism of externalization, which allows individuals to channel their personal frustrations and anger, and project blame onto other members of society (Meloy & Yakeley, 2014; Spaaij, 2010).

General strain (S). This causal condition captures general socioeconomic strain. In samples that include a wide range in offender's age (from 14 to 88 years of age in this case), traditional measures of social-economic strain such as unemployment, being single/divorced, can be quite misleading. For example, unemployment is not a good proxy for economic strain for offenders who are young (below 18 years of age), going

to school, and living with his or her family. In fact, employment for a high school student, for example, may represent economic strain, as they may need to work to supplement their parent's income. This is also true for senior citizens. Therefore, a valid measure of social-economic strain must account for age-specific contexts. Our conceptualization is based on both Gibbs and Martin (1964) and Agnew's GST. In the former, it was argued that people with statuses that are socially sanctioned, or inconsistent with culturally expected roles, create harmful strains for individuals.

Reported history of mental disturbance (M). Outside of a formal diagnosis, identifying mental illness could be quite complicated, as significant portions of criminal offenders have never been diagnosed despite suffering from severe mental illnesses (Fazel & Danesh, 2002; Lankford, 2016a). Therefore, relying only on a formal diagnosis is likely to skew the results. In addition, it is difficult to generalize mental illness across different historical eras, as the meaning and formal definition(s) of mental illness have varied and evolved. To overcome these limitations, our conceptualization of this condition is based on the notion of *mental disturbance*. Due to the difficulty of being able to observe mental illness accurately, we focus on whether a shooter had undergone adverse psychological processes before carrying out an act of violence. To this end, open-source documents were reviewed for characterizations by family members and close friends of the offender in regards to mental health status. To assess the validity of these characterizations, we looked for detailed accounts that included examples or statements by the perpetrators. Only characterizations that well-predated the attacks were included, as individuals may tend to suggest mental illness because of the massacre itself. Reported history of mental disturbance is coded as a categorical variable with "1" indicating a formal diagnosis or a suggested history of mental disturbance by family members and friends. Specifically, we coded this condition according to salient mental problems that are known to be experienced, including one or more of the following: schizophrenia, depression, anxiety disorders, addictive behavior, bipolar disorder, obsessive-compulsive disorder, and posttraumatic stress disorder.

Acute strain/temporal stressor (A). This causal condition captures short-term events that are perceived as a catastrophic loss in the mind of the offender, which serves as a catalyst for the attack. This condition is coded dichotomously with "1" indicating that the offender experienced a traumatic event that caused acute strain, and "0" indicating no known acute strain stressor. A variety of different types of strains were observed across cases, including the explosion of a struggling student from high school, as well as the failure of a young professional in his or her career in the workplace.

Group grievance (G). This condition captures offenders whose primary grievances were against a social group such as supporters of the democratic party, religious groups, minority groups, and genders. The condition is coded as "1" indicating offenders whose primary grievance was against either a social group or social institution and "0" if no grievance was held by an offender. Undoubtedly, the type of group/institutional grievance held by an offender may determine whether an individual engages in

violence or other illegal, but nonviolent offenses. For example, those who have a grievance against the Internal Revenue Services (IRS) may undermine or "attack" it through failure to pay taxes or creating tax/financial schemes. Conversely, those who have a White Supremacy ideology may see violence as a more suitable form of retribution. It is viable to contend that group grievance is likely very salient in leading one down the path of extremism, and eventually violence. Group grievance, however, is in no way necessary for the occurrence of both a non-extremist and an extremist mass shooting.

Personal grievance (P). This condition captures whether an offender held a personal grievance against either the place/company which was chosen for the attack or against individuals that worked, were in or resided in a given public location. It is possible for extremist sympathizers to be motivated either by group grievance or personal grievance, or a combination of both. With that being said, personal grievance differs in comparison to group grievance. Take cases featuring offenders such as Patrick Gott as an example. Gott sympathized with extremist views but was motivated to attempt a mass shooting due to a personal grievance. In Gott's case, a personal grievance was spurred by an insult he experienced at the airport. Gott was found to be mentally ill afterward and unfit to stand trial. In contrast, an offender such as Dylann Roof held grievances against Black Americans, which is a group grievance. This grievance was a motivating factor for Roof's mass shooting in Charleston.

Descriptive Information

The Table 1 below contains information on extremist sympathizers, affiliates, and all 306 cases and their characteristics.

There is an indefinite complexity inherent to grievances in the context of mass shootings. Mass shooters often hold multiple grievances. Our results show that grievances could be conceptualized as a continuum, with purely personal grievances on one end, group grievances on the other, and a blend in the middle. Most extremist sympathizers tend to hold group grievances. However, extremist shooters also have personal grievances, as offenders who are not affiliated with an extremist movement also have group grievances. In all, 39 out of 45 extremist sympathizers held at least one grievance against social groups or social institutions. In contrast, 24 out of 45, 53% of extremist sympathizers held a personal grievance. There also seems to be differences in the distribution of other explanatory factors. Non-extremist shooters seem more likely to suffer from general strain and acute strain than extremist mass shooters. Both non-extremist and extremist mass shooters are affected by mental disturbances at a similar rate.

While informative, these differences and similarities are devoid of complexity. In other words, descriptive statistics do not enable us to ascertain whether any causal pathways may be unique to a particular outcome. The goal of QCA is not to predict an outcome or assess a variable's ability to predict a particular outcome; instead, it is to identify unique causal pathways to an outcome.

Table 1. Descriptive Statistics by Extremist Affiliation.

	Non-extremist (n = 261)	Extremist sympathizer (n = 45)
	%	%
Grievance type		
Personal	71.8	34.1
Government institutions	2.2	68.2
Racial	1.8	41.4
Cultural/anti-West	0	17
Women	5.6	4.8
General strain	66.6	37.5
Mental disturbance	43.2	43.6
Acute strain	43.9	31.7

Empirical Tests

The central methodological pillar of QCA has to do with logical minimization which is based on the Quine–McCluskey algorithm. This produces multiple solutions that account for the outcome to varying parameters of sufficiency. To run our empirical tests, we utilize a recent R programming software application (the specific package known as QCA; Duşa, 2007, 2018). After reviewing what is referred to as a Truth Table (which lists all possible combinations of conditions that account for the outcome), the researcher sets certain thresholds marking a degree of stringency below which the outcome will be tested. Our two different Truth Tables are included in Online Appendix A.[3] Furthermore, specific focus is placed on these five explanatory conditions and their intersection with the outcome (Figure 1). These particular intersections are the main points of attention as they represent data (solutions) from the Truth Table.

Each set is illustrated in a spherical shape and is labeled by its representative letter (e.g., S for Strain). Similarly, each segment or quadrant, for example, 1345 or 13, represents solutions comprised of possible intersections between sets (conditions) and the outcome (extremist sympathizer), as applied to the 306 cases under attention. The order of these solutions in each segment represents the order of conditions in a given solution (1, 2, 3, 4, 5—S, M, A, G, P; Strain, Mental Disturbance/Ailment, Acute Stressor, Group Grievance, Personal Grievance). The next step is to engage in the minimization process. Once thresholds are established, logical minimization takes place. Here, cases are assessed in relation to their membership in sets. A value of 1 is the highest possible value that a characteristic of a condition can fulfill. A value of 0 indicates no set-membership. For the minimization process, we set our consistency threshold at the 0.75 level, which is the standard marker used in QCA (Ragin, 2008). The concepts of consistency and coverage are the measuring parameters for what can be considered to set-theoretic significance. The higher the

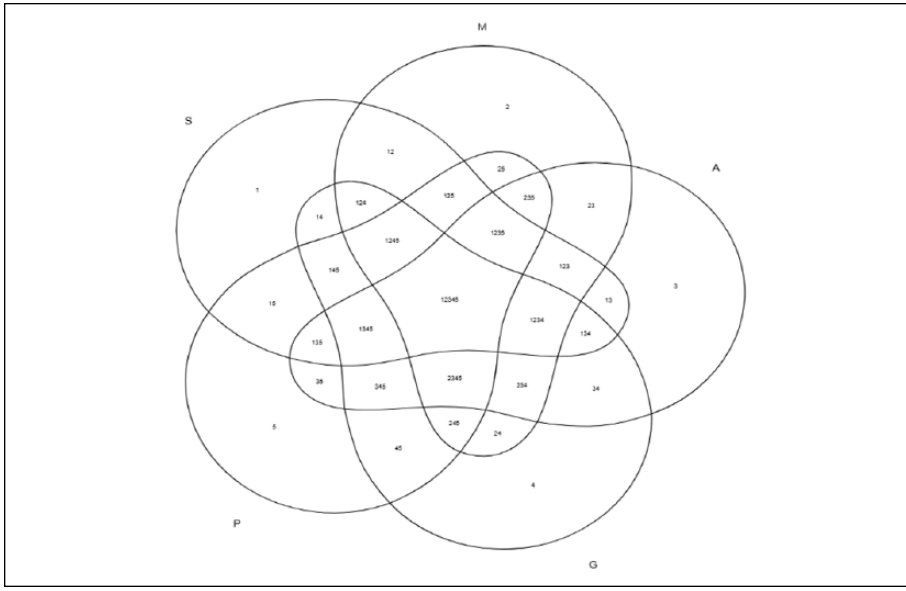

Figure 1. Venn diagram of explanatory conditions.

consistency and coverage, the greater salience can be attributed to a given condition(s) or solution. Consistency reveals a causal pathway's salience in explaining an outcome, while coverage tells us the proportion of outcome occurrences that a given causal recipe(s) can account for across the data. Both consistency and coverage range from 0.0 to 1.0—with the latter indicating full-set membership. To arrive at several different solutions, a minimization process takes place through directly drawing from data found in the Truth Table.

During minimization, the Quine–McCluskey algorithm is utilized to arrive at sufficient causal pathways that account for the outcome of varying consistency and coverage parameters. These solutions account for the empirical occurrence of cases perpetrated by individuals who sympathized with extremism. Each pathway or configuration contains some conditions that are present and others that are absent. This entails the empirical presence and operation of conjunctural causation. The primary output produced during minimization provides three types of solutions: the complex, intermediate, and parsimonious solutions. In set-theoretic terms, the intermediate solution is a subset of the parsimonious solution and a superset of the complex solution. The complex solution provides the most "complex" of configurations in comparison to the parsimonious. The intermediate solution lies in between the complex and parsimonious. We report the complex and intermediate solutions. Importantly, both solutions are equivalent to one another but are arrived at through different assumptions based on prime implicants and the consideration of different counterfactuals. Solutions are illustrated in the Table 2 below.

Table 2. Solutions (Extremist Sympathizer).

	Configuration consistency	Configuration unique coverage
Complex solution		
1. ~S * **M** *~A * **G**	0.87	0.31
2. **S** * ~M* ~A * **G**	1.0	0.17
3. **S** * **A** * **G** * ~P	1.0	0.02
4. ~M * **A** *G * ~P	1.0	0.04
Intermediate solution		
1. ~P * **G** * **A** * ~M	1.0	0.04
2. **G** * ~A * **M** * ~S	0.87	0.31
3. **G** * ~A * ~M * **S**	1.0	0.17
4. ~P * **G** * **A** * **S**	1.0	0.02

Note. Frequency cutoff: 1.0; Consistency cutoff: 0.84.

In set-theory, the (*) refers to the intersection of sets and (~) indicates the nonappearance or non-presence of a condition. When interpreting these pathways, it is crucial to not forget about the absence of conditions, as these conditions are part of a solution, and the solution would not be logically reproducible without also including the absence of a given condition. As indicated in the output above, there are four total solutions that account for the outcome. Two of the four most salient contain group grievance but also are reliant on the presence and absence of other conditions. The first solution in the complex solution array (~S * **M** *~A * **G**) captures 31% of marked cases. It specifically captures mass shootings and attempted mass shootings that were carried out by mentally ailing offenders who held a group grievance but were not strained and did not suffer from an acute stressor. This solution is illustrated in green shading in the segment (2,4) in Figure 2.

Next, the second salient pathway (**S*** ~M* ~A * **G**) captures 17% of marked cases. It features offenders who were suffering from strain and did hold a grievance against a social group but were not mentally disturbed/ailed and did not experience an acute stressor. This solution is illustrated in green shading in the segment (1,4; upper left-hand corner) in Figure 2. The Venn diagram is the same as the previous diagram; however, here the shading contains information on all possible solutions to our outcome.[4] Specifically, the green shaded areas capture the solutions found in Table 2 above and the noted cases in above. For example, the pathway (~M * **A** * **G** * ~P) is in segment (3,4). Importantly, the diagram contains some segments that are shaded green such as (1,2,3,4) but are not represented in the primary solutions. This is because it also represents every logically possible combination of conditions that account for at least one or more of cases in our data. Cases featuring offenders such as Clay A. Duke or Jake England (**S * M * A * G)** are relevant to more than one solution.

Figure 2. Venn diagram: OUTCOME (extremist sympathizer).

Negating the Outcome

Analyzing the negation of the outcome is recommended as part of standard QCA practice (Schneider & Wagemann, 2010). This analytical maneuver is used to reveal the associational importance of our five explanatory conditions on the non-presence of the outcome. We will report these results in a Venn diagram (Figure 3 below) and via solutions in a subsequent table.

As illustrated above, (1,2,4), (1,2,5), (2,5), (2,3,5), (1,2,3,5), (1,3), (1,3,5), (3,5) and other relevant segments feature relevant causal pathways. If viewed alongside Figure 2, it is evident that the set relations between the five conditions and the non-presence of the outcome are substantially divergent when compared with its presence. In other words, the Table 3 below indicates that personal grievance is more salient explaining the non-presence (negation) of our outcome.

Discussion

This study aimed to advance our understanding of the etiology of ideologically motivated violence in the United States. The cases investigated in this study contain a great deal of variation regarding motivation (i.e., ideological vs. nonideological) and variation concerning types of ideological extremism. Our dataset includes mass public shootings motivated by far-right, Jihad-inspired, and Black revolutionary/Black power ideologies. We have engaged in one of the first attempts at a stringent comparative analysis of extremist versus non-extremist mass shootings and mass shooting attempts.

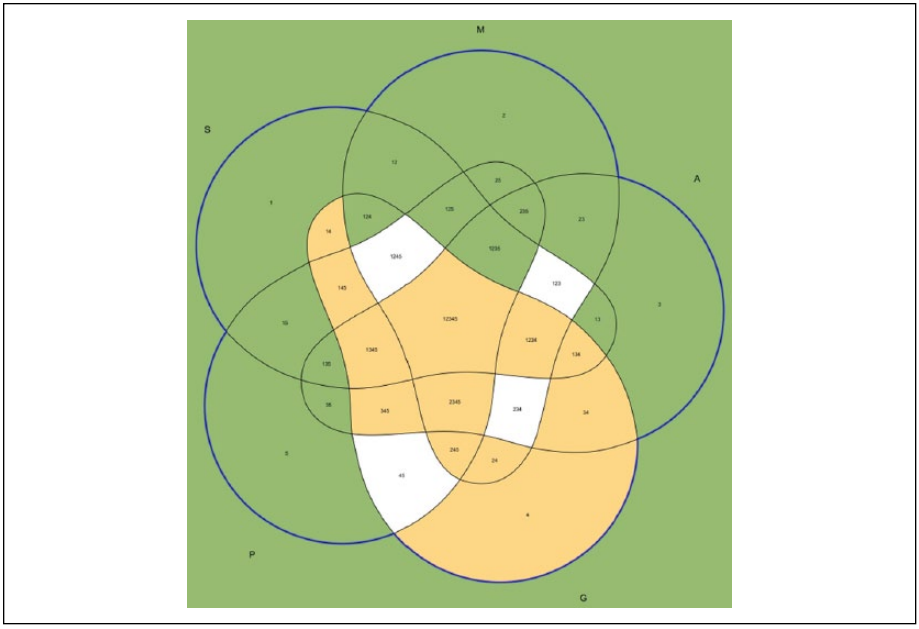

Figure 3. Negated outcome.

Table 3. Solutions for Negated Outcome.

	Configuration consistency	Configuration unique coverage
Complex solution		
1. ~M * ~G	0.97	0.08
2. ~S * ~G	1.0	0.05
3. ~G * **P**	0.96	0.14

Note. Frequency cutoff: 1.0; Consistency cutoff: 0.84.

Through various set-theoretic assessments and tests, we found that there exist different causal pathways underpinning cases involving extremist sympathizers when compared with non-extremists. Most notably, extremist sympathizers are driven by a combination of group grievance along with either mental ailment or general strain. Similar to Hamm and Spaaij (2015) and McCauley et al. (2013), our results highlight the importance of group grievance (G) for the occurrence ideologically motivated violence. Grievance toward social groups manifests itself in all four pathways specified in our analysis. This finding is not surprising, but it does highlight the complex causal nature of extremist violence. McCauley et al. (2013) noted that personal or political grievance is a principal theme in lone-actor violence. In line with this argument, our results suggest that the type of grievance held by the individual may determine which

path of violent radicalization and ultimately the type of violence he or she carries out (i.e., ideological or nonideological). The pain, suffering, and frustrations caused by grievances against social groups and political and religious institutions are particularly susceptible to ideological frames. Extremist ideologies provide a psychological mechanism of externalization, which allows individuals to channel their personal frustrations and anger, and project blames onto other members of society (Meloy & Yakeley, 2014; Spaaij, 2010).

Specifically, group grievance interacts with mental disturbances in the absence of strains to drive individuals to ideologically motivated violence (~S * **M** *~A * **G)**. Omar Mateen fits this causal configuration. As noted earlier, Mateen had a fascination with violence and law enforcement. Prior to the attack, he attempted to purchase military-grade gear (i.e., boots, uniform, and bullet-proof jacket). Although there was no formal diagnosis of mental illness, those closest to him characterized him as profoundly disturbed and mentally unstable. Mateen did not endure social-economic strain. He had a wife, a child, and while not in an optimal career of choice, he was still employed. It is hard to disentangle the causal order in this configuration. Did ideological extremism structure Mateen's thinking or was it his (likely) mental illness that propelled Omar Mateen to commit this massacre under the guise of ideological extremism? The case of Buford Furrow Jr., a White supremacist who attacked a Jewish community center in 1999 may shed some light on this puzzle. Like Mateen, Furrow Jr. suffered from mental illness and other psychiatric conditions. After many years of receiving treatment for his conditions, Furrow Jr. not only exhibited great remorse for his actions but also renounced and repudiated White supremacist ideology. In his case, it appears that mental illness latched itself into group grievance; when the pathologies became absent, ideological extremism also diminished.

In the second most salient of pathways, group grievance interacts with general strain in the absence of acute strain and mental disturbance to drive individuals to ideologically motivated mass public shootings (**S** * ~M * ~A * **G)**. This path led Colin Ferguson to kill six and injure 19 in a Long Island Railroad train station. Colin Ferguson was born to succeed. He was born to a wealthy, loving family in Kingston, Jamaica. As a child, he excelled in sports and school—graduating at the top of his class. However, his life fundamentally changed when he lost both parents at the age of 18 years. No longer having a home or the economic means to thrive, Colin moved to the United States to study and establish a profession. At every turn, he was met with failure. For years, Colin relentlessly attempted but failed to establish a career. During this time, he became infatuated with Black revolutionary ideology. He blamed White people and systemic racism for his misfortunes. Colin also had trouble with establishing a romantic relationship. His first marriage ended quickly in divorce, and subsequent attempts miserably failed—with the last attempt getting him arrested for sexual harassment. Colin did not suffer from mental illness, nor was his attack motivated by a precipitating event (i.e., temporal stressor). Instead, it was cumulative strain stemming from economic and romantic failure combined with Black revolutionary ideology that led him to blame and ultimately attack "White America."

While the causal configurations discussed above point to interesting causal pathways, equally important are the causal conditions that did not seem to play a role mass in shootings committed by extremist sympathizers. For example, acute strain was notably absent in pathways to extremist mass shootings. This finding is consistent with Osborne and Capellan (2017) who observed acute strain to play a major role for shooters with personal grievances. Similarly, personal grievances did not play a role in pathways to extremist shootings. The negated outcome analysis showed, however, that personal grievance was salient in non-extremist mass shootings. The absence of these factors is of great theoretical importance, as it suggests different criminogenic factors (mental illness, general strain, acute strain) may be attracted to specific types of grievances, and subsequently lead to different types of outcome (terrorism vs. mass murder).

Limitations and Future Research

As any empirical research endeavor based on observational data is bound to suffer from potential limitations, our study is no different. Our results should be understood within the context of the following limitations. First, QCA is an explanatory framework and is not designed for hypothesis testing. As such, from observing and comparatively assessing 306 cases, our results do not enable us to make predictions of mass shootings perpetrated by extremist sympathizers. Second, our study did not account for all possible factors that may explain extremist violence. Undoubtedly, the type of group/institutional grievance held by an offender may determine whether an individual engages in violence or other illegal, but nonviolent offenses. Research on lone wolf terrorism demonstrates that not all ideologies are equally represented (see Gill, Horgan, & Deckert, 2014; Spaaij, 2010). Even within the far-right, some terrorist affiliations and specific ideological issues are overrepresented (see Gruenewald, Chermak, & Freilich, 2013). These differences indicate that certain types of group/institutional grievances, as well as ideological leanings, may put individuals at a higher or lower risk of committing ideologically motivated violence. Accounting for such conditions through the comparative analysis of finer grained data in future research activities may allow us to identify more salient and or additional unique causal pathways to extremist violence. Despite the complexity inherent to ideologically motivated violence, this study demonstrates that there is much to be gained from the use of comparative methods in the study of extremist and non-extremist violence.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. The standards of good practice and transparency in Qualitative Comparative Analysis (QCA) are well-known by practitioners and scholars—they are best summarized on the Comparative Methods for Systematic cross-case analysis: accessible at: http://www.compasss.org/about.htm
2. Lexis-Nexis, Proquest, Yahoo, Google, Copernic, News Library, Westlaw, Google Scholar.
3. https://www.dropbox.com/s/2dza32kstr94uiz/Appendix%20Outcomes.docx?dl=0
4. The areas that are non-shaded (white) represent logical remainders (i.e., combinations of conditions that are not represented in our data).

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