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A Media Distortion Analysis of Mass Shootings

Jason R. Silva

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A MEDIA DISTORTION ANALYSIS OF MASS SHOOTINGS

JASON R. SILVA

Department of Criminal Justice

A dissertation submitted to the Graduate Faculty in Criminal Justice in partial fulfillment of the requirements for the degree of Doctor in Philosophy.

The City University of New York

2019

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A Media Distortion Analysis of Mass Shootings

by

Jason R. Silva

This manuscript has been read and accepted by the Graduate Faculty in Criminal Justice in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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ABSTRACT

This study examines the reality and news media coverage of all mass shootings in the United States from 1966 to 2016. It employs agenda-setting and framing theoretical frameworks to determine the social construction of mass shootings via the mass media. The project uses open-source data to create a comprehensive list of mass shooting incidents. It then identifies all published *New York Times* articles on each incident. The study summarizes both the reality of the social problem (i.e. incidents) and the news mediated reality (i.e. *New York Times*). Next, this dissertation conducts a media distortion analysis to determine the perpetrator, motivation, and incident characteristics influencing media selection, prominence, and framing. The purpose is to illustrate the media's social construction of mass shootings that in turn shapes public perceptions, political discourse, and public policies. The study concludes by highlighting the findings and implications for scholars, practitioners, policy-makers, media outlets, and the general public.

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I dedicate this work to my Mom, Dad, and DIY.

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CHAPTER 1

INTRODUCTION

This study examines the news media coverage of mass shootings that occur in the United States from 1966 to 2016. Mass shootings unnerve the general public because they violently target large numbers of seemingly random victims in public locations (Lankford, 2016a; Newman, Fox, Roth, Mehta, & Harding, 2004). This gives the perception that a mass shooting could happen to anyone, anywhere, anytime. As a result, the public is drawn to information surrounding mass shootings as it relates to their own lives. The media provides the main source of public information about mass shootings and shapes public perceptions, political discourse, and subsequent policies surrounding the phenomenon (Schildkraut & Elsass, 2016).

This work uses agenda-setting and framing theoretical frameworks to determine the social construction of mass shootings via the mass media. It uses open-source data (i.e. peer reviewed-journals, books, government documents, dissertations, and media reports) to identify all known mass shooting incidents. Next, the project identifies all published *New York Times* articles on each case. The study summarizes both the reality of the social problem (i.e. incidents) and the news mediated reality (i.e. *New York Times*). Then, a media distortion analysis (Gruenewald, Pizarro, & Chermak, 2009) determines the perpetrator, motivation, and incident characteristics influencing issues of selection, prominence, and framing. The goal is to identify the social construction of mass shootings influencing public perceptions of the social problem.

This work extends the literature in seven important ways. The first three contributions expand the sample size. First, this study expands the time frame by including 50 years of incidents. This comprehensive examination of mass shooting media coverage is used to study changes in incidents and coverage over the entire time-line. Second, this study examines all

coverage instead of just the first month after each incident. This strengthens the validity of identified characteristics known to influence mass shooting coverage including the number of victims, race of the perpetrator, and incident location (Schildkraut, Elsass, & Meredith, 2018). Third, this study includes previously unexplored ideologically-motivated perpetrators who comprise a significant portion of shooters (Capellan, 2015). Since lone wolf terrorist shooting attacks are more lethal they should receive greater media coverage (Capellan, 2015).

Fourth, this research investigates new perpetrator, motivation, and incident characteristics. Importantly, previous work (Schildkraut et al., 2018) may have contributed to “omitted variable bias” leading to the over-or-underestimation of predictors that correlate with the missing covariates in assessments of the phenomenon. For example, if a perpetrator’s history of domestic violence is not accounted for in an analysis, and domestic violence is a significant predictor of newsworthiness, as well as the lethality of these attacks, then the effect of lethality on newsworthiness will be overestimated.

The final three contributions consider the framing of the phenomenon. Fifth, this work provides the largest examination of the media framing of the mass shooting social problem. Previous research has often looked at the framing of a single incident, or incident type (Chyi & McCombs, 2004; Muschert & Carr, 2006; Schildkraut & Muschert, 2014), but no study has examined the entirety of framing across all cases. Sixth, this work covers previously unexplored media framings of the problem. While research has highlighted mental illness and gun access (Schildkraut & Muschert, 2013), it is important to consider the role of gender grievances, terrorism, crime, and news media in public perceptions of the social problem. Finally, this study is the first to advance the methodological analysis of media and crime by conducting a media distortion analysis of the media’s framing of mass shooting coverage.

In sum, this work provides the most comprehensive investigation into the media coverage of mass shootings to date. Chapter 2 defines and operationalizes the reality of the phenomenon. Chapter 3 illustrates the media and crime theoretical frameworks for determining the news mediated reality (i.e. the social construction of reality driven by the news media). This section identifies the agenda-setting and framing approaches to determining the social construction of a social problem. Chapter 4 assesses the current state of media and mass shooting research. This section identifies the gaps in research, and outlines research questions and hypotheses for future consideration. Chapter 5 breaks down the methodological approach used in this media distortion analysis, including the data collection of incident and news data, as well as the analytic strategy. The results are divided across three chapters. Chapter 6 highlights the reality of mass shootings, identifying the severity of the problem (i.e. incidents and casualties), as well as the perpetrator, motivation, and incident characteristics. Chapter 7 examines how the media sets the agenda on mass shootings, identifying the frequency of coverage over time, the number of words and articles dedicated to the problem, and the characteristics influencing newsworthiness of general coverage. Chapter 8 illustrates the media framing of the mass shooting problem, identifying the frequency of frames over time, the number of words and articles dedicated to each frame, and the characteristics influencing newsworthiness of specific frames. Chapter 9 provides a discussion of findings and implications of the social construction and media distortion of the problem. Finally, Chapter 10 provides concluding remarks, including limitations and implications for future research investigating mass shootings and media coverage of the phenomenon.

CHAPTER 2

DEFINING A PHENOMENON

Scholars and practitioners disagree on how to define mass shootings and this has led to confusion in the literature. Even though the FBI has defined a variety of rare and sensational forms of violence including active shooter incidents (Blair & Schweit, 2014), serial murder (FBI, 2008), and terrorism (FBI, 2002), they have not yet defined a mass shooting. A variety of terms are used to identify the phenomenon including (but not limited to): active shooter incident, mass killing, mass murder, rampage shooting, and school shooting. Each of these terms has their own definitions that often include different inclusion criteria.

Newman et al. (2004) provide one widely cited definition (Langman, 2009; Muschert, 2007) of a rampage school shooting, which requires it take place on a school-related public stage before an audience; involve multiple victims, some of whom are shot simply for their symbolic significance or at random; and involve one or more shooters who are students or former students of the school. Schildkraut and Elsass (2016) expand this definition to incorporate all types of mass shootings:

An incident of targeted violence carried out by one or more shooters at one or more public or populated locations. Multiple victims (both injuries and fatalities) are associated with the attack, and both the victims and locations are chosen either at random or for their symbolic value. The event occurs within a single 24-hour period, though most attacks typically last only a few minutes. The motivation of the shooting must not correlate with gang violence or targeted militant or terroristic activity. (p. 28)

These two definitions highlight the key components when operationalizing a mass shooting including: (1) length of time, (2) incident location, (3) perpetrator motivation, and (4)

number of victims. These definitional criteria have been a source of contentious debate amongst scholars (Silva & Greene-Colozzi, 2018), and require further assessment. Table A1 provides a list of the key mass gun violence definitions examined in the preceding section.

Time

Mass shooting scholars generally agree an incident must occur within a single 24-hour period (Schildkraut & Elsass, 2016). In this way, mass shootings are similar to spree shootings instead of serial shootings. Fox and Levin (2005) make a distinction between spree and serial by emphasizing a “cool-off period.” Spree shootings have no cool-off period. Alternatively, serial shootings involve the perpetrator resting for an extended period of time. For example, in 2002 two perpetrators¹ shot and killed 10 people over three weeks in the Washington DC metropolitan area. The extended period of time would make the DC Sniper incident a serial shooting (FBI, 2008). Schildkraut and Elsass (2016) argue serial shootings are similar to serial killers and should be excluded from mass shooting databases.

Location

A mass shooting must take place on a public stage before an audience (Newman et al., 2004). This highlights the desire for public viewership and eliminates incidents that are exclusively carried out at home (e.g. domestic violence). Most mass shooting research examines schools (Kimmel & Mahler, 2003; Leary, Kowalski, Smith, & Phillips, 2003; Muschert 2007; Newman et al., 2004; Wike & Fraser, 2009), as well as businesses, religious institutions, government buildings, and “open-spaces” including malls, restaurants, clubs, bars and events (Capellan, 2015; Lankford, 2013, 2015, 2016a). A mass shooting can occur in one or more locations, as long as it is within a 24 hour period (Schildkraut & Elsass, 2016). An incident is still

¹ Some have called for researchers to refrain from naming the perpetrators to avoid glorifying them (Lankford & Madfis, 2017; Sidhu, 2017). The current study does not name perpetrators and only refers to incidents.

considered a mass shooting if it begins in a private location, but ends in a public setting. This victim-specific shooting is explored in the following section.

Motivation

The complexity and variability of mass shootings has contributed to confusion among researchers and the general public regarding perpetrator motivations (Muschert, 2007). If a shooter is killed or commits suicide during the incident, motivations are determined through suicide notes, journals, pre-incident recordings, and post-incident peer / family interviews (Lankford, 2013). If the shooter survives, they may be able to provide insight, however, they often suffer from mental health problems (Capellan, 2015) that can prevent a direct understanding of what incited the shooting. As a result, the perpetrator motivation is often the most difficult component of a mass shooting to identify.

Fox and Levin (2005) identify five motivational typologies of a multiple murder perpetrators including power, revenge, loyalty, profit and terror. These typologies are not mutually exclusive to one another. For example, the Isla Vista shooter (a virgin who believed that women did not treat him fairly) was motivated to kill women for power and revenge (Rodgers, 2014). Muschert (2007) broke down school shootings even further by considering motivations beyond individual contexts, including community and social/cultural contributing factors. These dynamic variations make it difficult to determine which incidents should be included in mass shooting research. Some research does not even consider the motive in definitional criteria (Fox & DeLateur, 2014; Mass Shooting Tracker, 2017). However, perpetrator motivations play an important role in developing effective assessments, policies, and security measures (Krouse & Richardson, 2015). As a result, instead of identifying the vast

variety of perpetrator motivations that should be included, researchers usually begin by listing motivations that they exclude.

Most mass shooting definitions exclude both profit driven criminal activity (e.g. drug trafficking and gang shootings) and state sponsored shootings (e.g. police and military) (Capellan, 2015; Fox & Levin, 2003; Newman et al., 2004; Osborne & Capellan, 2017; Schildkraut & Elsass, 2016). Profit driven and state sponsored perpetrators do not: (1) choose their victims symbolically or at random, or (2) aim to kill as many people as possible. This introduces the most common method for defining a mass shooting: victims.

Perpetrator-victim relationship. It is important to identify the types of victims necessary for an incident to be a mass shooting because they are intertwined with perpetrator motivations. Osborne and Capellan (2017) consider perpetrator and victim relationships to identify three active shooter types: (1) autogenic, (2) victim-specific, and (3) ideological.

An autogenic mass shooter is “self-generated” by internal psychological processes and issues (Mullen, 2004). These incidents may seem motiveless because the offenders choose the victims at random. However, the motive itself is to maximize the number of victims. A type of autogenic mass shooter would be what Lankford (2016b) identifies as a fame-seeking shooter, who suffers from delusions of grandeur and seeks glory through killing (Lankford, 2016b). The Columbine shooters provide an example of autogenic fame-seeking shooters because they chose their victims at random/symbolically and were motivated by infamy (Osborne & Capellan, 2017; Lankford, 2016b). Prior to their attack, they discussed whether, “it would be better if Steven Spielberg or Quentin Tarantino directed the film about them” (Langman, 2015; Lankford, 2016b). What separates the autogenic Columbine shooters from victim-specific shooters is they

did not seek revenge against specific individuals (despite the popular misconception of revenge against bullies) (Mears, Moon, & Thielo, 2017).

Victim-specific shooters seek revenge against specific victims, often caused by a precipitating event (e.g. divorce, unemployment) (Osborne & Capellan, 2017). While the original goal is to kill a few specific individuals, they end up targeting unknown individuals after beginning their attack. For example, a school shooter may decide to target a specific student at the school. However, mass shooters must also target other students symbolically (i.e. jocks) or randomly. Thus, assassinations only targeting specific individuals are excluded. The Edmond Post Office shooting, for example, involved a victim-specific perpetrator because they targeted specific managers who reprimanded them for behavior at work, but eventually went on to target anyone working in the factory (Lamar, 2001). What unifies autogenic and victim-specific shooters is their non-ideological motivation.

This study extends the media and mass shooting literature by including ideologically-motivated lone-wolf terrorist shooters in the data. Ideological shooters are motivated by extremist views including religious, political, racist, and single issue ideologies (Osborne & Capellan, 2017). For example, the 2016 Orlando nightclub perpetrator was ideologically-motivated by his radical jihadist views, as well as his hate for homosexuality. This type of lone-wolf terrorist mass shooting has generated a debate in research investigating the phenomenon. Scholars have argued that “terrorist” shootings should be treated separately from non-political mass shootings research because they require different policy responses (Bjelopera et al., 2013; Schildkraut & Elsass, 2016). However, while definitions of mass murder have traditionally excluded terrorist-group sponsored killings (Levin, & Madfis, 2009), researchers have supported the inclusion of ideologically-motivated lone-wolf terrorist shootings in mass shooting data

(Bowers, Holmes & Rhom, 2010; Capellan, 2015; Capellan & Silva, 2018; Duwe, 2004; Fox & Levin, 1998; Kelly, 2012; Lankford, 2015; Osborne & Capellan, 2017).

Capellan (2015) finds none of the ideologically-motivated mass shootings that occurred in the United States from 1970 to 2014 were executed under the direct command of a terrorist organization. These lone-wolf terrorists operate individually and do not belong to an organized terrorist group or network (Spaaij, 2010). They are included in data because they have very similar demographic and personal profiles as rampage, disgruntled employee, and school shooters (Capellan, 2015; Lankford, 2013; McCauley, Moskalenko, & Van Son, 2013). For example, Lankford (2013) finds that they suffer from many of the same personal problems including social marginalization, family problems, work or school problems, and precipitating crisis events - suggesting differences between these types are largely superficial.

What unifies autogenic, victim-specific, and ideological mass shooters is at least some of the victims are chosen symbolically or at random and the perpetrator's aim to kill as many people as possible. While the former illustrates the perpetrator-victim relationship, the latter addresses the final definitional criteria.

Victims

It is important to quantify what constitutes the "mass" in mass shooting. The most contentious aspect of the debate over how to define mass shootings is the number of victims (both fatalities and injuries) necessary for inclusion (Bowers et al., 2010). The number of victims plays a vital role in gauging the seriousness of the problem, and data highlighting the worst case scenario is often presented in the media (Fox & DeLateur, 2014). Scholars argue the number of fatalities and injuries may be arbitrary and theoretically irrelevant. Both Newman et al., (2004) and Schildkraut and Elsass (2016) provide ambiguous numbers by suggesting the need for

“multiple victims.” Schildkraut and Elsass (2016) even suggest that victimization does not need to include those physically shot or injured, and can include emotional victimization. Despite this, the majority of scholars have suggested that mass homicide requires two (Lester, Stack, Schmidtke, Schaller, & Muller, 2005; Messing & Heeren, 2004; Ressler, Burgess, & Douglas 1988), three (Holmes & Holmes, 2001; Petee, Padgett, & York, 1997), and four (Fox & Levin, 2003; King & Jacobson, 2017; Krouse & Richardson, 2015) fatalities to be included in data. Fox and Levin (2003) define mass murder as four or more victims, and argue using this minimum body count - as opposed to a two or three victim threshold - helps to distinguish multiple killing from homicide generally.

Other definitions require even more detail. For example, Dietz (1986) suggests that three people must be killed, but adds that the perpetrator must injure at least two more individuals. If the perpetrator dies during the incident, some datasets include the perpetrator in the victimization criteria (Mass Shooting Tracker, 2017), while others do not (Krouse & Richardson, 2015). Similarly, some databases define a mass shooting by the number of people shot or injured. For example, the Mass Shooting Tracker dataset includes an incident involving four or more people shot in a single incident, arguing “shooting” means “people shot.” The current study uses the standard four or more victim criteria to identify successful (instead of attempted) mass shootings. This can include any combined death / injury count (including the perpetrator). This definition allows for a relatively robust sample size, while simultaneously providing a targeted and unambiguous assessment of the phenomenon. The data and methods sections further outlines the definitional criteria. The following section illustrates the framework for determining the mediated reality of the phenomenon.

CHAPTER 3

THEORETICAL ORIENTATION

It is important to study the presentation of crime in the news media because it provides the main source of public information and it is critical to public debates about policy issues (Gruenewald, Parkin, & Chermak, 2014). The media and crime literature is theoretically rich and draws from the communications, sociology, and criminology disciplines. This work uses these fields to illustrate the media's social construction of reality through agenda setting and framing. The utilization of social construction as an analytic framework in this study posits an academic reality of mass shootings against a mediated reality.²

Social Construction

Social constructionism considers the blending of lived experiences with the media's influence on symbolic reality (Surette, 2007). Berger and Luckman's (1967) work *The Social Construction of Reality* introduced the social construction of social problems into the social sciences. Social problems are the social conditions that disrupt or damage society (Spector & Kitsuse, 1977). The criteria for a social problem are it: (1) creates harm, (2) is viewed as widespread, (3) can be changed, and (4) should be changed (Surette, 2007). Social constructionist research is concerned with how and why people understand some conditions as a social problem: that is, how they are socially constructed social problems (Best, 1987).

The social construction of social problems is rooted in three dialectical processes including internalization, objectification, and externalization (Berger & Luckman, 1967). Internalization refers to the processing of social phenomena from the outside world (i.e. media).

² Anytime "reality" is used in this study, it is referring to academic knowledge garnered from previous scholarship and current research. However, social construction scholars suggest "reality" is often subjective, even in scholarship. As such, it is important to emphasize, anytime "reality" is used, it is only referring to the author's reality.

Objectification refers to the belief that this internalized understanding of reality is objectively accurate and thus real knowledge. Finally, externalization refers to the projection of this knowledge back into society. This is a continual process occurring between individuals and society that blends objective reality with a socially constructed reality when determining the value of social problems.

The constructionist perspective suggests the study of social problems, often thought of as objective conditions, must shift focus towards the process of claims-making (Schneider, 1985). An issue can become a social problem through successful claims-making by media outlets (Berger & Luckmann, 1967; Loseke, 2003; Spector & Kitsuse, 1973). Loseke (2003) defines a claim as any verbal, visual, or behavioral statement that tries to convince audiences to take a condition seriously and to seek change. The constructionist approach asserts that it does not matter if the problem exists inherently or objectively, it only matters that claims frame the issue as a public problem that requires change (Wondemaghen, 2014). Best (1987) states:

Constructionist empirical research usually concentrates on the social organization of claims-making, identifying key constituencies in the process, showing how claims making is related to their interests, and describing the principle stages in the problems social construction. (p.101)

Strict constructionism focuses on the claims and claims-making process, including why people believe the construction of a specific phenomenon. However, it does not assess the accuracy of a claimed social construction (Best, 1995). Alternatively, the current study uses the contextual constructionism approach (Best, 1995) by focusing on the claims-making process, and considering the evidence in context of a socially constructed reality. This study uses agenda setting and framing to assess the media's influence on the public's social construction of reality.

Agenda-setting. Agenda setting theory refers to the news media's ability to influence the salience of issues in the public agenda (McCombs & Reynolds, 2009). Media agenda setting finds a strong relationship between the media's emphasis on certain issues and the importance attributed to these issues by mass audiences (McCombs & Shaw, 1972; Scheufele & Tewksbury, 2007). For example, McCombs and Shaw's (1972) classic study used the 1968 presidential campaign to match what voters said were key issues with the actual content of the mass media. They find that by highlighting specific issues in the news, broadcasters contribute to shaping political reality, since mass media is the only contact most people have with politics and public policy. Since this study, an extensive body of research has found that by highlighting certain stories the media plays a role in constructing a narrative about a topic, prioritizing public concern, and influencing the political discourse and subsequent policies surrounding an issue (Barak, 1988; Entman, 1989; McCombs & Shaw, 1972; Rogers, Dearing, & Bregman, 1993).

Cohen (1963) determined it is difficult to identify a correlation between the media and what people *think*, but it is easier to find a relationship between the media and what people *think about*. This suggests that the newsworthiness of specific crime stories can influence public perceptions of the prevalence of crime and nature of criminality. Surette (1998) defines newsworthiness as "the criteria by which news producers choose which of all known events are to be presented to the public as news events" (p. 60). Thus, research examining the media agenda setting of crime aims to identify the crime criteria influencing newsworthiness. Newsworthiness is measured by whether an incident characteristic receives any coverage and/or salient levels of coverage (Chermak & Gruenewald, 2006). The agenda setting framework is similar to framing. However, agenda setting looks at overall coverage, while framing looks at the salience of frames within coverage.

Framing. The media sets the frames of reference viewers use to interpret and discuss social problems (Tuchman, 1978). McQuail (1994) suggests mass media has an influence on the social construction of reality, “by framing images of reality... in a predictable and patterned way” (p. 331). Goffman (1974) introduced framing as a means for explaining what guides individual and societal perspectives. In his formulation, “Definitions of a situation are built up in accordance with principles of organization which govern events - at least social ones - and our subjective involvement with them; frame is the word... refer[ring] to such of these basic elements” (Goffman, 1974, p. 10). Entman (1993) later expanded this definition stating:

To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item prescribed (p. 52).

In framing, salience refers to making a piece of information more noticeable, meaningful, or memorable to audiences (Entman, 1993). Texts make particular aspects of an issue more salient through repetition (Entman, 1993). The salience of specific frames then contributes to defining problems, diagnosing causes, making moral judgments, and suggesting remedies (Entman, 1993). Frames diagnose, evaluate, and prescribe through several loci including the communicator, the text or image, the receiver, and the culture (Entman, 1993).

News framing considers the dynamic process of communication involving frame building and frame setting (De Vreese, 2005). Frame building refers to the themes that emerge from a given text, while frame setting is the interplay between media frames and audience predispositions toward an issue (Wondemaghen, 2014). Media framing takes complex social issues and constructs them to be accessible and relatable for general public consumption

(Scheufele & Tewksbury, 2007). The media act as a “framing funnel” by dismissing certain perspectives and promoting others, developing into the dominant public frame (Hawdon, Oksanen, & Rasanen, 2012).

Similar to McCombs and Shaw (1972), Druckman (2001) finds that how an issue is framed, worded, and emphasized impacts an individual’s political judgments. Druckman (2001) identifies two types of frames including frames in communication and frames in thought. Frames in communication refer to the, words, images, phrases, and presentation styles that a speaker uses when relaying information. Frames in thought refer to an individual’s cognitive understanding of a given situation. In the former the frame is a property of communication and in the latter the frame describes the perception of a situation. Frames in communication often times shape frames in thought. Druckman (2001) refers to this as the framing effect: emphasizing particular issues can lead people to focus on those issues when constructing their opinions.

News Constructions of Crime

Crime news values are the combined outcome of two different but interrelated factors: (1) a reflection of the interests, preferences, and needs of political, economic, and cultural elites; and/or (2) a reflection of the interests, preferences, and needs of a homogenized mass audience. The former highlights the aforementioned concern of claims-makers, while the latter illustrates the public fascination with violence (Barak, 1994; Jewkes & Linnemann, 2018). News values cater to the perceived interests of the audience and capture the general public mood. This is summed up by news outlets as “giving the public what it wants” (Jewkes & Linnemann, 2018). Cultural criminology is concerned with the public’s fascination with violence and crime via the mass media, and the enactment of violence and crime as pleasure or spectacle (Ferrell, et al., 2008; Jewkes & Linnemann, 2018). This approach is concerned with the “society of the

spectacle” (Debord, 1967), where the distinction between media and reality are blurred. Hayward (2010) argues it is increasingly important that all criminologists familiarize themselves with the various ways in which crime and ‘the story of crime’ are imaged, constructed, and ‘framed’ within modern society. The ‘story of crime’ determines how crimes are socially constructed.

The media’s approach to collecting, sorting, and contextualizing crime reports shape public consciousness regarding which conditions are seen as urgent problems, what kinds of problems they represent, and how they should be resolved (Sacco, 1995). News representations have become the most significant communication through which the average person comes to know the world outside their immediate experiences (Barak, 1994, p. 3). Since the public has limited immediate experiences with crime, the news media becomes the primary source of public information (Chermak, 1994; Surette, 2007). The problem is the amount of crime depicted has little relationship with the amount of crime occurring (Garofalo, 1981). For example, homicide is more newsworthy than property crimes, despite property crimes being far more common (Chermak, 1995). This supports the generally accepted media axiom, “If it bleeds, it leads” (Lawrence & Muller, 2003). As a result, the media distorts the reality of crime and criminality.

Media and crime research usually stresses the difference between the reality of crime and the news mediated reality (Barak, 1994). A key to understanding these biased presentations is through a media distortion analysis: using existing evidence as a starting point and comparing media coverage of the social problem (Chermak & Gruenewald, 2006; Gruenewald, Pizarro, & Chermak 2009). A media distortion analysis uses agenda setting and framing theoretical frameworks to determine potential distortions in the social construction of reality. The following literature review illustrates the importance of determining media distortions of mass shootings. It is then divided into agenda setting and framing approaches for examining the phenomenon.

CHAPTER 4

A REVIEW OF THE LITERATURE

A Brief History of Mass Shootings and Mass Media

In 1966, the Texas Sniper introduced mass shootings into the cultural lexicon (Schildkraut & Elsass, 2016; Duwe, 2004). A former Marine sharpshooter climbed the clock tower at the University of Texas and opened fire on students. The 96 minute attack killed 14, injured 32, and ended with the police killing the sniper. While this was not the first mass shooting, it is seen as a turning point for coverage of the phenomenon (Duwe, 2004). For example, the *New York Times* published 17 articles in the first month, including three front page articles, and multiple articles on the same day - all extremely rare at the time (Schildkraut & Elsass, 2016, p. 34). The incident, and subsequent coverage, introduced many mass shooting issues that are still discussed today such as the offender's mental health problems, military veteran status, and his prior killing of family members. This incident also coincided with a slight rise in crime that suggested this was a representation of a violent crime problem at-large.

Subsequent high profile incidents kept mass shootings in the spotlight. In 1973, the Howard Johnson Hotel shooter targeted police and eventually killed nine people and injured 13 others during a rampage in New Orleans. The perpetrator was a military veteran and current Black Panther, motivated to avenge police killings of African-Americans (Scott, 2016). In 1986, the Edmond Post Office shooter targeted his former workplace, killing 14 postal employees and injuring seven others. This incident introduced the term "going postal" into the public vernacular (Schildkraut & Elsass, 2016), and Kelleher (1997) suggested a subsequent wave of workplace shootings represented a new strain of mass murderers. In 1999, the Columbine shooting captured the public's imagination and came to represent the entirety of the mass shooting phenomenon

(Altheide, 2009). In the aftermath, research on the media's coverage of school shootings increased (Chyi & McCombs, 2004; Muschert, 2009; Muschert & Carr, 2006; Schildkraut & Muschert, 2014). At the turn of the century, high profile incidents like Aurora, Sandy Hook, and Orlando continued to increase public awareness and fear of mass shootings. Despite this, research has failed to quantitatively assess the reality and mediated reality of the phenomenon at-large. This is a pressing issue since coverage often impacts the public's perception of risk, conceptualizations of potential perpetrators, and the implementation of security measures.

Inflated perceptions of risk. Media and mass shooting research has determined that high-profile mass shooting incidents produce a cultural trauma (Alexander, Eyerman, Giesen, Smelser, & Sztompka, 2004; Garland, 2008) that accentuates awareness of the phenomenon. A cultural trauma refers to profound events that provoke deep concern and societal response (Alexander et al., 2004). Research examining the salience of coverage devoted to mass shootings finds that it has increased fear, risk of victimization, and the perception of an epidemic (Burns & Crawford, 1999, Fox & DeLateur, 2014; Muschert 2007). The salience of coverage devoted to a particular type of mass shooting impacts specific subsections of the population that feel most at risk. For example, excessive coverage devoted to school shootings heightens parents' and children's fear of victimization (Schildkraut & Elsass, 2016). Thus, it is important consider the actual risk of mass shooting victimization.

Stereotyping potential perpetrators. The media coverage and subsequent fear surrounding mass shootings can also label potential perpetrators. For example, the excessive coverage devoted to perpetrators suffering from mental illness has exacerbated negative attitudes toward all persons with serious mental illness (McGinty, Webster, & Barry, 2013; McGinty et al., 2014). This stigmatization may cause those struggling with mental health issues to not seek

help (Metzl & MacLeish, 2015). The Columbine coverage highlighted alienated youth (Frymer, 2009) and the juvenile superpredator (Muschert, 2007). However, the bullied youth paradigm is incorrect, and portraying alienated youth as potential mass shooter stigmatizes already marginalized juveniles (Fox & DeLateur, 2014; Schildkraut & Elsass, 2016), and may actually encourage violence from those so labeled (Fox & DeLateur, 2014).

Ineffective security measures. Finally, a mediated fear of mass shootings and potential perpetrators also contributes to rushed and ineffective policy-making decisions that lack empirical support (Borum, Cornell, Modzeleski, & Jimerson, 2010; Jonson, 2017). For example, many of the gun control measures and mental health approaches put forth in the aftermath of an incident have been found to be largely symbolic (Kleck, 2009) and even counter-productive (McGinty et al., 2013). Strategies such as zero-tolerance discipline and student profiling have been widely criticized as unsound (Borum et al., 2010), and armed security guards, restricting access to campus buildings, and installing metal detectors may have unintended consequences (Jonson, 2017).

Taken together, research suggests media coverage of mass shootings can impact public concern over victimization, skew perceptions of potential perpetrators, and contribute to the implementation of ineffective security measures. These issues highlight the importance in determining the mediated social construction of mass shootings influencing public perceptions of reality. The following subsections highlight gaps in research examining the newsworthiness of mass shootings and the framing of the social problem, as well as research questions and hypotheses that require further inquiry.

Newsworthiness of Mass Shootings

Agenda setting research determines the demographic and incident characteristics that influence a social problem's newsworthiness. Only three studies have examined a specific form of homicide to determine why variations in coverage exist (Chermak & Gruenewald, 2006; Duwe, 2000; Schildkraut et al., 2018). These studies find that most homicides receive little-to-no coverage in the news, but the press sensationalizes a few cases. Chermak and Gruenewald (2006) analyzed coverage of terrorist attacks and found incidents involving casualties, domestic terrorist groups, airlines, and hijackings were significantly more likely to be covered and have more articles and words written about them. Duwe (2000) examined mass murder and found a large number of fatal and wounded victims, stranger victims, public locations, assault weapons, workplace violence, interracial victim-offender relationships, and, to a lesser extent, older offenders and gun use increased newsworthiness. Thus, this study's first research question is:

(RQ1) How is the media setting the agenda on mass shootings?

Schildkraut et al. (2018) are the only scholars to explore the characteristics influencing the newsworthiness of mass shootings. They examine post-Columbine *New York Times* coverage of 90 mass shootings between 2000 and 2012, and found incidents with higher victim counts, Asian, and "other" minority perpetrators (including Indian, Middle Eastern, Native American or bi-racial) received more coverage. They also found some support for surviving shooters receiving more coverage. Finally, non-school locations (e.g. workplace, restaurant, mall, house) received less coverage. Despite the importance of Schildkraut et al. (2018) study, they overlook: (1) the entire mass shooting timeline, (2) coverage beyond the first month, (3) ideological perpetrators, and (4) other characteristics potentially influencing newsworthiness.

This dissertation's first contribution is to examine all mass shootings from 1966 to 2016. This is important since only examining a brief time period can skew statistical analyses. For example, Lott (2015) suggests the 2000-2013 FBI active shooter report gave the perception of a drastic rise in incidents. However, if the study were to begin in 1999 - an exceptionally high year for mass gun violence - it would have identified a dramatic decrease in incidents during the immediate turn of the century. As noted, the Texas Sniper shooting was a turning point for mass shootings and allows for a comprehensive examination of the phenomenon. Expanding the sample size reduces the influence of outlier incidents from impacting significant differences in coverage. This larger sample size also allows for an analysis of changes in incidents over time. This presents two research questions:

(RQ1a) What is the reality of the mass shooting problem?

(RQ1b) How has the frequency of incidents changed over time?

This study's second contribution is to examine all *New York Times* incident coverage, and not limit itself to only the first month of coverage (Chyi & McCombs, 2004; Muschert, 2009; Muschert & Carr, 2006; Schildkraut & Muschert, 2014; Schildkraut et al., 2018). Attacks where the shooter survives receive more coverage (Schildkraut et al., 2018), and coverage often shifts from the specific incident to the general social problem (Chyi & McCombs, 2004; Muschert, 2009; Muschert & Carr, 2006; Schildkraut & Muschert, 2014). This work examines the newsworthiness of shooters that survive and looks at the general coverage at-large. As a result, it is important to consider the entire media timeline of each incident and not just the first month of coverage. This expanded data pool allows for a comprehensive analysis of changes in coverage over time. The next two research questions ask:

(RQ1c) What is the mediated reality of the mass shooting problem?

(RQ1d) How has the frequency of coverage changed over time?

The third contribution is the inclusion of ideologically-motivated (lone-wolf terrorist) perpetrators. Capellan (2015) finds approximately 16% of mass shootings are perpetrated by ideologically-motivated lone-wolf terrorists - who vary from non-ideological (e.g. school, work, and rampage) attackers. Ideological attackers are significantly more likely to have higher levels of planning, use a greater number of firearms and have additional weapons. For these reasons, ideological mass shootings have, on average, a greater number of fatalities and injured victims than non-ideological shooters (Capellan, 2015). A major determinant of coverage and news salience is the lethality of the attacks (Chermak & Gruenewald, 2006; Schildkraut et al., 2018). Excluding such a significant proportion of mass shooters, who are also the most lethal (and likely get the most news coverage), can produce sample selection bias. As a result, it is vital to include ideologically-motivated mass shootings.

The fourth contribution is the inclusion of more perpetrator and incident characteristics potentially influencing newsworthiness. By not accounting for these factors, previous research may have contributed to “omitted variable bias,” which leads to the over-or-underestimation of predictors that correlate with the missing covariates. Accounting for all known predictors is essential to the understanding of characteristics that contribute to the newsworthiness of mass shootings. The following section identifies the perpetrator and incident characteristics that require further examination to determine:

(RQ1e) What mass shooting characteristics influence newsworthiness?

Perpetrator characteristics. Media and crime research examining demographic characteristics influencing coverage focus on the perpetrator’s age and race. A demographic characteristic known to influence coverage is younger perpetrators (Boulahanis & Heltsley,

2004). Additionally, Schildkraut et al. (2018) find Asian and “Other” minority racial/ethnic shooters receive more coverage. However, they indicate Asian newsworthiness may be attributed to the overwhelming coverage devoted to the Virginia Tech attack, which suggests further inquiry is necessary. Additionally, Arab-descent perpetrators are now disaggregated from “Other”, because it is hypothesized they will receive more coverage than all other race/ethnicities in the other category.³ This is attributed to the enormous level of discourse on terrorism, and the essentializing function of American discourse indicating the essence of a terrorist is being Arab (Powell, 2018; Silva et al., 2019). Taken together, this research suggests:

(H1) Younger perpetrators will increase newsworthiness.

(H2) Asian perpetrators will increase newsworthiness.

(H3) Arab-descent perpetrators will increase newsworthiness.

This dissertation also examines whether criminal history, military history, and domestic violence impact the media’s coverage of mass shootings. Criminal history is hypothesized because the mid-1960s rise in crime and fear of crime coincided with the second wave of mass shootings (Jenkins, 1994). More recently, Columbine coverage contributed to the myth of the juvenile superpredator, and public discourse on punitive sanctions for dangerous youth (Muschert, 2007). Similarly, military history is hypothesized because the first mass shooter was a military veteran, and his military experience played a role in coverage (Schildkraut & Elsass, 2016). Again, this thread has been continued in present day with high profile cases such as the Fort Hood shooting. Finally, it is hypothesized that domestic violence history will receive more

³ Schildkraut et al. (2018) use the term Middle Eastern in their categorization of “other”. However, this work instead uses the term Arab-descent, since Middle Eastern is not a racial or ethnic category, and currently falls under White categorization in the United States census (Korte, 2016). While this may be changed in the near future, it was deemed necessary to use the word Arab instead, which is in fact an ethnicity, and in turn what this category is measuring (i.e. race/ethnicity).

coverage. This is because the rise of domestic terrorism and mass shootings was seen, in part, as a response to the second wave of feminism (Gibson, 1994; Kellner, 2008). More recently, high profile cases like the Orlando Nightclub shooting have addressed the perpetrators history of violence against woman, and the public is recognizing the role of hegemonic-masculinity in the phenomenon. These three categories will be discussed further in the section focused on framing the problem. Nonetheless, this research hypothesizes:

(H4) Perpetrators with a criminal history will increase newsworthiness.

(H5) Perpetrators with a military history will increase newsworthiness.

(H6) Perpetrators with a domestic violence history will increase newsworthiness.

Perpetrator motivations. This work also introduces perpetrator motivation variables including autogenic, ideological, jihad inspired, hate crime, gender-based, and fame-seeking. Duwe (2000) finds that victims who have no relationship with the offender (i.e. autogenic) are more likely to receive coverage. In other words, the randomness of the act makes the public believe it could happen to them, which in turn raises attention due to personal concern. A type of autogenic mass shooter would be what Lankford (2016b) defines as a fame-seeking shooter. Lankford (2016b) suggests fame-seeking shooters require media attention to fulfill their desire for infamy. Thus, this research hypothesizes:

(H7) Fame-seeking perpetrators will increase newsworthiness.

(H8) Autogenic perpetrators will increase newsworthiness.

As noted, a major contribution of this work is the inclusion of ideologically-motivated (lone-wolf terrorist) perpetrators in the sample of incidents. Previous research has highlighted the public's fascination with terrorism in the media (Nacos, 2007; Norris, Kern, & Just, 2003). As a

result of 9/11 (and even before), terrorism is often associated with jihadist-inspired extremism.⁴ In popular discourse, “it is seen as self-evident that Islamic terrorism remains one of the most significant threats to the Western world in general and U.S. national security in particular” (Jackson, 2007, p. 407). Additionally, terrorism is sometimes associated with hate crimes (Deloughery, King, & Asal, 2012; Mills, Freilich, & Chermak, 2017). For example, the Charleston Church shooting, involving a white perpetrator targeting an African-American church, is considered both an ideologically- motivated attack and a hate crime. As a result, this research suggests:

(H9) Ideologically-motivated perpetrators will increase newsworthiness.

(H10) Jihadist-inspired perpetrators will increase newsworthiness.

(H11) Hate crimes will increase newsworthiness.

Incident characteristics. When considering incident characteristics, the most common predictor of newsworthiness is a large number of victim casualties and injuries (Chermak, 1998; Chermak & Gruenewald, 2006; Duwe, 2000, Gruenewald et al., 2009). Thus, the fatality and injury variables are used as controls. In the aftermath of Columbine, the mass shooting problem was largely characterized as a school shooting problem in public understanding of the phenomenon (Schildkraut & Elsass, 2016; Schildkraut et al., 2018). Schildkraut et al. (2018) also find incidents occurring in the Northeast receive more coverage. Best (1991) suggests the term “spree” shooting is used as an unofficial catch-all term for incidents to simplify coverage and enhance newsworthiness. Additionally, Gruenewald et al. (2009) finds incidents involving firearms are more likely to be covered than incidents involving other weapon types. This

⁴ In line with the leading terrorism databases, including the Global Terrorism Database and Extremist Crime Database, this work divides ideologically-motivated offenses into three categories: (1) Jihadist-inspired, far-right, and far-left.

suggests that more weapons will result in even more concern and subsequent coverage (Kleck, 2009). Finally, Schildkraut et al. (2018) find that incidents where shooters survive may receive more coverage, because audiences are interested in the preceding trials. The final newsworthiness hypotheses posit:

(H12) School shootings will increase newsworthiness.

(H13) Incidents in the Northeast will increase newsworthiness.

(H14) Spree shootings will increase newsworthiness.

(H15) Incidents with more weapons will increase newsworthiness.

(H16) Perpetrators that survive will increase newsworthiness.

In sum, agenda setting allows for an investigation of characteristics influencing overall coverage. These hypotheses identify the characteristics that influence media coverage, and subsequently determine the mass shooting characteristics that influence the public's focus on certain aspects of the phenomenon. Despite these important contributions to theoretical understanding, these initial research questions and hypotheses fail to consider the newsworthiness of specific frames within coverage. As a result, this work introduces a new approach to examining the media framing of mass shootings.

Framing the Problem

Framing research determines the issues that contribute to the public focusing on particular aspects of a social problem. Mass shooting research examining media framing has historically focused on individual incidents including Columbine (Chyi & McCombs, 2004) and Aurora (Holody & Daniel, 2016). Studies have also compared coverage of a few different school shootings (Hawdon, Oksanen & Rasanen, 2012; Muschert & Carr, 2006; Park, Holody, & Zhang, 2012; Schildkraut & Muschert, 2014). Most framing studies use Chyi and McCombs

(2004) two-dimensional measurement scheme (space and time) to quantitatively examine media frames across a small sample size (Holody & Daniel, 2016; Muschert & Carr, 2006; Schildkraut & Muschert, 2014). Chyi and McCombs (2004) examination of Columbine finds journalists changed frames over time to keep the story fresh and moving. Space frames began with the individuals involved and shifted towards the larger societal impact. Time frames began with the perpetrators past and shifted into the future of the mass shooting problem. Ultimately, they find coverage of Columbine began with the incident and eventually shifted into the mass shooting problem at-large. Studies using this space/time analytic framework are able to compare the framing of a few incidents over a short period of time. Despite their importance, this methodological approach does not allow for an examination of mass shooting media framing at-large. The next research questions ask:

(RQ2) How is the media framing the overall mass shooting problem?

(RQ2a) How have media frames changed over the entire mass shooting time-line?

The fifth contribution is a quantitative analysis examining media framing of the entire mass shooting problem. As noted, previous studies highlight the importance of individual and societal framing of the problem. However, they fail to explore the attributes of individual and societal framing. Framing research is ultimately supposed to explore the causes of a perceived social problem (Entman, 1993). For example, in the aftermath of Columbine, Schildkraut and Muschert (2013) suggest gun violence, mental illness, and to a lesser extent, violent entertainment media were the three media frames attributed to school shootings. However, their informal summary fails to empirically support these arguments. Additionally, they fail to consider causal frames outside of school shootings.

The sixth contribution is the inclusion of previously unexplored media frames used to diagnose the social problem. Research suggests gun control and mental illness are likely considered a problem across all types of mass shootings (McGinty, Webster, & Barry, 2013; Metzler & MacLeish, 2015). However, entertainment media is only associated with Columbine and school shootings (Schildkraut & Elsass, 2016; Schildkraut & Muschert, 2013). Thus, a media framing analysis of all mass shooting types should include other social factors potentially contributing to the problem. This work introduces individual and societal frames focusing on gender grievances, terrorism, crime, and news media. Categorizing these causal frames by individual and societal focus allows for a framing approach to a media distortion analysis.

The final contribution of this work is to provide the first media distortion analysis to examine the media framing of a social problem. This innovative methodological technique is detailed in the forthcoming methods section. Importantly, previous media distortion analyses have looked at the characteristics influencing the newsworthiness of specific and general media coverage (Chermak & Gruenewald, 2006; Schildkraut et al., 2018). These categorizations are very similar to the individual and societal focus of previous mass shooting frame studies (Chyi & McCombs, 2004; Muschert & Carr, 2006; Schildkraut & Muschert, 2014). This study expands these methodological approaches and determines the specific (individual) and general (societal) coverage of media frames. This can then be used to determine:

(RQ2b) What mass shooting characteristics influence the newsworthiness of frames?

The following sub-section details the final two contributions. It highlights the reasons for examining mental illness, gun access, gender grievances, terrorism, crime and news media. It also identifies hypotheses concerning characteristics influencing the framing of the problem.

Mental illness. Public discourse views mental illness as one of the leading causes of mass shootings (McGinty, Webster, & Barry, 2013; Metzl & MacLeish, 2015; Schildkraut & Muschert, 2013). This is because, as Lemieux (2014) finds, 56% of mass shooters had a known mental illness. In the aftermath of an attack, public and political discourse suggests mental illness causes gun violence and psychiatric diagnosis can predict gun crimes before they happen (Metzl & MacLeish, 2015). These frames focus on angry, unstable, and predominantly White individuals, who never should have had access to firearms (Kellner, 2008; Metzl & MacLeish, 2015). Additionally, in the aftermath of Vietnam, PTSD increasingly became associated with violent behavior in the public imagination, and the stereotype of the “crazy vet” began to emerge (Metzl & MacLeish, 2015; Sullivan & Elbogen, 2014). As a result, this work hypothesizes:

(H17) White perpetrators will increase mental illness frames.

(H18) Military experience will increase mental health frames.

Gun access. The contentious nature of gun control in the US, means it is the most referenced causal factor across public discussion, policy agendas, and news media accounts (Fox & DeLateur, 2014; Holody & Daniel, 2016; Schildkraut & Muschert, 2013). The mental health approach is often situated within a larger discussion about gun control policies in America (McGinty, Webster, & Barry, 2013). Specifically, discourse is concerned with how mentally ill perpetrators were able to gain access to weapons (McGinty, Webster, & Barry, 2013; Metzl & MacLeish, 2015). Additionally, Kleck (2009) suggests the public is often concerned with incidents involving numerous weapons, because it implies the perpetrator would not need guns with large-capacity magazines to shoot large numbers of victims without reloading. Finally, research finds incidents with high victim counts will generate more prevention discourse (i.e. a high profile crimes lead to public policy) (Chermak & Gruenewald, 2006; Duwe, 2000). Since

gun control is often at the forefront of prevention discourse, it is assumed more victims will contribute to more discussion of gun access. This research hypothesizes:

(H19) Mentally ill perpetrators will increase gun access frames.

(H20) Incidents with more weapons will increase gun access frames.

(H21) Incidents with more victims will increase gun access frames.

Gender grievances. Mass shootings are an overwhelmingly male phenomenon (Capellan & Gomez, 2018; FBI, 2018; Kelly, 2012). Despite this, the role of gender and masculine-identities is often overlooked in empirical literature surrounding the phenomenon (Danner & Carmody, 2001; Klein, 2005). The few studies addressing this issue have highlighted the role of hegemonic masculinity in contributing to school shootings and terrorism (Kalish & Kimmel, 2010; Kellner, 2008). These studies suggest a “crisis of masculinity” can contribute to hyper-masculine acts of violence. However, mass shooting scholarship has failed to consider mass shootings attacks motivated by grievances against woman. This study addresses previous limitations by introducing a new mass shooting typology: gender-based mass shootings.⁵ As such, it is important to consider the medias framing of gender grievances. It is hypothesized the framing of gender grievances will be rooted in military history, domestic violence, and hate crimes. Public discourse insinuates perpetrators with a military history have higher rates of gender-based violence, potentially rooted in PTSD (Sullivan & Elbogen, 2014), and subsequent media discourse will emphasize this assumed link. Additionally, a potentially overlooked warning sign of mass shooters is domestic and sexual violence, however, this has recently gained more coverage with high profile incidents like the Orlando Nightclub shooter (Soler & Stewart,

⁵ This term is rooted in the popular terminology “gender-based violence” (GBV), often used interchangeably with “violence against women” (VAW). However, this comprehensive conceptualization of “gender-based” mass shootings includes any attack motivated by female grievances. As such, the criteria includes instances where women were not actually the target of the attack (i.e. VAW).

2016; Steiner, 2017). Finally, recent anti-feminist hate crime shootings (i.e. the Isla Vista shooter and the Incel movement) raised public awareness of general grievances against woman in modern society (Mykietiak, 2016). Gender grievance hypotheses posit:

(H22) Military history will increase gender-based frames.

(H23) Domestic violence will increase gender-based frames.

(H24) Hate crimes will increase gender-based frames.

Terrorism. This is the first study to explore the role of terrorism in media coverage of mass shootings. However, extensive scholarship in terrorism identifies public concern and assumptions surrounding the phenomenon (Nacos, 2016; Silva et al., 2019). In 2015, 47% of Americans were "very" or "somewhat" worried that they or a family member would become a victim of an Islamic State-inspired terrorist attack (Swift, 2015). In other words, as noted in the characteristic newsworthiness discussion, terrorism is largely associated with Islam, Muslims, and Arabs in television, radio, and print press (Ahmed & Matthes, 2017; Nacos, 2016). As a result, this work hypothesizes:

(H25) Arab-descent perpetrators will increase terrorism frames.

(H26) Jihadist-inspired perpetrators will increase terrorism frames.

Crime problem. The current public panic over terrorism is similar to the previous fear of a crime epidemic (Nacos, 2007). Despite the fact that incidents motivated by crime are not included in mass shooting databases, the crime problem has been at the forefront of mass shooting narratives (Schildkraut & Elsass, 2016). The Texas Sniper massacre figured prominently in public discussion about the rise of crime and violence in the United States and upset the perception of safety in public places (Jenkins, 1994). Later, the Columbine victim coverage reaffirmed the crime myth of the juvenile superpredator and justified punitive juvenile

justice solutions (Muschert, 2007). These solutions were suggested as alarmist responses to erroneous fears about growing rates and severity of youth violence (Muschert, 2007). As a result, this research hypothesizes:

(H27) Younger perpetrators will increase crime frames.

(H28) Perpetrators with a criminal history will increase crime frames.

News media. Finally, entertainment media: (1) received limited media frames, (2) was only associated with school shootings, and (3) was largely de-bunked as a contributing factor (Cullen, 2009; Schildkraut & Elsass, 2016; Schildkraut & Muschert, 2013). However, research has suggested the news media can contribute to the phenomenon. For instance, Lankford (2016b) finds fame-seeking mass shooters require media attention to fulfill their desire for infamy and are more likely to be younger. In an era of media spectacle, producing acts of violence and terror is one way to guarantee maximum media coverage and achieve celebrity (Kellner, 2008). As a result, research suggests that the news media (directly or indirectly) impacts the rate of incidents (Lankford & Madfis, 2018). For example, Towers et al. (2015) find that excessive news media coverage of mass shootings produces a “contagion effect,” and contributes to more mass shootings and possible copycat crimes. As a result, this research hypothesizes:

(H29) Younger perpetrators will increase news media frames.

(H30) Fame-seeking perpetrators will increase news media frames.

CHAPTER 5

DATA AND METHODS

This study extends the media and mass shooting research by addressing seven gaps related to sampling, characteristics, and framing. The sample (1) expands the breadth and (2) depth of data used to examine the phenomenon by including a fifty year analysis of all mass shooting coverage, as well as (3) the inclusion of ideologically-motivated perpetrators. This work also (4) considers previously unexplored characteristics influencing the newsworthiness of mass shootings. Finally, this study (5) provides the first large-scale examination of the media framing of mass shootings; (6) introduces an examination of characteristics influencing the framing of mass shooting coverage; and (7) provides the first media distortion analysis to examine the framing of a social problem. It is important to identify the data and methods used to address these limitations.

Media Distortion Analysis

Mass shooting studies usually conduct quantitative content analyses of the amount of media attention allocated to a few shootings (Chyi & McCombs, 2004, Muschert & Carr, 2006, Schildkraut & Muschert, 2014). Berelson's (1952) often cited definition identifies a quantitative content analysis as "a research technique for the objective, systematic, and quantitative description of the manifest content of communication" (p. 18). These studies emphasize the way in which a few mass shooting narratives are framed, rather than exploring a potential disparity in the coverage patterns. The current study uses a media distortion analysis to provide a more in-depth examination of the phenomenon.

Gruenewald, Pizarro, and Chermak (2009) coined the term "media distortion analysis", in reference to the examination of the mediated distortion of crime and homicide in relation to the

reality of the problem. As noted, a few studies have used a media distortion analysis to examine the characteristics influencing the newsworthiness of specific forms of homicide (Chermak & Gruenewald, 2006; Duwe, 2000; Schildkraut et al., 2018). These studies do not explicitly define the methodology, and there is currently no detailed approach for carrying out a media distortion analysis. Despite this, research has used the term to describe studies that first empirically document the prevalence of the problem, and then compare media coverage to determine the media distortion of the problem.

Studies using a media distortion analysis compare two separate datasets. The first dataset provides all of the information concerning the perpetrator and incident characteristics (e.g. location, motivation, victims). The second dataset provides all news coverage of each incident identified in the first dataset. This has previously been quantified according to the number of specific and general articles and words (Chermak & Gruenewald, 2006). The current study expands previous research by also including other news variables that examine the framing of specific and general articles and words. The first dataset (mass shooting incidents) is then compared to the second dataset (*New York Times* articles) to determine the characteristics influencing the selection, prominence, and framing of the phenomenon. The reality of the problem is compared to the mediated reality to determine how the media distorts crime and criminality. To determine the reality of mass shootings, it is first important to operationalize the definitional criteria.

Defining a Mass Shooting

Given the contentious nature of defining a mass shooting, it is important to operationalize the definition used in this research. Mass shooting are defined as:

- (1) An incident of targeted violence carried out by one or more perpetrators.

- (2) Perpetrators must use at least one firearm, but can also use other weapons (e.g. knives, bats, explosives).
- (3) An incident must take place in one or more public or populated locations⁶ within 24 hrs.
- (4) Perpetrators must have autogenic, victim-specific, or ideological motivations.
- (5) The attack is not state sponsored (e.g. war and police shootings), profit-driven criminal activity (e.g. drug trafficking and gang shootings), terrorist-group activity, or an act of familicide.
- (6) Some of the victims must be chosen at random and/or for their symbolic value.

Since this research is concerned with “successful” “mass” shootings:

- (7) An incident must include multiple victims (defined as four or more fatalities and/or injuries including the perpetrator).

This definition expands the breadth and depth of data examining a rare and diverse form of homicide without diluting the value of results. In other words, the motivational criteria and victim-count provide a targeted assessment of the mass shooting problem instead of providing a sensationalized analysis of the gun violence problem at large.

Data Collection

Data collection occurred over a 3 year period from 2015 to 2018. During this time, seven undergraduate and graduate research assistants were involved with the project.⁷ Prior to engaging in the project, all research assistants were required to pass mandated IRB/HSR courses. Research assistants were involved with the project for 3-4 months each. During this time, they were

⁶ A public or populated location refers to a school, workplace, religious institution, government building, and “open-space” (e.g. malls, restaurants, clubs, bars, parks). Incidents of familicide are excluded if they occur in the home and do not target anyone randomly or symbolically. However, incidents are included if the perpetrator targeted a home during a party and shot people randomly (i.e. when the home becomes a location for an “open-space” event).

⁷ Thank you for your contributions Asheera Khan, Jesenia Adamson, Shovan Bala, Nadja Staeheli, Christopher Difonzo, Logan Stern, and Bosco Villavicencio.

trained to: (1) search incidents; (2) search perpetrator, motivation, and incident variables; (3) code perpetrator, motivation, and incident variables; (4) search *NYT* articles; and/or (5) code *NYT* articles.⁸ The strategy for carrying-out each of these five components is outlined below. The research assistants' involvement in 1 or all 5 aspects was based on: (1) when they joined the project (i.e. earlier RAs would be more focused on collecting incidents and articles, since that is what the project was focused on at that time); (2) their previous research experience and qualifications; and (3) the quality of their material generated during the initial training period. One on one training with the project manager occurred during the first month. After such time, meetings were held on a weekly / bi-weekly basis, to revise searched and coded material, assign new cases, and address questions or concerns.

Incident data. To compile a comprehensive database of mass shootings that fit the definitional criteria, this study utilized an open-source data collection strategy similar to those used in research on mass murder, (Duwe, 2000, 2004, 2005; Fox & Levin, 1994; Pete, Padgett, & York, 1997), mass shootings (Capellan, 2015; Capellan & Gomez, 2018; Capellan & Silva, 2018; Lankford, 2013, 2015, 2016a; Langman, 2009; Osborne & Capellan, 2017), and terrorism (Freilich, Chermak, Belli, Gruenewald, & Parkin, 2014; LaFree & Dugan, 2007). This approach was used to identify and collect information on mass shootings that occurred in the United States between 1966 and 2016.

Open-source data. Open-source data refers to publically available information (Chermak, Freilich, Parkin, & Lynch, 2012). A research source that is rarely used in criminology research (open-source data) is a mainstay in research on rare and extreme forms of violence (LaFree & Dugan, 2004). The use of public information makes the research process more transparent and

⁸ This training was modeled after the author's experience as a project manager for the NIJ funded School Shooting Database (SSDB), and as a research assistant for the NIJ/DHS funded Extremist Crime Database (ECDB).

raises few IRB and privacy issues (Capellan, 2015; Chermak et al., 2012). It provides a reliable source of information that captures as much, if not more, of the information than is found in official data (Parkin & Gruenewald, 2017). Thus, the use of open-source data has proven a transparent and reliable form of gaining information on mass shootings.

Collecting incidents. When collecting data for the current study, incidents were first drawn from previously collected databases examining gun violence, mass shootings, and terrorism. In line with previous mass shooting studies (Capellan, 2015; Lankford, 2015), data for this study began with the New York City Police Department's 2010 report on active shooters, which was intended to include all incidents from 1966 to 2012 (Kelly, 2012). When compiling the report, NYPD researchers relied on open-source material, most of which came from media and government sources (Kelly, 2012). Cases that were not relevant to the current study were dropped (e.g. less than four victims, etc...).

Next, additional incidents were identified from peer-reviewed journals articles, books, government documents, dissertations, and media reports (see Table A2 in Appendix for a complete listing). Specific search terms (e.g. mass shooting, random shooting, deranged shooting, etc.) were also employed in seven different search engines (Lexis-Nexis, Proquest, Yahoo, Google, Copernic, News Library, and Google Scholar) to identify other incidents that may have been over-looked in previous datasets. A comparison of open-source material was used to enhance validity (Freilich et al., 2014). Although a cross-validation process does not guarantee that the universe of cases was captured, it maximizes the identification of relevant cases (Capellan, 2015; Freilich et al., 2014).

Collecting characteristic variables. These open-source materials were also used to obtain detailed information on perpetrators, motivations, and incidents. Data was developed from

materials identified across all of these sources, reducing the likelihood of any systematic biases present in results for each incident (Freilich, Chermak, & Caspi, 2009; Freilich & Pridemore, 2006). For conflicting information, more weight was given to news stories published weeks after the shooting occurred (Freilich et al., 2014). Additionally, more weight was given to more reputable sources of information (Freilich et al., 2014). For example, the information obtained from a court document was considered more valuable than that from a local newspaper. This information was used to piece together the most complete possible summary the attack. Table 1 provides the operationalization of perpetrator and incident variables used in this study. It also highlights the independent variables used to examine the agenda-setting hypotheses (ASH) and framing hypotheses (FH).

Table 1. Description and Operationalization of Mass Shooting (Independent) Variables

Characteristic	Description	Measurement	ASH	FH
Perpetrator				
Age	How old is the perpetrator?	Continuous	H1	H27, H29
Sex	What is the perpetrators born sex?	0=Female, 1=Male		
Race / Ethnicity	What race/ethnicity does the perpetrator identify as?	1=White, 2=Black, 3=Hispanic, 4=Asian, 5=Arab-descent, 6=Other	H2, H3	H17, H25
Education Status	Level of education at the time of the incident.	1=Middle School (6-8), 2=High School (9-12), 3=Completed High School, 4=Some College, 5=AA/BA, 6=Graduate		
Employment Status	Level of employment at the time of the incident. The <i>blue collar worker</i> (e.g.	0=Unemployed, 1=Blue-collar,		

	truck driver, postal worker) is perceived to make less than the <i>white collar worker</i> (e.g. lawyer, doctor). The white collar worker might work behind a desk in the service industry, while the blue collar worker gets his hands dirty doing manual labor or working in a division of manufacturing. The white collar worker has a more well-rounded education than the blue collar worker.	2=White-collar, 3=Student		
Mentally Ill	Is the perpetrator diagnosed or suspected to be mentally ill? (i.e. schizophrenia, depression, anxiety disorders, addictive behavior, bipolar disorder, obsessive compulsive disorder, and posttraumatic stress disorder).	0=No, 1=Yes		H19
Criminal History	According to open-sources, did the perpetrator have a prior criminal history?	0=No, 1=Yes	H4	H28
Military Experience	Did the perpetrator have prior military experience?	0=No, 1=Yes	H5	H18, H22
Domestic Violence	Was the individual charged and/or speculated to have committed domestic violence (physical / sexual abuse) against a significant other, spouse, and/or other family member (including children, parents, grandparents, etc...).	0=No, 1=Yes	H6	H23
Motivation				
Fame-seeking	Was the shooter motivated by fame? This includes any shooter who expresses their desire for notoriety and/or role model idolization as a motivation for their attack.	0=No, 1=Yes	H7	H30
Victim-specific / Autogenic / Ideological	<i>Autogenic</i> - Was there no motive other than to kill as many people as possible? <i>Victim-specific</i> - Did the perpetrator know one of their victims that initiated the shooting? <i>Ideological</i> - Was the shooting ideologically-motivated? Defined as lone-wolf - individual or dyads (i.e. two) - shootings motivated by extremist ideologies but with no formal ties to terrorist networks or operations (i.e. tactics and methods are absent of direct outside support, command, or direction).	1=Victim Specific, 2=Autogenic, 3=Ideological	H8, H9	
Ideological Type	If so, what was the ideological motivation? <i>Jihad-inspired</i> - Individuals	0=NA, 1=Jihad inspired, 2=Far-	H10	H26

	who will only accept Islam as the true path towards human dignity. ⁹ <i>Far-right</i> - fiercely nationalistic, anti-global, suspicious of federal authority, and reverent of individual liberties, particularly regarding their Second Amendment rights and government taxes. ¹⁰ <i>Far-left</i> - Anti-government anarchists, Black separatists, and militant Black nationalists ¹¹	right, 3=Far-left, 4=Other		
Hate Crime	The FBI defines a hate crime as a “criminal offense against a person or property motivated in whole or in part by an offender’s bias against a race, religion, disability, sexual orientation, ethnicity, gender, or gender identity.”	0=No, 1=Yes	H11	H24
Gender-based	Did the shooter express specific and general grievances against women as a motivation for their attack? (e.g. against a specific woman, against the female gender and/or feminist ideology).	0=No, 1=Yes		
Incident				
Fatalities	How many victims were killed? Not including perpetrator.	Continuous		H21
Injuries	How many victims were injured? Not including perpetrator.	Continuous		H21
Location	Where did the shooting take place? School refers to K-12, vocational, and college institutions. Business refers to any business the perpetrator worked in and/or with. Government buildings include court	1=School, 2=Business, 3=Religious Institution, 4=Government,	H12	

⁹ They support Sharia law as the blueprint for a modern Muslim society and find it should be forcibly implemented. Jihadist-inspired extremists reject the traditional Muslim respect for “People of the Book” (i.e., Christians and Jews), and believe that “Jihad” is a defining belief in Islam, while also endorsing violence against “corrupt” others (Freilich et al., 2014, p. 380). Under this worldview, jihadist-inspired extremists believe the Muslim faith is oppressed within corrupt governments, specifically within the U.S. where Muslim values are negatively affected as a result of American hedonism (i.e. support of gay rights and feminism). The American people are in turn responsible for their government’s actions and extremists then have a religious obligation to combat this assault. (Chermak & Gruenewald, 2015; Freilich et al., 2014).

¹⁰ They believe in conspiracy theories predicting a serious threat to national sovereignty and/or personal liberty and contend that the personal and/or national “way of life” is under attack. Because of these beliefs, far-right extremists consider their personal and national identities as already lost, or at the very least, threatened by a specific ethnic, racial, or religious group. By and large, far-right extremists engage in/support paramilitary operations and training in order to prepare for these perceived imminent attacks (Freilich et al., 2014).

¹¹ In other words, “groups [and individuals] that want to bring about change through violent revolution rather than through established political processes” (LaFree & Bersani, 2012, p.10). Anti-government anarchists, Black separatists, and militant Black nationalists believe the only way to preserve the natural order is through violence (Johnson, 2017).

	house, police station, etc... Open-Space refers to a mall, restaurant, bar, club, park, etc...	5=Open-Space, 6=Other		
Region	What region did the shooting take place in? Defined based on the census.	1=Northwest, 2=Midwest, 3=South, 4=West	H13	
Spree Shooting	Did the shooting occur in more than one location?	0=No, 1=Yes	H14	
Weapons Used	Type of gun used during the incident.	1=Handgun, 2=Shotgun, 3=Rifle, 4=Combination		
Number of Guns	How many weapons were used?	Continuous	H15	H20
Shooter Status	Was the shooter killed?	1=Alive, 2=Killed, 3=Suicide	H16	

Missing variables. In line with previous research, if available open-sources provided no information on a variable (e.g. whether an offender had a military history) it was coded as “no” instead of “missing” (Drysdale et al., 2010; Fein & Vossekuil, 1999; Freilich et al., 2014; Gill et al., 2014; Silver, Horgan, & Gill, 2018; Vossekuil et al., 2004). This approach has been used in prior research examining similar forms of extreme violence including targeted violence affecting institutions of higher education (Drysdale et al., 2010), attempted assassinations of public figures (Fein & Vossekuil, 1999), lone offender terrorists (Gill et al., 2014), and fatal school shootings (Vossekuil et al., 2004). Parkin and Freilich (2015) argue that in many of these cases, if no information is found, “no” should be the default position. They maintain this is necessary when working with open-source materials where information may be left out because it is not considered relevant to the story. For example, whether a perpetrator’s military history is coded “yes”, depends on whether the open-source materials state the individual was previously in the

military. This coding methodology means the default response for all perpetrators is no military history, unless evidence appears in the open-sources that contradict this response.

It is important emphasize, it is not expected that a negative response would be reported, especially in a journalistic source. A newspaper article has no reason to report an individual had no military history, and it is more likely to report if they did have a military history. In other words, Parkin and Freilich (2015) argue most sources (especially media outlets) would have no reason to report negative findings and would be much more likely to report positive findings. Additionally, by staying consistent in this coding approach, it prevents issues with missing data across the dataset, and there is no likelihood of missing data that would systematically differ across variable groups (Parkin & Freilich, 2015; Silver, Horgan, & Gill, 2018). However, it is also important to recognize overall issues may be under-reported (Silver, Horgan, & Gill, 2018). For example, making this case for military service makes sense, but it is less likely open-source data will address instances of domestic violence, if it has occurred. This problem is addressed further in the limitations section.

News data. The *New York Times* is used to gauge media coverage of the phenomenon. Studies have used the *NYT* to examine and assess media coverage of mass shootings (Schildkraut et al., 2018), school shootings (Chyi & McCombs, 2004; Muschert & Carr, 2006; Schildkraut & Muschert, 2014), and terrorism (Chermak & Gruenewald, 2006). The *NYT* was chosen because it is: (1) the most well-regarded news-source in the US; (2) representative of national coverage at-large; and (3) a reliable indicator of issue salience.

First, the *NYT* has been called the “flagship” of serious journalism in the United States (Bowden, 2009) and the “national paper of record” (Benoit, Stein, & Hansen, 2005). Lule (2001) argues, “cases might be drawn from various media, such as the *Wall Street Journal*, *USA Today*,

the weekly news magazines, *CNN*, the evening news.... But more than any other U.S. news medium, the *New York Times* has become crucial reading for those interested in the news, national politics, and international affairs” (p. 6).

Second, it is considered a key gatekeeper to national and international news coverage, with most other newspapers and television news outlets following what it emphasizes (Benoit et al., 2005; Blakely, 2003; Lule, 2002). In this way, the *NYT* sets the agenda for other news media (Golan, 2006; Lule, 2001) and it is representative of national coverage at-large (Denham, 2014). For example, Golan (2007) finds what is published in the morning edition of the *NYT* significantly determines what is broadcasted on television news. Similarly, Denham (2014) finds the salience of policy issues will be transferred to other news outlets, and will be covered according to what was first emphasized in the *NYT*.

Finally, the *NYT* is particularly useful for this analysis of mass shooting coverage over a 50 year period, because it has been identified as a consistent means for determining issue salience for over half a century (Chernomas & Hudson, 2015). Despite media becoming more fragmented and personalized, the *NYT* remains a reliable indicator of issue salience (Winter & Eyal, 1981) that significantly impacts the public agenda (Althaus & Tewksbury, 2002; Botelho, 2011; Landriscina, 2012; McCombs, 2004). For example, Althaus and Tewksbury (2002) find individuals exposed to both the print and online version of the *NYT* (for just five days) adjusted their agendas in a way that was consistent with the news organization’s agenda. Similarly, Hoffman (2006) finds online newspapers did not have significantly more mobilizing information (i.e. information aiding people to act on pre-existing attitudes) than their print counterparts. In addition, studies find intermedia agenda-setting (i.e. the mutual impact of media agendas) and agenda-melding (i.e. the mixing of agendas and mutual complementation of their content)

contribute to strengthening mainstream print media coverage and increasing its coherence (Atkinson, Lovett, & Baumgartner, 2014; Groshek, 2008; McCombs, 2004; Weimann & Brosius, 2015). For example, Atkinson et al. (2014) conducted a comprehensive assessment of media coverage, finding that for issues with consistently high levels of coverage (i.e. mass shootings), a cohesive national agenda almost certainly exists, and virtually any major news source will show similar patterns in coverage. In other words, despite the drastic changes in media technology, the *NYT* still remains an influential source for determining the public agenda (Althaus & Tewksbury, 2002; Chernomas & Hudson, 2015; Weimann & Brosius, 2015).

Collecting articles. As noted, this study expanded the breadth and depth of previous research by accounting for coverage beyond a one month period and considering all of the coverage dedicated to each incident over the 50 year period. In line with previous research, data was collected using Proquest's *New York Times* Historical Database (Chermak & Gruenewald, 2006; Schildkraut et al., 2018). The names, keywords, and notable characteristics from each of the mass shooting incidents were used to search for articles. A variety of general and specific words related to the issue were employed to avoid generating "false negatives," (Deacon, 2007; Soothill & Grover, 1997), referring to missed articles associated with the keyword being too precise (Deacon, 2007). The search began with the word "shooting" in articles appearing within the first week of the incident. This was followed by all years using individual keyword searches. This would start with a search of the incident location and/or the commonly referenced title for the event (e.g. Columbine, Sandy Hook), then perpetrator names, and then victims' names (e.g. Representative Gabrielle Giffords). This work excludes op-eds, letters to the editor, or briefings.

Collecting news variables. This work uses Chermak and Gruenewald's (2006) approach to quantifying the dependent agenda setting and framing variables. As shown in Table 2, news

coverage is first quantified by whether an incident receives any coverage. If an incident receives coverage, it is divided by the number of articles and words. This is further broken down into the amount of specific and general articles and words. This results seven variables for examining coverage of the phenomenon: (1) coverage, (2) article total, (3) specific article, (4) general article, (5) word total, (6) specific word, and (7) general word.

Chermak and Gruenewald (2006) describe specific words/articles as the, “who, what, when, and why of the incident throughout all stages of the justice process” (p. 441). Specific words/articles include all coverage that described and focused specifically on the mass shooting incident, perpetrator (including past history and court process), and victims. General words/articles refer to the mention of an incident within the context of larger discourse. For example, an article that discussed the details concerning how the Orlando shooter was able to incur such a large death-toll was coded as a specific article, while a reference to the Orlando shooting in an article focused on gun control was coded as a general article. In the instance of an article covering both specific and general material, the piece was coded according to whichever topic made up the majority of the article (Chermak & Gruenewald, 2006).

Table 2. Description and Operationalization of News Coverage (Dependent) Variables

Coverage	Description	Measurement
Any Coverage	Did the incident receive any coverage?	0=No, 1=Yes
Article		
Article Total	How many total articles did the incident receive?	Continuous
Specific Article	Does the article address the who, what, when, and why of the incident throughout all stages of the justice process?	Continuous
General Article	Does the article mention an incident within the context of larger discourse?	Continuous
Word		
Word Total	How many total words did the incident receive?	Continuous

Specific Word	How many words are in the article that addresses the who, what, when, and why of the incident throughout all stages of the justice process?	Continuous
General Word	How many words are in the article that addresses an incident within the context of larger discourse?	Continuous

As shown in Appendix Table A3, the same approach is replicated to examine the framing within coverage. As noted, this research is the first to quantitatively explore the framing of mental illness, gun access, gender grievances, terrorism, crime, and news media. These six issue frames cover each of the seven coverage variables, resulting in a total of 42 variables for assessing the framing of the social problem. Specific articles/words refer to articles that address the issue within the context of the examined incident. For example, specific mental illness articles/words would refer to the perpetrators mental health diagnosis, medications the perpetrator used, and the role mental illness played in contributing to the specific incident. General articles/words refer to addressing the social problem at-large such as the societal role of mental illness or mental health coverage in contributing to all mass shootings.

Inter-coder reliability. This study ensures inter-coder reliability: the extent to which independent coders evaluate a characteristic of a message or artifact and reach the same conclusion (Lombard, Snyder-Duch, & Bracken, 2002). Inter-coder reliability was assessed by having two coders identify variables for the same incident, and then comparing these codes to calculate a numeric index of the extent of agreement between the coders (Lombard et al., 2002). This study uses Krippendorff's (1980) alpha index to ensure inter-coder reliability. Krippendorff's alpha allows for any number of coders, and is explicitly designed for variables at different levels of measurement (e.g. nominal, ordinal, ratio). Since there were 7 RAs on this project, inter-coder reliability was assessed by comparing each of their work to my own. I

withdrew a ten percent sample of each RAs coded data. This sample was then recoded and the double coded incidents were compared. The general methodological consensus is anything above .80 provides an acceptable level of reliability (Lombard, Snyder-Duch, & Bracken, 2002; Neuendorf, 2002), and all of the variables were above this base-value. Table A4 provides a full list of independent variable inter-coder reliability results.

Analytic Strategy

Once the quantitative databases are complete, the data is exported to create three Stata data files for analysis: (1) incident, (2) news, and (3) a combined incident and news dataset. The incident dataset determines the reality of the phenomenon. The news dataset determines the mediated reality of the problem. Finally, the combined incident/news dataset then uses a media distortion analysis to compare the reality against the mediated reality. The following sub-sections detail the analytic strategies including descriptive statistics, temporal analyses, bivariate analyses, logistic regressions and robust regressions.

Reality of the problem. The incident data is used to determine the reality of the mass shooting problem and is summarized using descriptive statistics (RQ1a) and temporal analyses (RQ1b). Descriptive statistics are used to summarize the mass shooting perpetrator, motivation, and incident characteristics identified in Table 1 (Capellan & Gomez, 2018). These descriptive tables are especially important for determining the reality of unexplored mass shooting characteristic variables such as criminal history, military experience, domestic violence, hate crime, and gender-based motivations. A line graph is used to identify changes in incidents and victimization over time: 1966-2016 (see for example: Blair & Schweit, 2014; Fox & DeLateur, 2014; Lott, 2015). This provides a simple summary of information that is “readily apparent” (Clarke, 1995) and useful for public and media dissemination (Lott, 2015). It determines the

contemporary severity of the problem and the reality of a suggested mass shooting epidemic (Blair & Schweit, 2014; Silva & Greene-Colozzi, 2018).

Mediated reality of the problem. The news data provides a summary of the *New York Times* coverage, and to contextualize the general media coverage of the phenomenon. To determine the mediated reality (RQ1c), descriptive summaries identify the number of words, general words, specific words, articles, general articles, and specific articles. Similar to the incident timeline, a line graph illustrating the total number of articles determines the overall coverage over the entire timeline (RQ1d) (Jacoby, 1997). This determines whether media coverage is increasing/decreasing at a similar rate of occurrences. Schildkraut et al. (2018) suggest only a handful of mass shooting incidents drive the public agenda. A descriptive analysis determines the 15 most news producing mass shootings by the number of articles and words (Schildkraut et al., 2018) and identified the incidents setting the public agenda (RQ1). A similar approach also presents the framing variables (RQ2). A line graph compares the six frames to determine which receive the most coverage (total articles/words) (Jacoby, 1997). In line with Chyi and McCombs (2004) analysis of one month, a line graph is used for measuring the total number of articles to compare the six frames over the entire media timeline: 1966-2016 (RQ2a).

Characteristics influencing newsworthiness. As noted, there is no specific criteria for conducting a media distortion analysis. As such, this study uses Chermak and Gruenewald (2006) and Schildkraut et al. (2018) as a model for analyzing the final incident and news dataset to determine the characteristics influencing the newsworthiness of overall coverage (RQ1e) and frames (RQ2b). I used three measurement strategies to determine newsworthiness including: (1) bivariate analyses, (2) logistic regressions, and (3) robust or multiple regressions.

First, bivariate analyses (i.e. cross-tabs) of media coverage/frames by mass shooting characteristics are used to determine the perpetrator, motivation, and incident characteristics that receive more coverage (Chermak & Gruenewald, 2006; Schildkraut et al., 2018). A separate comparison is used for each of the three characteristic categories (i.e. perpetrator, motivation, and incident). Second, an estimated logistic regressions to determine the characteristics influencing any coverage/frames. Finally, robust regressions (for general news coverage) and multiple regressions (for frames) determine the characteristics influencing salient levels of coverage/framing. These analyses address the media newsworthiness hypotheses (H1-H16) and framing hypotheses (H17-30). Specifically, these analyses are used to determine the significance of characteristics influencing coverage. The final two subsections detail these statistical approaches to coverage and salience.

It is important to emphasize the logistic and robust/multiple regressions are measuring two different, but related, decisions: (1) the likelihood of being characteristics being selected for publication, and (2) the extent of characteristic coverage received. Given these are two different decisions, made with different types and amounts of information, it would not be surprising for the findings to be different. For instance, the field of foreign aid allocation has traditionally distinguished between: the (1) decision to give aid to a particular country (0=No, 1=Yes), and (2) how much aid in millions to give the selected countries (Neumayer, 2003). The literature has generally found some factors matter for the first decision and not the second, and vice versa (Neumayer, 2003). Those differences are instructive to general understanding of foreign aid allocation, just as the differences between models in the current study are instructive to our understanding of the media's focus on mass shooting characteristics.

Determinants of any news coverage/frames. This study follows Chermak and Gruenewald (2006) by estimating logistic regressions to determine the characteristics influencing whether a mass shooting incident is selected for any presentation/framing in the news. This is an appropriate technique given the dependent variable (any coverage/frame) is dichotomous (0=No, 1=Yes) (Pampel, 2000). These analyses / tables provide the logistic coefficient, standard error, significance level, and odds ratio (see for example: Chermak & Gruenewald, 2006; Schildkraut et al., 2018)¹². When a logistic regression is calculated, the regression coefficient is the estimated increase in the log odds of the outcome per unit increase in the value of the independent variable (Szumilas, 2010).

Logistic regression is often considered an attractive analysis because it does not assume normality, linearity, or homoscedasticity (Pampel, 2000). However, it is still an important to test for multicollinearity (Pampel, 2000). For example, Chermak and Gruenewald (2006) identified multicollinearity between the airline target and hijacking variables when examining the media coverage of terrorist incident types. As a result, they provided separate models with target and tactic presented independently. This study encounters a similar issue with the variables general motivation and ideology type. As a result, different models were used to test these variables independently (Chermak & Gruenewald, 2006; Pampel, 2000).

The significance is determined by the p values including (0.05) (0.01) and (0.001). However, in a logistic regression it is important to consider alternative means for determining the magnitude of findings. For example, a logistic regression provides a better fit to the data if it demonstrates an improvement over a model with fewer predictors. This is performed using the likelihood ratio test, which compares the likelihood of the data under the full model against the

¹² To ensure clear and concise information summaries, only the odds ratio and significance level are included in the framing tables.

likelihood of the data under a model with fewer predictors (Pampel, 2000; Szumilas, 2010). Removing predictor variables from a model will almost always make the model fit less well (i.e. a model will have a lower log likelihood), but it is necessary to test whether the observed difference in model fit is statistically significant (Pampel, 2000). Thus, this study uses a goodness of fit test with reduced predictors to ensure the significance of findings. Additionally, unlike a linear regression, there is no R² statistic (which explains the proportion of variance in the dependent variable that is explained by the predictors) in a logistic regression. However, there are a number of pseudo R² metrics that could be of value (Pampel, 2000). This research uses McFadden's R², with a measure ranging from 0 to just under 1, and with values closer to zero indicating the model has no predictive power (Hosmer, Lemeshow, & Sturdivant, 2013).

Determinants of salient coverage/frames. Along with measuring whether a characteristic receives any coverage/frames, this study also determines the characteristics influencing the salience of coverage/framing. A robust regression is used to measure the characteristics influencing the salience of coverage, and a multiple regression is used to measure the characteristics influencing the salience of framing. Similar to the logistic regression, the significance is determined by the p values including (0.05) (0.01) and (0.001).

The expanded time-period used in this study (1966-2016) seeks to reduce the number outliers potentially impacting the results. Despite this, outliers can still threaten the validity of the estimates by dramatically changing the magnitude or even the direction of regression coefficients (Rousseeuw & Leroy, 2005).¹³ To address this issue, a robust regression is used to measure the characteristics influencing the salience of coverage. Robust regression can be used

¹³ One way to deal with this would be to remove the outliers from the analysis and run ordinary least squares (OLS) regression without them (Cook & Weisberg, 1982). However, that is an undesirable approach to this study, given the characteristics for these extreme cases are critical for understanding the news value of mass shootings (Chermak & Gruenewald, 2006).

in any situation using a least squares regression (Rousseeuw & Leroy, 2005). In general, robust regression strategies are designed to not be overly affected by violations of assumptions by the underlying data-generating process (Rousseeuw & Leroy, 2005). A robust regression accounts for the outliers present in this type of data (see for example: Chermak & Gruenewald, 2006; Schildkraut et al., 2018) by dampening the influence of extreme observations through an iteratively reweighted least squares procedure that weights every observation by the size of its residuals (Rousseeuw & Leroy, 2005).

For determining news salience of coverage, four of the continuous independent variables (articles, specific articles, words, and specific words) are used for each of the characteristic models. The iterations for models with the number of general articles and words would not converge, and therefore were omitted from the results. This problem is the result of the large share of general articles and words written about extreme cases. This large proportion affects weight assignments and the coverage's of Huber iterations.

To examine the salience of frames, this work initially attempted to use a robust regression, similar to the salience of coverage. However, the large number of zeros associated with different frame variables (e.g. many incidents did not receive any news coverage frames) prevented this type of analysis (Rousseeuw & Leroy, 2005). As such, it was determined that a multiple regression was the best approach to this unique analysis (Schroeder, Sjoquist, & Stephan, 1986). This provides a strong, but relatively simple strategy, for this introduction to a media distortion analysis of frames. To avoid an excess of information, a multiple regression was only used to examine the number of articles by each type of frame.

Controls

It is important to consider controlling for characteristic variables and the extended time period being analyzed. To control for characteristic variables, this analysis includes control variables that have previously been identified as significant indicators of newsworthiness. For example, the number of incident fatalities and injuries have routinely been identified as significant predictors of newsworthiness (Chermak, 1998; Chermak & Gruenewald, 2006; Duwe, 2000, Gruenewald et al., 2009). Additionally, research indicates mental illness is viewed in public discourse as one of the leading causes of mass shootings (McGinty, Webster, & Barry, 2013; Metzl & MacLeish, 2015; Schildkraut & Muschert, 2013). As a result, this study uses incident fatalities, incident injuries, and perpetrator mental illness as control variables.¹⁴ This study also controlled for the extended time period being analyzed. A valuable contribution of this study is that it provides the longest timeline assessing the media coverage of mass shootings. However, it is important to consider outside factors that may be contributing to the media coverage (specifically the *New York Times* coverage) of the phenomenon. As a result, this work includes a year variable to control for changes over-time¹⁵. These controls further contribute to the strength of significant findings.¹⁶

¹⁴ While running the analyses, education and employment status were identified as significant predictors of newsworthiness. Although not measured in any previous studies, and not hypothesized in the initial organization of this analysis, given their significance across numerous analyses, they were included as controls. Additionally, fatalities and injuries were used as control variables in all of the analyses, however, the results are not included in the tables, except for the incident table, where the results were also used to explore hypotheses.

¹⁵ The inclusion of the year variable did not influence the significance of characteristics influencing newsworthiness in any of the analyses. Therefore, it was removed from the analyses, to avoid overwhelming the results with insignificant information.

¹⁶ Despite these controls, studies are unable to account for high profile mass shooting incidents and other national news that may contribute to decreasing the newsworthiness of certain events. For example, Towers et al. (2015) find excessive coverage of high profile incidents has contributed to the contagion effect. In other words, perpetrators are influenced by the extensive coverage surrounding an incident and decide to engage in copy-cat criminality. It is possible these copy-cats may receive less coverage than they would have normally been provided, since these incidents occurred in the immediate aftermath of an event (Schildkraut & Muschert, 2014). Nonetheless, there are numerous factors that suggest this influence would not have a significant impact on findings. First, there is no evidence copy-cats receive less coverage than they would have had they not followed a high profile incident. In fact,

a counter-argument could be made they will receive more coverage, since the phenomenon is currently on the public agenda. For example, the “issue attention cycle” suggests more than one incident can influence excessive media coverage and subsequent public attention (Birkland & Lawrence, 2009; Down, 1972). Second, it would not matter if incidents immediately following high profile mass shootings received more or less coverage. As noted, Parkin and Freilich (2015) argue coding consistency prevents issues with missing data across the dataset. The same argument could be made for increases/decreases in incident coverage in the immediate aftermath of high profile incidents. Whatever strategy the media follows in the aftermath of high profile events would remain consistent, and would have the same impact (i.e. a null impact) on the overall analysis.

CHAPTER 6

THE REALITY OF MASS SHOOTINGS

This chapter highlights the reality of the mass shooting problem.¹⁷ It identifies the severity of the problem (i.e. incidents and casualties) (RQ1b), as well as the perpetrator, motivation, and incident characteristics (RQ1a).

Incident and Casualty Rates

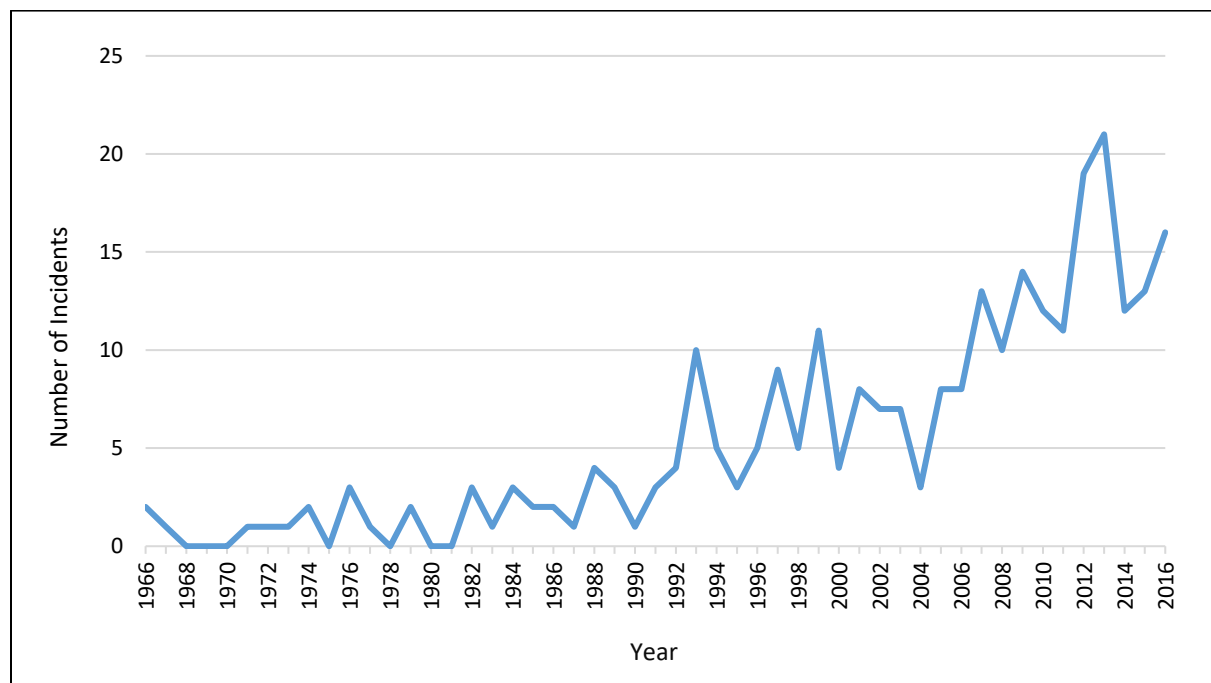


Figure 1. Frequency of Mass Shooting Incidents ($N = 275$), 1966-2016

Incidents over time. The data collection process identified 275 successful mass shooting attacks in the United States between January 1st, 1966 and December 31st, 2016. There is an average of 5.4 incidents per year over the entire time analyzed time period. However, it is important to consider how the rate of attacks has changed over time. Figure 1 provides a

¹⁷ Again, it is important to recognize that the use of “reality” in this study is only based on the author’s assessment of the phenomenon (i.e. academic knowledge is in and of itself a social construction).

temporal analysis of mass shootings over the 51 year time period. Overall, there has been a substantial rise in mass shootings with three incidents (1.1%) occurring during the 1960s, 11 incidents (4%) during the 1970s, 19 incidents (6.9%) during the 1980s, 56 incidents (20.4%) during the 1990s, 82 incidents (29.8%) during the 2010s, and 104 incidents (37.8%) occurring between 2010 and 2016. In other words, over two thirds of incidents occurred at the turn of the century, and these numbers are continuing to rise. The greatest number of incidents occurred in 2013 ($n = 21$), 2012, ($n = 19$), and 2016 ($n = 16$). Despite the importance of identifying the number of incidents, discourse is often concerned with the level of violence and victimization.

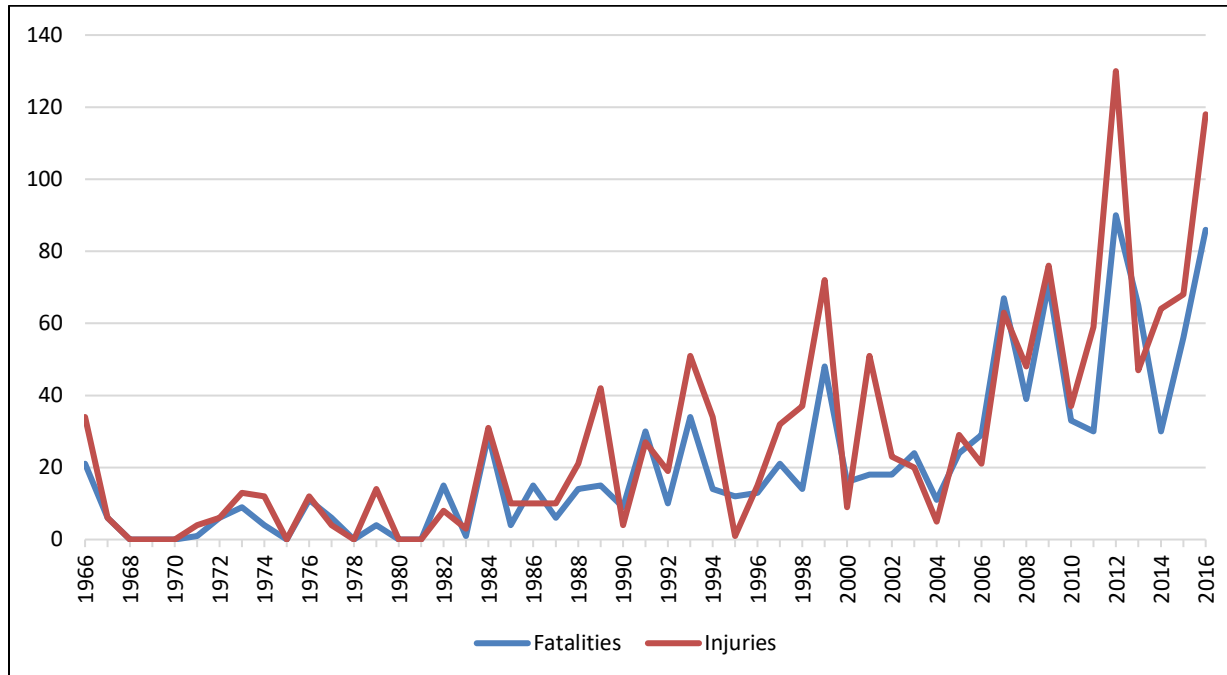


Figure 2. Number of Mass Shooting Fatalities and Injuries, 1966-2016

Casualties over time. Figure 2 identifies the number of fatalities ($n = 1,079$) and injuries ($n = 1,400$) occurring over the same period of time. There is an average of 21.2 deaths and 27.5 injuires each year. However, this figure also illustrates the dramtic rise in victimization at the turn of the century. In other words, 66% of fatalities ($n = 707$) and 62% of injuires ($n = 868$)

occurred between 2000 and 2016. The peak years for casualties (fatalities + injuries) include 2009 ($n = 147$), 2012 ($n = 220$), and 2016 ($n = 204$). Not surprisingly, these findings indicate more casualties occur in years with greater numbers of incidents. However, it is also important to consider the incidents with the greatest number of casualties, given that recent mass shootings frequently include historical analyses that compare and contrast previous incidents, sometimes rank-ordered according to worst or ‘bloodiest’ (Blakinger, 2015; Willingham & Levenson, 2018). As such, it is valuable to consider the deadliest mass shootings and how they compare to the rest of the phenomenon.

Table 3. Fifteen Deadliest Mass Shootings

Incident	Year	Fatalities	Injuries
Orlando Nightclub	2016	50	53
Virginia Tech	2007	32	17
Sandy Hook Elementary	2012	27	2
Luby’s Cafeteria	1991	22	20
McDonald’s	1984	21	19
Texas Tower	1966	16	32
San Bernardino	2015	14	22
U.S. Postal Service	1986	14	7
Fort Hood	2009	13	32
Columbine High School	1999	13	24
American Civic Association	2009	13	4
Colorado Theatre	2012	12	70
Washington Navy Yard	2013	12	4
Geneva County Spree	2009	10	6
Howard Johnson’s Hotel	1973	9	13

Deadliest mass shootings. Table 3 presents the 15 deadliest mass shootings that account for 25.8% (278 of 1,079) of the total deaths and 23.2% of the total injuries (325 of 1,400). It is important to emphasize that mass shooting incidents rarely involve a large number of fatalities.¹⁸ On average, annual homicide counts total into the tens of thousands (FBI, 2018), with successful

¹⁸ In fact, 24 incidents in this study had 0 fatalities.

mass shooting deaths representing a fraction of the overall homicide picture (i.e. $n = 1,079$ over a 51 year period). Terrorism scholarship has suggested “black swan” events (i.e. rare and especially deadly attacks) (Taleb, 2007) may be driving media coverage and public perceptions of the social problem. For instance, 3 of the top 15 deadliest incidents (Orlando Nightclub, San Bernardino, and Fort Hood) were perpetrated by jihadist-inspired extremists. This highlights the deadliness of jihadist-inspired extremists¹⁹, as well as the potential impact they can have on coverage. Finally, nine of the 15 deadliest mass shootings occurred at the turn of the century. In other words, deadly incidents driving media coverage and public concern are on the rise.

Mass Shooting Characteristics

Perpetrator. Table 4 presents the basic perpetrator characteristics. Findings indicate offenders are overwhelmingly male (96.7%) with an average age of 35 years old. The majority of perpetrators are White (61.2%), with the second most common race (Black) encompassing only one-third (21.6%) of the majority race / ethnicity population. It is important to recognize the percentage of White perpetrators is exactly proportional to the number of White individuals in America. Alternatively, Black perpetrators are over-represented (i.e. 21%), since they only account for 13% of the general population. The final fifth of total offenders are Hispanic (8.8%), Arab (4.4%), Asian (3.3%), and Native American (0.7%).

Perpetrators are largely high school graduates (49.1%), with 25.1% attending some high school and only 2.2% still in middle school. Almost a quarter of offenders have attended college, however, only 8.7% have an Associates or Bachelors, and even fewer have a Masters or Doctorate (3.3%). When examining employment status, perpetrators are largely blue-collar

¹⁹ This is especially intriguing since there were only 50 fatal jihadist-inspired incidents between 1990 and 2018. Of those 50, 15 were the DC sniper killings (not included in this study, but still a shooting), and 4 were 9/11. Thus, 3 out of the 31 remaining jihadist-inspired attacks made the top 15 mass shooting attacks.

workers (44.4%), followed by unemployed (34.2%), student (13.4%), and white-collar employee (8.0%). This study also considers the perpetrators background including criminal history, military experience, domestic violence history, and mental illness. Unsurprisingly, nearly half of offenders suffer from some form of mental illness (48%). Around one third of offenders have a prior criminal history (35.3%). Interestingly, 20.5% have a history of domestic violence. The domestic violence percentage is presumably even higher, since this variable, like the problem with domestic violence at-large, is likely underreported in official police reports and media coverage (i.e. sources of data collection for this study). Finally, 16.7% of offenders have previous military experience.

Table 4. Mass Shooting Perpetrator Characteristics

Characteristic	N	Percent/Average
<i>Male</i>	266	96.7
<i>Age</i>		35 (Avg.)
<i>Race / Ethnicity</i>		
White	168	61.2
Black	60	21.6
Hispanic	24	8.8
Asian	9	3.3
Arab-descent	12	4.4
Native American	2	0.7
<i>Education status</i>		
Middle school	6	2.2
Some high school	69	25.1
Completed high school	135	49.1
Some college	32	11.6
AA/BA	24	8.7
MA/PhD	9	3.3
<i>Employment status</i>		
Unemployed	94	34.2
Blue-collar	122	44.4
White-collar	22	8.0
Student	37	13.4
<i>Criminal history</i>	97	35.3
<i>Military experience</i>	46	16.7
<i>Domestic violence history</i>	56	20.5
<i>Mentally ill</i>	132	48

Motivation. The next area of inquiry was the motivations behind these attacks. As shown in Table 5, mass shooters were often autogenic (42.2%) and victim-specific (40%). Only 17.8% of perpetrators were ideological. Out of the 49 perpetrators who were ideologically-motivated, the majority were far-right (55%), followed by an even split between far-left (22.5%) and jihadist-inspired perpetrators (22.5%). Additionally, only 9.9% of offenders committed a hate crime. However, 13.5% were explicitly motivated by fame, and 23.8% were motivated by gender-based grievances.

Table 5. Mass Shooting Motivation Characteristics

Motivation	N	Percent/Average
<i>Autogenic</i>	116	42.2
<i>Victim-specific</i>	110	40
<i>Ideological</i>	49	17.8
<i>Ideological Type</i>		
Jihadist-inspired	11	22.5
Far-right	27	55
Far-left	11	22.5
<i>Hate crime</i>	27	9.9
<i>Fame-seeking</i>	37	13.5
<i>Gender-based</i>	65	23.8

Incident. Finally, Table 6 illustrates mass shooting incident characteristics. Interestingly, the most common incident location is the workplace (30.2%), followed by open-spaces (26.9%) and schools (21.8%). The least common locations were outside (10.2%), government spaces (6.5%), and religious institutions (4.4%).²⁰ However, 28.4% of incidents did occur in more than one location within a 24hr period.²¹ Incidents most commonly occurred in the Southern region

²⁰ The lack of attacks on government locations is presumably associated with the heightened security in such locations (see Capellan & Silva, 2018 for a description of mass shooting attacks on government targets).

²¹ Incident locations were mutually exclusive, despite some incidents occurring in more than one location (i.e. spree shootings). The major location of the incident was coded as the sole location. For example, if an incident began in the home and then moved to a school, only the school was coded. This is because an incident that occurred exclusively in the home would not be included in the dataset, unless it was during a party (Schildkraut & Elsass, 2016).

(35.6%), followed by the West (33.5%), Midwest (19.3%), and Northeast (11.6%). The predominant weapon used was a handgun (54.9%), followed by a combination of weapon types (26.9%), a rifle (9.8%), and a shotgun (8.4%). Perpetrators are not stockpiling mass amounts of weaponry, with the average number of weapons used being less than two (1.8). Despite this, they are incurring large amounts of casualties, with the average number of fatalities being 3.9 and the average number of injuries being five. At the end of the incident, the perpetrators most commonly commit suicide (42.4), followed by arrest (37.1%), and being killed (20.4%). In other words, almost two-thirds die during the conclusion of the attack.

Table 6. Mass Shooting Incident Characteristics

Characteristic	N	Percent/Average
<i>Location</i>		
School	60	21.8
Workplace	83	30.2
Religious	12	4.4
Government	18	6.5
Open-space	74	26.9
Outside	28	10.2
<i>Spree-shooting</i>	78	28.4
<i>Region</i>		
Northeast	32	11.6
Midwest	53	19.3
South	98	35.6
West	92	33.5
<i>Weapons used</i>		
Handgun	151	54.9
Rifle	27	9.8
Shotgun	23	8.4
Combination	74	26.9
<i>Number of guns</i>		1.8 (Avg.)
<i>Fatalities</i>		3.9 (Avg.)
<i>Injuries</i>		5 (Avg.)
<i>Conclusion</i>		
Arrested	102	37.1
Killed	56	20.4
Suicide	117	42.5

Summary

This chapter illustrates the reality of the mass shooting problem by identifying the severity (i.e. incidents and casualties) (RQ1b) and characteristics (i.e. perpetrator, motivation, incident) (RQ1a). Findings illustrate a rise in mass shooting incidents and casualties from 1966 to 2016. Importantly, the greatest number of incidents occurred in the last 5 years of this study (i.e. 2012, 2013, 2016). Similarly, the greatest number of casualties (i.e. deaths + injuries) occurred in the last eight years (i.e. 2009, 2012, 2016). The large casualty rates are primarily the result of “black swan” events that have excessively higher levels of victimization. These may be driving media coverage of the phenomenon. However, the increase in incidents, casualties, and even “black swan” events at the turn of the century highlights the importance of continued research investigating the social problem.

When considering the reality of the problem, mass shooting perpetrators are overwhelmingly male, predominantly white, though somewhat lower compared to the general population, and averaging 35 years of age. They most commonly have a high school education and blue-collar employment. Around one-third have a criminal history, and one-fifth have a domestic violence history. They have a disproportionately high level of military experience in relation to the rest of the United States population. Almost half have some form of mental illness (i.e. schizophrenia, clinical depression, PTSD). They are primarily motivated by autogenic and victim-specific reasoning. Of the fifth motivated by extremist ideology, the majority were far-right terrorists. However, jihadist-inspired extremist committed 20% of the deadliest attacks (i.e. 3 of 15). Hate crimes were less common than fame-seeking and gender-based motivations. Incidents most commonly occurred in the workplace and open-spaces in the South and West. Surprisingly, the majority of weapons were handguns, and the average incident involved two

guns. Incidents resulted in an average of 4 fatalities and 5 injuries, although again, these numbers are skewed by a few “black swan” events. Finally, the majority of incidents resulted in suicide.

CHAPTER 7

THE MEDIATED REALITY OF MASS SHOOTINGS

This chapter examines how the media is setting the agenda on mass shootings (RQ1). It identifies the frequency of coverage over time (RQ1d), as well as the number of words and articles dedicated to the phenomenon (RQ1c). A comparison of the reality and mediated reality is used to determine the perpetrator, motivation, and incident characteristics influencing newsworthiness (RQ1e) (H1-H16).

Mass Shooting Coverage

Total articles and words. The data collection strategy resulted in a total of 3,448 *New York Times* articles, amounting to over 3.5 million words. As shown in Table 7, approximately 78% of mass shootings (214 of 275) received coverage. Specific articles accounted for 43% ($n = 1,487$) of the total articles, offering descriptive details of the incident, offender, and victims. The other 57% ($n = 1,961$) of articles were classified as general stories, since the shootings were referenced in the context of a broader discussion around policy or societal debates.

Table 7. Descriptive Summaries of Mass Shooting News Coverage

Coverage Type	N
<i>Any Coverage</i>	214
<i>Articles</i>	3,448
Specific Articles	1,487
General Articles	1,961
<i>Words</i>	3,571,243
Specific Words	1,263,232
General Words	2,308,011

Articles over time. Figure 3 provides a temporal analysis of *NYT* coverage of mass shootings over the 51 year time period. Overall, there has been a substantial rise in coverage over the examined time period, with 18 articles (0.5%) published during the 1960s, 35 articles (1.0%)

during the 1970s, 89 articles (2.6%) during the 1980s, 688 articles (20.0%) during the 1990s, 670 articles (19.4%) during the 2000s, and 1,948 articles (56.5%) published between 2010 and 2016.

In other words, over two thirds of coverage occurred at the turn of the century, and these numbers are continuing to rise. The greatest number of articles were published in 2013 ($n = 358$), 2015 ($n = 458$), and 2016 ($n = 529$).

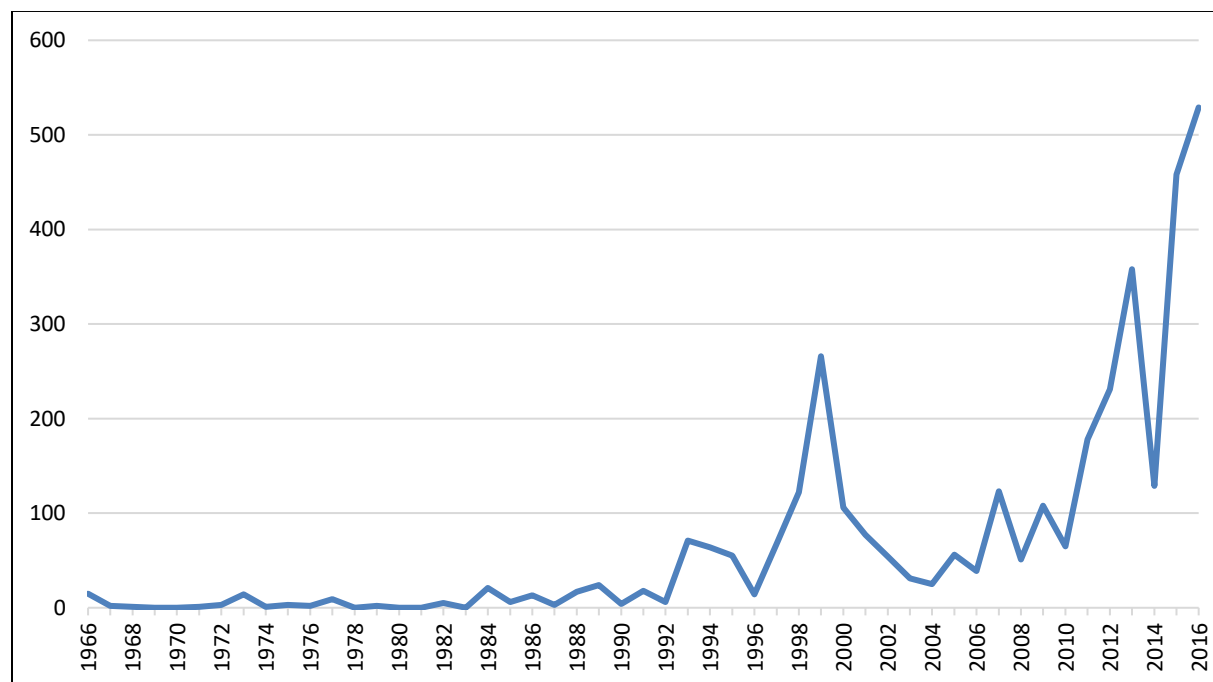


Figure 3. Number of NYT Articles Published on Mass Shootings Each Year ($N = 3,448$)

High-profile mass shootings. In line with previous research (Schildkraut et al., 2018), this work finds only a handful of mass shooting incidents drive the public agenda. Table 8 identifies the 15 most news producing mass shootings. This research definitively finds what previous studies have suggested (Muschert & Carr, 2006; Schildkraut & Muschert, 2014): Columbine is the most newsworthy mass shooting in the 50 years since the Texas Sniper generated extensive coverage of the phenomenon. Taken together, these 15 incidents account for 68.4% of the total articles ($n = 2,358$), 50.1% of specific articles ($n = 745$), 82.3% of general

articles ($n = 1,613$), 71.2% of words ($n = 2,542,180$), 54.5% of specific words ($n = 688,233$), and 80.3% of general words ($n = 1,853,947$). These findings indicate only .5% of incidents are driving the majority of coverage dedicated to the phenomenon. Importantly, all of these cases have occurred in the 1990s (5 incidents), 2000s (2 incidents), and 2010s (8 incidents).

Table 8. Fifteen Most News Producing Mass Shootings

Incident	Year	Total Articles	Spec. Articles	Gen. Articles	Total Words	Spec. Words	Gen. Words
Columbine	1999	482	106	376	502,618	97,670	404,948
Sandy Hook	2012	247	45	202	257,358	46,088	211,270
Colorado Theater	2012	210	73	137	212,785	56,902	155,883
San Bernardino	2015	203	17	186	243,424	23,467	219,957
Tucson	2011	202	89	113	212,140	88,026	124,114
Virginia Tech	2007	193	73	120	194,572	58,301	136,271
Orlando Nightclub	2016	173	38	134	211,047	46,968	164,079
Charleston Church	2015	160	49	111	205,875	51,439	154,436
Fort Hood	2009	159	73	86	167,729	55,183	112,546
Long Island Rail Road	1993	104	82	22	99,590	68,412	31,178
Westside Middle	1998	74	21	53	81,431	25,833	55,598
CIA Headquarters	1993	46	21	25	41,350	13,195	28,155
Brooklyn Bridge	1994	40	34	6	32,023	27,120	4,903
Washington Navy Yard	2013	35	13	22	42,483	15,292	27,191
Umpqua College	2015	31	11	20	37,755	14,337	23,418

Newsworthiness of Mass Shootings

Perpetrator characteristics influencing coverage. Table 9 presents a cross-tab table of coverage by the mass shooting perpetrator characteristics. Socio-demographic tabs indicate males are just as likely to receive any coverage as females (78%), but receive more articles and words. This is somewhat surprising, since female offenders are so rare: making up approximately 3% of all mass shooters. Underage offenders are the most likely to receive any coverage (88%) and salient levels of coverage. Alternatively, senior citizens are the least likely to receive media attention across all variables.

Table 9. Media Coverage by Perpetrator Characteristics

	Percent Covered	Mean # Art.	Mean # Spec. Art.	Mean # Gen. Art.	Mean # Words	Mean # Spec. Words	Mean # Gen. Words
<i>Gender</i>							
Male	78%	12	5.4	6.6	1,2341.2	4,562.2	7,779
Female	78%	28.1	6.1	22	3,2053.7	5,519.9	26,533.8
<i>Age</i>							
17 and younger	88%	27.2	9.1	18.1	28,303.6	7,655.2	20,648.4
18-24	82%	23.8	9.1	14.7	24721.5	7988	16733.5
25-39	73%	11.7	5.2	6.53	12617.3	4530	8087.3
40-64	80%	4.1	2.9	1.14	3718.6	2265.4	1453.2
65 and older	60%	3.9	2.3	1.60	2760.1	1590.1	1170
<i>Race / Ethnicity</i>							
White	83%	13	5.5	7.48	13,364.1	4,665	8,699.1
Black	75%	4.8	3.4	1.35	4,630.6	2,836.7	1,793.9
Hispanic	50%	1.7	0.9	0.8	1,695.5	701	994.4
Asian	67%	24.6	10.9	13.7	24,642.8	8,869.4	15,773.3
Arab-descent	92%	58.7	18.8	39.9	64,819.3	17,344.6	47,474.8
Native American	50%	5	4	1	3,962.5	2,259	1,703.5
<i>Education status</i>							
Middle school	83%	13.8	4.8	9	14,415.7	4,972.7	9,443
Some high school	78%	13	5	8	13,711.6	4,115.2	9,596.4
High school	70%	4.3	2.6	1.6	4,076.6	2,133.5	1,943.1
Some college	84%	26.1	11.5	14.6	26,941.2	10,182.8	16,758.3
AA/BA	100%	33.8	10.8	23	37,083.9	10,106.3	26,977.6
MA/PhD	100%	27.1	14.6	12.6	26,241.9	10,335.3	15,906.6
<i>Employment status</i>							
Unemployed	72%	13.4	5.9	7.5	13,930	5,147	8,783
Blue-collar	77%	8.7	3.9	4.8	9,032.1	3,215.9	5,816.2
White-collar	83%	7.5	4.7	2.8	7,584.6	4,286.4	3,298.2
Student	92%	26.6	9.7	16.9	27,373.8	8,013.4	19,360.4
<i>Criminal history</i>							
Yes	78%	11.3	5.8	5.48	11,925.7	5,060.1	6,865.6
No	78%	13.2	5.2	8.03	13,564.4	4,339.3	9,225
<i>Military history</i>							
Yes	85%	10.5	5.2	5.33	11,299.9	4,465.6	6,834.3
No	76%	12.9	5.5	7.49	13,325.1	4,619.3	8,705.8
<i>Domestic violence</i>							
Yes	82%	9.8	5.4	4.43	10,285.5	4,651.7	5,633.8
No	77%	13.2	5.4	7.82	13,677	4,578.7	9,098.3
<i>Mentally ill</i>							
Yes	85%	20.7	8.7	12.00	21,614	7,471.4	14,142.6
No	71%	5	2.4	2.64	5,022.4	1,937.1	3,085.3

In terms of race / ethnicity, perpetrators of Arab-descent are the most likely to receive any coverage (92%), and receive far more articles and words. For instance, Arab shooters receive the highest mean number of articles (58.7 Avg.), followed by Asian (24.6 Avg.), and White (13 Avg.). The least commonly covered race / ethnicity by articles include Native American (5 Avg.), Black (4.8 Avg.), and Hispanic 1.7 (Avg.) perpetrators. This is interesting, given research commonly finds Black and Hispanic crime offenders often receive disproportionate levels of coverage. One reason for this may be attributed to the framing of shooters as deranged white males, and highlights the importance of the forthcoming framing section of this study.

When considering the coverage dedicated to perpetrators based on education and employment status, studies have routinely suggested that high school shooters receive disproportionate levels of coverage. Employment status supports this position, finding students are more likely to receive any coverage and salient numbers of articles and words. In fact, students are tied with Arab perpetrators as the characteristic with the second greatest chance of receiving any coverage (92%). Surprisingly, perpetrators with any form of college education received at least one article 100% of the time. In particular, shooters with undergraduate degrees received the greatest number of words and articles. Although less surprisingly, it also important to note that white-collar offenders received the least amount of articles and words.

There were no drastic differences in coverage between offenders with criminal and domestic violence histories. Interestingly, perpetrators with a military history were more likely to receive any coverage, however, it was one of the few variables where the reverse (i.e. no military history) received more words and articles. Finally, mentally ill perpetrators were more likely to receive coverage across all the media variables.

Motivation characteristics influencing coverage. Table 10 illustrates the media coverage attributed to perpetrator motivations. The mutually exclusive motivation variable derived from Osborne and Capellan (2017) indicates ideological perpetrators are more likely to receive any coverage (90%) than autogenic (81%) and victim-specific (69%). Ideological perpetrators also receive a substantially greater number of words and articles. Given the focus on ideology, it is valuable to consider the types of ideologies receiving media attention.

Table 10. Media Coverage by Motivation Characteristics

	Percent Covered	Mean # Art.	Mean # Spec. Art.	Mean # Gen. Art.	Mean # Words	Mean # Spec. Words	Mean # Gen. Words
<i>Autogenic</i>							
Yes	81%	11.3	4.7	6.6	11,498.1	3,811.1	7687
No	75%	13.4	5.9	7.5	14,072.1	5,164.4	8,907.7
<i>Victim-specific</i>							
Yes	69%	5.7	2.7	3	5,448.5	2,037.4	3,411.1
No	84%	17.1	7.2	9.9	18,011.6	6,297.7	11,713.9
<i>Ideological</i>							
Yes	90%	30.8	13.3	17.6	33,352.6	12,131.8	21,220.8
No	75%	8.6	3.7	4.9	8,570.6	2,959.2	5,611.5
<i>Ideological Type</i>							
Jihadist-inspired	100%	64.7	20.9	43.8	71,221.9	19,240.4	51,981.6
Far-right	93%	22	10.8	11.2	23,375.9	9,706.6	13,669.3
Far-left	70%	18.2	11.7	6.5	19,631.2	11,102.8	8,528.4
<i>Hate crime</i>							
Yes	96%	20.8	8.8	12	23,503.7	8,398	15,105.6
No	76%	11.6	5.0	6.6	11,841.3	4,179.4	7,661.9
<i>Fame-seeking</i>							
Yes	97%	41.2	13.8	27.5	43,605.5	12,690	30,915.6
No	75%	8.1	4.1	4.0	8,226.2	3,334.9	4,891.3
<i>Gender-based</i>							
Yes	75%	15.4	5.6	9.9	16,171.1	4,878.5	11,292.6
No	79%	11.6	5.4	6.3	12,000.6	4,505.4	7,495.2

Findings indicate jihadist-inspired extremists receive at least one article 100% of the time, followed by far-right (93%), and the substantially less covered far-left (70%). While there is not much difference between far-right and far-left coverage salience, jihadist-inspired perpetrators receive substantially more articles and words – particularly general articles and

words. Hate crimes received more coverage and salient levels of coverage than non-hate crimes. Similarly, fame-seekers received much more coverage and substantially more articles and words than non-fame-seekers. Finally, gender-based perpetrators actually received less coverage than non-gender-based.

Incident characteristics influencing coverage. Table 11 presents the media coverage by incident characteristics. In terms of location, schools (92%) and religious institutions (92%) have the greatest likelihood of receiving any coverage. This is followed by government (83%), open-space (77%), workplace (72%), and outside (57%) locations. Importantly, workplaces receive by far the least amount of articles and words. This is particularly interesting, given workplace incidents occur most often. There is no significant difference in coverage of shootings that occur in more than one location (i.e. spree shootings). While incidents in the Northeast are more likely to receive any coverage (91%), the South and West regions receive more articles and words.

Table 11. Media Coverage by Incident Characteristics

	Percent Covered	Mean # Art.	Mean # Spec. Art.	Mean # Gen. Art.	Mean # Words	Mean # Spec. Words	Mean # Gen. Words
<i>Location</i>							
School	92%	22.8	8.2	14.6	23,240.1	6,948.6	16,291.5
Workplace	72%	4.7	2.0	2.7	4,701.8	1,506.6	3,195.2
Religious	92%	20.4	8.3	12.2	23,902.8	7,764.3	16,138.5
Government	83%	18.9	9.2	9.8	19,962.7	7,761.5	12,201.2
Open-space	77%	10.6	5.5	5.1	10,672.7	4,477.1	6,195.5
Outside	57%	11.5	5.8	5.8	12,523	5,610.1	6,913
<i>Spree-shooting</i>							
Yes	78%	13.1	5.0	8.1	13,807.2	4,279.8	9,527.4
No	78%	12.3	5.6	6.7	12,661.3	4,717.8	7,943.5
<i>Region</i>							
Northeast	91%	10	7.8	2.2	8,873.2	6,243.3	2,629.9
Midwest	79%	3.4	2.5	0.9	2,898	1,720.1	11,77.9
South	76%	15.5	6.1	9.4	16,750.2	5,433.2	1,1317
West	75%	15.6	5.5	10.1	16,219.4	4,780.7	11,438.7
<i>Weapons used</i>							
Handgun	72%	8.8	4.8	4.0	8,854.7	3,965.5	4,889.3
Rifle	85%	6.9	4.4	2.4	6,327.3	3,189.4	3,137.9

Shotgun	70%	3.0	1.7	1.3	3,110.9	1,450.3	1,660.6
Combination	91%	25.3	8.1	17.2	26,916.1	7,364.5	19,551.6
<i>Number of guns</i>							
1 or less	68%	5.6	3.6	2.0	5,200.7	2,781.6	2,419.2
2 or more	90%	20.9	7.6	13.3	22,329.1	6,768.0	15,561.1
<i>Fatalities</i>							
3 or less	66%	3.7	2.5	1.2	3,305.1	1,753.7	1,551.4
4 or more	96%	26.3	9.9	16.3	27,956.4	8,984.8	18,971.6
<i>Injuries</i>							
3 or less	72%	6.0	3.0	3.0	5,965.7	2,365.8	3,599.9
4 or more	84%	20.1	8.2	11.9	21,049.1	7,152.1	13,897.1
<i>Conclusion</i>							
Arrested	78%	13.6	7.2	6.4	13,734.3	5,724.2	8,010.1
Killed	80%	11.5	3.6	7.8	13,297.1	3,625.2	9,671.9
Suicide	76%	12.1	4.7	7.4	12,185.5	4,071.4	8,114.1

When considering weapons used, incidents with a combination of weapons were the most likely to receive coverage (91%), and they also received substantially more articles and words. Unsurprisingly, this was followed by rifles (85%). Handguns (72%) and shotguns (70%) were the least likely to receive coverage, and this is important when considering that handguns were the most common weapon-type used during attacks. Similar to previous research, heightened fatalities and injuries received greater levels of media coverage. Finally, there was surprisingly limited difference in coverage between perpetrators who live and die.

Determinants of News Coverage

A logistic regression examines whether a mass shooting is covered in the news. The following tables present the results of the logistic analyses, and the odds ratios are calculated to simplify interpretation. The odds ratio for any given variable represents the likelihood of being selected for presentation in the news. An odds ratio greater than one represents an increase in the likelihood of coverage, and an odds ratio lower than one represents a decrease in the likelihood of being covered by the news.

Perpetrator determinants of coverage. The logistic regression results in Table 12 show, only two perpetrator characteristics significantly influence any coverage. White perpetrators received significantly more coverage than Hispanic perpetrators. Additionally, perpetrators with some college²² were significantly more likely to receive coverage than those with only a high school degree. Surprisingly, younger (H1), Asian (H2), and Arab-descent (H3) perpetrators did not increase newsworthiness. Similarly, perpetrators with a criminal (H4), military (H5), and domestic violence (H6) history did not influence whether any coverage was received.

Table 12. Logistic Regression of Coverage of Perpetrator Characteristics

	Coefficient (B)	Standard error	Odds ratio
<i>Male</i>	.054	.989	1.056
<i>Age</i>	-.005	.013	.995
<i>Race / Ethnicity</i>			
White ^a	-	-	-
Black	-.254	.395	.776
Hispanic	-1.380**	.487	.251
Asian	-1.005	.849	.366
Arab-descent	.271	1.161	1.311
Native American	-1.500	1.613	.223
<i>Education status</i>			
Middle school	.041	1.307	1.042
Some high school	.072	.410	1.074
Completed high school ^a	-	-	-
Some college	1.327*	.566	3.769
<i>Employment status</i>			
Unemployed	-.537	.358	.585
Blue-collar ^a	-	-	-
White-collar	-.355	.694	.701
Student	.960	.818	2.612
<i>Criminal history</i>	-.035	.357	.965
<i>Military history</i>	-.530	.480	.588
<i>Domestic violence</i>	-.711	.459	.491
<i>Mentally ill</i>	-.640	.347	.527
Constant	3.024***	.873	20.572
Pseudo-R ²	.197		

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

²² The advanced degree categories (i.e. AA/BA and Graduate) received at least one article 100% of the time. As such, they had to be collapsed into the “some college” category to avoid positive correlation.

Motivation determinants of coverage. The logistic regression results in Table 13 provided similarly limited findings, showing only one motivation characteristic was significantly likely to influence selection for any coverage. Fame-seeking perpetrators were significantly more likely to receive any coverage (H7). Surprisingly, autogenic (H8), ideological (H9), and hate crime (H11) motivations did not influence newsworthiness. As noted, jihadist-inspired perpetrators received coverage 100% of the time. As such, the ideological categorical variable had to be removed from the analysis, because it created a “positive correlation” that negatively impacted the results. The investigation of whether jihadist-inspired perpetrators influence newsworthiness (H10) is examined in the salience sub-section of this chapter.

Table 13. Logistic Regression of Coverage of Motivation Characteristics

	Coefficient (B)	Standard error	Odds ratio
<i>General Motivation</i>			
Autogenic ^a	-	-	-
Victim-specific	-.439	.332	.645
Ideological	.302	.566	1.352
<i>Hate crime</i>	-1.804	1.086	.165
<i>Fame-seeking</i>	-2.412*	1.032	.090
<i>Gender-based</i>	.215	.366	1.240
Constant	5.212***	1.497	183.451
Psuedo-R2	.134		

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Incident determinants of coverage. The logistic regression results in Table 14 provided the greatest number of findings. Schools were significantly more likely to receive coverage (H12) than workplace, open-space, and outside incidents.²³ This is important, when considering workplace and open-space incidents occurred more often than school attacks. Incidents in the

²³ In line with previous research (Schildkraut et al., 2018), this work uses school as the location reference category. This is because schools are often at the forefront of media scholarship and public discourse surrounding the phenomenon (Chyi & McCombs, 2004; Muschert & Carr, 2006; Muschert, 2009; Hawdon, Oksanen, & Rasanen, 2012; Park, Holody, & Zhang, 2012; Schildkraut & Muschert, 2014; Silva, 2019). These studies suggest schools were the most common location and/or the most considered in national concern. As such, this study was testing whether any other locations received more or less coverage than schools.

Northeast were also more likely to receive any coverage (H12) than those in the West.

Unsurprisingly, increased fatalities and injuries influenced newsworthiness. Surprisingly, spree shootings (H14), incidents with more weapons (H15), and incidents with a perpetrator who survives (H16) did not influence whether an incident received any coverage.

Table 14. Logistic Regression of Coverage of Incident Characteristics

	Coefficient (B)	Standard error	Odds ratio
<i>Location</i>			
School ^a	-	-	-
Workplace	-1.576**	.612	.207
Religious	-.652	1.268	.521
Government	-1.340	.917	.262
Open-space	-1.862**	.642	.155
Outside	-2.483***	.770	.084
<i>Spree-shooting</i>	.301	.452	1.351
<i>Region</i>			
Northeast ^a	-	-	-
Midwest	-.870	.808	.419
South	-1.070	.734	.343
West	-1.479*	.741	.228
<i>Weapons used</i>			
Handgun ^a	-	-	-
Rifle	.373	.569	1.452
Shotgun	.808	.674	2.244
Combination	.950	.679	2.586
<i>Number of guns</i>	.467	.358	1.595
<i>Fatalities</i>	.689***	.149	1.991
<i>Injuries</i>	.203*	.098	1.225
<i>Conclusion</i>			
Arrested ^a	-	-	-
Killed	.284	.526	1.328
Suicide	-.082	.420	.921
Constant	.534	1.052	1.705
Pseudo-R ²	.426		

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Determinants of News Salience

In addition to the odds of being presented in the news, this study also examines the determinants of the salience of coverage given mass shooting characteristics. A robust regression is used to account for outliers (i.e. the top 15 most covered incidents previously mentioned) influencing newsworthiness. The effects of the variables of interest across four measures of story salience are modelled: total number of articles, number of specific articles, total number of words, and number of specific words. Similar to previous studies (Chermak & Gruenewald, 2006; Schildkraut et al., 2018), the iterations for models with the number of general articles and words would not converge and therefore were omitted from the results. This problem is the result of the large share of general articles/words written about extreme cases. This large proportion affects weight assignments and the coverage's of Huber iterations.

Perpetrator determinants of salience. The robust regression results in Table 15 expand on the results of the logistic regression measuring any coverage. Specifically, Hispanic (4/4 models) and Black (1/4 models) perpetrators receive less coverage than White offenders. This is surprising, given the extensive research on media coverage of crime and homicide finding they are normally more likely to receive coverage. This table supports the hypothesis (3) that Arab-descent perpetrators are more likely to increase newsworthiness.²⁴ Interestingly, increased education status (a control variable), plays a significant role in media coverage, similar to the findings in the logistic regression. Students were also more likely to receive more total words. Similar to the logistic regression, findings did not support the hypotheses that younger (H1) and Asian (H2) perpetrators increased newsworthiness. Similarly, perpetrators with a criminal (H4), military (H5), and domestic violence (H6) history did not influence the salience of coverage.

²⁴ It is important to note, there were only 12 Arab-descent perpetrators and the first one was in 1993.

Table 15. Robust Regression of Coverage of Perpetrator Characteristics

	Total Art.	Spec. Art.	Total Words	Spec. Words
<i>Male</i>	-.78	-.69	-604.95	-477.43
<i>Age</i>	-.00	-.01	-1.85	-2.58
<i>Race / Ethnicity</i>				
White ^a	-	-	-	-
Black	-.44	-.41	-605.22*	-384.06
Hispanic	-1.17**	-1.05*	-863.71*	-642.21*
Asian	-.61	-.29	-802.40	-42.98
Arab-descent	26.59***	12.71***	37086.24***	8706.1***
Native American	2.83	2.23	1835.59	942.93
<i>Education status</i>				
Middle school	.08	.46	-965.79	-129.12
Some HS	.00	.16	107.63	269.51
Completed HS ^a	-	-	-	-
Some college	.62	.83*	562.60	697.06*
AA/BA	1.77***	1.77***	1682.07***	2108.41***
MA/PhD	1.47*	2.48***	936.18	1485.86**
<i>Employment status</i>				
Unemployed	-.33	-.23	-225.65	-251.33
Blue-collar ^a	-	-	-	-
White-collar	-.12	-.68	-59.16	-482.80
Student	.35	-.11	1085.91*	406.39
<i>Criminal history</i>	.04	.21	-152.57	147.65
<i>Military history</i>	-.09	.29	-21.81	-31.54
<i>Domestic violence</i>	.50	.29	319.95	328.61
<i>Mentally ill</i>	.42	.26	195.74	205.16
Constant	2.46**	2.34**	1887.46*	1293.16*

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Motivation determinants of salience. The robust regression results in Table 16 provide substantially more findings on motivation characteristics than the logistic regression. This analysis required two separate models be run. This is because the general motive ideological attribute had a direct correlation with ideological type, and thereby violated assumptions of multi-collinearity.²⁵ As such, Model 1 includes general motive and Model 2 includes ideological type.

²⁵ In order to avoid overwhelming the reader with an abundance of information, this table removed the specific words and articles measurements. However, it is important to note findings were identical to the attributed total articles and words measures.

Table 16. Robust Regression of Coverage of Motivation Characteristics

	Total Articles		Total Words	
	Model 1	Model 2	Model 1	Model 2
<i>General Motive</i>				
Autogenic ^a	-	-	-	-
Victim-specific	-.58*	-	-406.21	-
Ideological	-.40	-	-500.40	-
<i>Ideological Type</i>				
Non-Ideological ^a	-	-	-	-
Jihadist-inspired	-	30.31***	-	29988.75***
Far-right	-	-.71	-	-540.62
Far-left	-	.41	-	12365.61***
<i>Hate crime</i>	1.84***	3.03***	1311.02	1140.30**
<i>Fame-seeking</i>	.92**	1.17**	1137.46	1111.95***
<i>Gender-based</i>	-.01	-.00	151.10	53.84
Constant	1.82***	1.61***	1263.64	893.94***

^aReference category

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

There is some support for the hypothesis (8) that autogenic perpetrators receive more coverage than victim-specific. Surprisingly, ideological perpetrators (H9) do not receive more coverage than autogenic perpetrators. However, jihadist-inspired perpetrators (H10) received significantly more coverage than their non-ideological counterparts. Similarly, hate crimes (H11) were more likely to receive salient levels of coverage (3/4 models). Like the logistic regression, fame-seeking perpetrators (H7) were also more likely to receive salient levels of coverage (3/4 models).

Incident determinants of salience. The robust regression results in Table 17 provide similar findings to the measures of logistic regression of incidents. Workplace incidents receive significantly less coverage (4/4 models) - as well as open-spaces (3/4 models), government buildings (1/4 models), and outside (1/4 models) - than school locations (H12). The South (3/4 models) and West (3/4 models) also receive less coverage than the North. As expected, fatalities (4/4 models) and injuries (4/4 models) were strong predictors of newsworthiness. Finally, similar

to the logistic regression, spree shootings (H14), a combination of weapons (H15), and perpetrators who survive (H16) did not influence coverage of the attack.

Table 17. Robust Regression of Coverage of Incident Characteristics

	Total Art.	Spec. Art.	Total Words	Spec. Words
<i>Location</i>				
School ^a	-		-	
Workplace	-.68*	-1.02***	-863.78**	-666.29***
Religious	.66	.85	-117.10	463.43
Government	-.80	-.82	-769.37	-587.27*
Open-space	-.47	-.66*	-632.97*	-521.95**
Outside	-.70	-.42	-289.27	-538.59*
<i>Spree-shooting</i>	-.11	-.49*	-370.87	-219.40
<i>Region</i>				
Northeast ^a	-		-	
Midwest	-.80	-.63	-745.85	-49.56
South	-1.33***	-.78*	-1288.95***	-355.27
West	-1.20***	-.90**	-1026.02**	-356.19
<i>Weapons used</i>				
Handgun ^a	-		-	
Shotgun	.33	.19	-35.45	89.61
Rifle	.39	-.37	386.82	-25.26
Combination	.39	.27	200.05	61.03
<i>Number of guns</i>	.03	-.16	-29.21	62.32
<i>Fatalities</i>	.43***	.58***	495.89***	311.80***
<i>Injuries</i>	.04**	.15***	91.89***	94.08***
<i>Conclusion</i>				
Arrested ^a	-		-	
Killed	-.30	.071	-322.88	-67.87
Suicide	.02	.44	205.15	269.01
Constant	1.66***	.81*	1147.79*	183.49

^aReference category

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

Summary

The overall purpose of this chapter is to examine how the media is setting the agenda on mass shootings (RQ1). Findings initially illustrate the mediated reality of the mass shooting problem by identifying the frequency of coverage over time (RQ1d), as well as the number of words and articles dedicated to the phenomenon (RQ1c). Similar to the rise in incidents, results identify a substantial rise in coverage, with over half of the articles on mass shootings being

published between 2010 and 2016. In general, about three-fourths of incidents receive any coverage, however, only .5% of incidents are driving the majority of coverage dedicated to the phenomenon. Interestingly, of the 15 most covered mass shootings, eight were also included in the 15 deadliest attacks (i.e. Orlando Nightclub, Virginia Tech, Sandy Hook, San Bernardino, Fort Hood, Columbine, Colorado Theatre, and Washington Navy Yard). This highlights previous research suggesting casualties are often the greatest influence on newsworthiness (Duwe, 2000; Schildkraut et al., 2018). However, this also opens the discussion for other characteristics influencing coverage of the problem.

Table 18. Summary of Newsworthiness Characteristic Hypotheses

Hyp #	Characteristic	Cross-tabs	Logistic	Robust
	<i>Perpetrator</i>			
1	Younger	Yes	No	No
2	Asian	No	No	No
3	Arab-descent	Yes	No	Yes
4	Criminal History	No	No	No
5	Military History	No	No	No
6	Domestic Violence History	No	No	No
	<i>Motivation</i>			
7	Fame-seeking	Yes	Yes	Yes
8	Autogenic	No	No	Yes
9	Ideological	Yes	No	No
10	Jihadist-inspired	Yes	-	Yes
11	Hate crime	Yes	No	Yes
	<i>Incident</i>			
12	School	Yes	Yes	Yes
13	Northeast	Yes	Yes	Yes
14	Spree	No	No	No
15	Combination weapons	Yes	No	No
16	Survive	No	No	No

This chapter provides a comparison of the reality and mediated reality (i.e. cross-tabs, logistic regressions, robust regressions) to determine the perpetrator, motivation, and incident characteristics influencing newsworthiness (RQ1e) (H1-H16). Table 18 provides a summary of

findings based on the three levels of analysis. Surprisingly, there was limited support for the perpetrator hypotheses, with only Arab-descent perpetrators - and to a lesser extent, younger perpetrators - increasing newsworthiness. Although not considered in the initial hypotheses (and only included as a control variable), perpetrators with advanced degrees (i.e. AA/BA or MA/PhD) also increased newsworthiness. Similarly, students garnered more coverage, and this aligns with the findings that younger individuals and those currently pursuing advanced degrees increase newsworthiness. When considering perpetrator motivations, findings indicate fame-seeking, jihadist-inspired, and hate crime motivations influenced newsworthiness. To a lesser extent autogenic and general ideological perpetrators received more coverage. Finally, when considering incident characteristics, there is significant support indicating school attacks (again aligning with the younger, student, and advanced degree findings) receive more coverage. Similarly, attacks that occurred in the Northeast received significantly more coverage, and cross-tabs suggest a combination of weapons influences coverage.

CHAPTER 8

THE MEDIA FRAMING OF MASS SHOOTINGS

This chapter identifies the frequency of different framings of the social problem (i.e. gun access, mental health, terrorism, crime, gender-based, and news media) over time (RQ2a), as well as the number of words and articles dedicated to each frame. A comparison of the reality and framing reality is used to determine characteristics influencing newsworthiness (RQ2b) (H17-H30). The number of hypotheses and findings are robust and in-depth. To ensure clarity, this chapter follows the same outline at the previous chapter. In other words, this chapter divides the subsections by the perpetrator, motivation, and incident characteristics and any coverage / salient coverage analyses. However, this over-all work is a largely concerned with the various frames and the affiliated hypotheses. As such, the forthcoming discussion chapter is divided into the six frames to enable clarity of findings and implications.

Mass Shooting Frames

Table 19. Descriptive Summaries of Mass Shooting News Frames

Frame	Articles	Spec. Articles	Gen. Articles	Words	Spec. Words	Gen. Words
Gun Access	1,093	289	804	1,335,485	341,306	994,179
Mental Health	736	456	280	829,882	414,585	415,297
Terror	473	137	336	589,350	156,638	432,712
Crime	423	179	244	579,061	202,166	376,895
Gender-based	205	153	52	272,042	167,169	104,873
News	74	19	55	93,515	17,577	75,938

Total articles and words by frame. Studies investigating mass shooting frames have suggested gun, mental health and entertainment frames have historically been the most prevalent (Schildkraut, 2016; Schildkraut & Elsass, 2016). However, entertainment frames have decreased

over time and are no longer considered one of the primary frames.²⁶ As such, it is important to consider alternative framing of the social problem. As shown in Table 19, this work reinforces previous research suggesting guns and mental health are the two primary frames surrounding the mass shooting phenomenon. This work expands previous research by finding gun access is largely considered a general problem (i.e. the gun control problem at-large), while mental illness is more often framed within the context of the specific mental health issues the perpetrator was dealing with (i.e. schizophrenia, depression, etc.). This study also introduces previously unexplored frames, finding terrorism is the third most common perception of the social problem, followed closely by crime, and substantially less closely by gender-based and news media.

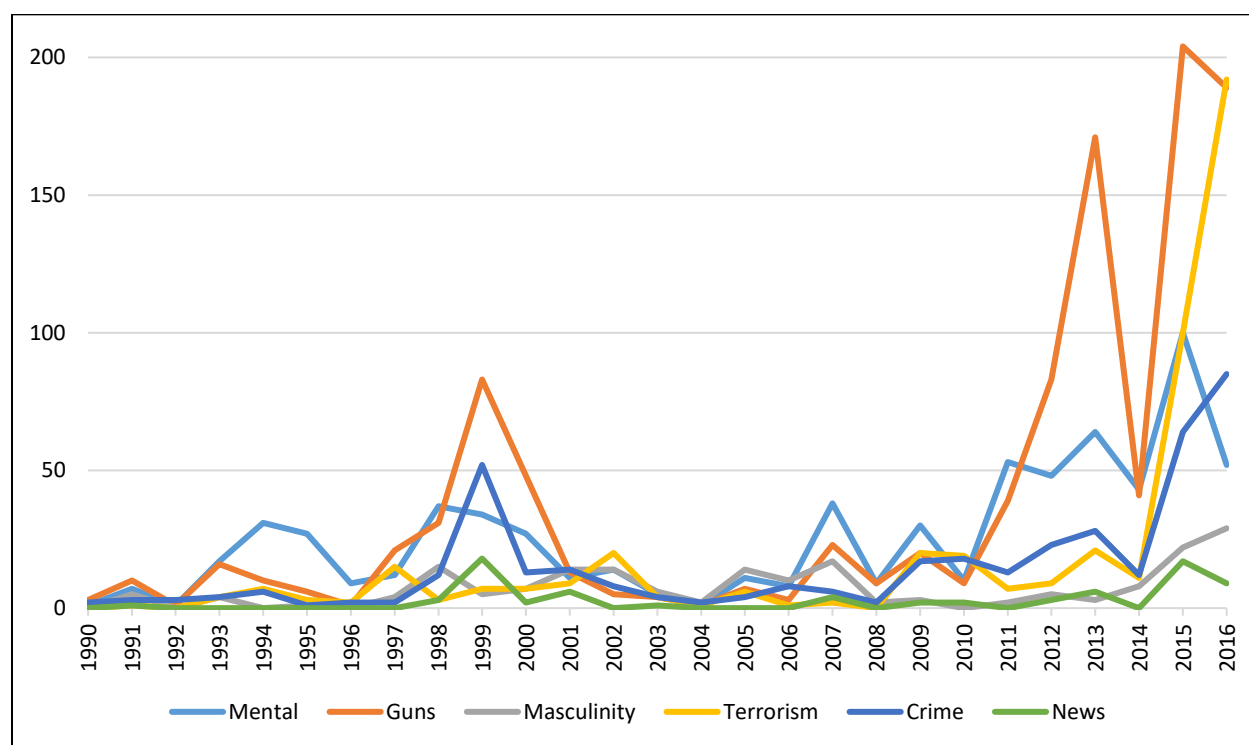


Figure 4. Number of *NYT* Articles Published on Mass Shooting Frames Each Year

²⁶ Although not included in the current work, it is important to note the dataset included entertainment frames, which were found to be the second least popular frame. This reinforces previous research (Schildkraut & Elsass, 2016) suggesting entertainment frames are no longer one of the most common perceptions of the social problem.

Framing over time. Figure 4 provides a temporal analysis of *NYT* framing of mass shootings from 1990 to 2016.²⁷ Mental illness was the first frame to stand-out during the mid-90s. The framing of gun access was the result of the Columbine shootings, followed closely by crime and mental illness frames. Coverage and frames remained relatively low during the mid-2000s, however, the Virginia Tech massacre reignited mental illness frames, followed closely by gun access, and interestingly, gender-based frames. Beginning in 2010, there was a tremendous increase in gun access frames, which declined drastically in 2014, and then reemerged to an even greater extent during 2015 and 2016. Mental health frames also emerged during this time and remained around 50 frames per year, doubling in 2015, and then dropping to the 50 mark again in 2016.

It is also interesting to note that terrorism frames remained relatively low, even after 9/11, with a small spike in 1997, 2002, 2009, 2010, and 2013. However, in 2015 and 2016, there was a large increase in terrorism frames that equaled gun access frames in 2016 and surpassed mental health frames. Crime frames also saw a spike in 2015 and 2016, both preceding the only other major spike during Columbine. Given the limited framing of gender-based and news media, these frames have remained relatively even throughout. However, it is important to note the minor increase in the last two years, suggesting a potential emergence in the future. In general these findings suggest new frames are beginning to emerge, and while gun access has remained at the for-front of the issue, alternative frames may continue to surpass mental health framing.

²⁷ This table does not include 1966-1989, because, as noted in Figure 3, there was very limited coverage during this time. Prior to 1990, frames were relatively minor, and there was no interesting spikes in frames identified. As such, a zoomed in analysis of 1990 to 2016 provides a more detailed and nuanced discussion of framing, which was ultimately limited prior to this time period.

Newsworthiness of Mass Shooting Frames²⁸

Perpetrator characteristics influencing frames. Table 20 presents a cross tabulation table of any media coverage and the salience of articles by the mass shooting perpetrator characteristics. Socio-demographic tabulations indicate females receive more coverage and articles concerning all frames except for gender-based. Mental health and gun access frames were more often dedicated to younger offenders. While 17 and younger perpetrators received the greatest number of gender-based articles, 40-64 year old perpetrators were the most likely to receive any gender-based frames. Terrorism framing was largely dedicated to mid-to-younger age range. The crime and news frames were fairly even across all ages with a slight increase for younger offenders. When considering race, Arab-descent and Asian perpetrators received the most gun access and mental health frames, followed by White individuals. Arab-descent perpetrators were overwhelmingly framed as terrorists.

An examination of their backgrounds finds, unsurprisingly, offenders with a criminal history received more crime frames. Offenders with a military history received slightly more mental health articles and were more likely to receive any mental health frames. Surprisingly, military history did not increase gender-based frames, however, it did increase domestic violence frames. Finally, offenders with a history of mental illness received substantially more gun access frames.

²⁸ Tables 20, 21, and 22 provide a large amount of interesting information surrounding the characteristics influencing frames. However, to avoid being overwhelmed by the data, the narrative only highlights findings related to the suggested hypotheses, with a few notes on findings that are particularly unexpected.

Table 20. Percentage of Frames and Number of Articles by Perpetrator Characteristics

	Mental		Gun		Masculine		Terror		Crime		News	
	%	Art.	%	Art.	%	Art.	%	Art.	%	Art.	%	Art.
<i>Gender</i>												
Male	39	2.6	37	3.8	33	0.7	15	1.3	36	1.4	8	0.2
Female	67	3.1	56	9.0	22	0.2	22	12	44	4.6	22	0.6
<i>Age</i>												
17 and younger	50	3.3	58	8.2	31	1.5	19	0.6	38	2.7	19	1.0
18-24	37	5.6	41	9.4	35	0.8	20	1.0	35	1.9	8	0.4
25-39	40	2.5	34	3.2	31	0.6	20	3.7	40	1.6	7	0.1
40-64	40	1.2	34	.93	36	0.6	8	0.2	34	1.0	8	0.1
65 and older	30	0.5	30	1.9	20	0.3	10	0.7	30	0.5	10	0.1
<i>Race / Ethnicity</i>												
White	47	2.7	40	4.3	33	0.8	14	0.4	37	1.5	8	0.2
Black	22	1.6	27	1.0	35	0.4	10	0.3	33	1.1	5	0.1
Hispanic	17	0.6	17	0.5	25	0.2	13	0.4	17	0.1	4	0.0
Asian	44	8.0	67	9.1	22	1.2	11	1.0	44	2.7	22	1.3
Arab-descent	75	7.5	75	16	42	1.8	75	29	83	5.5	33	0.6
Native Amer.	50	0.5	50	3.0	50	0.5	50	0.5	50	2.0	0	0.0
<i>Education status</i>												
Middle school	33	0.8	33	3.2	17	1.5	17	0.1	17	1.0	17	0.1
Some HS	36	2.1	36	4.1	36	0.8	12	0.5	41	1.6	10	0.4
Completed HS	28	1.1	24	1.1	26	0.4	7	0.3	25	0.5	4	0.0
Some college	63	7.3	63	9.8	47	1.3	38	1.5	59	2.8	13	0.6
AA/BA	79	5.2	71	12	54	1.1	33	9.8	63	4.3	21	0.6
MA/PhD	67	7.1	67	3.9	11	0.2	44	12	44	3.0	22	0.3
<i>Employment stat.</i>												
Unemployed	36	3.3	29	4.9	35	0.5	18	0.7	36	1.5	9	0.1
Blue-collar	36	1.6	32	2.2	26	0.6	11	2.8	33	1.1	5	0.0
White-collar	52	2.0	57	2.7	48	0.7	22	1.3	48	2.0	13	0.2
Student	56	4.8	67	8.5	39	1.7	19	0.7	44	2.5	19	1.0
<i>Criminal history</i>												
Yes	38	2.8	37	3.5	38	0.7	16	1.3	46	1.9	8	0.1
No	41	2.5	38	4.2	30	0.7	15	1.9	31	1.3	9	0.3
<i>Military history</i>												
Yes	54	2.8	39	2.4	30	0.8	20	2.2	41	1.6	9	0.1
No	37	2.6	37	4.3	33	0.7	15	1.6	36	1.5	9	0.3
<i>Domestic vio.</i>												
Yes	39	2.3	34	2.6	48	1.2	13	1.9	48	1.4	13	0.1
No	40	2.7	38	4.3	29	0.6	16	1.6	34	1.5	8	0.2
<i>Mentally ill</i>												
Yes	56	4.8	48	6.8	39	0.9	20	2.1	45	2.4	13	0.4
No	25	0.6	28	1.4	27	0.5	11	1.3	29	0.7	5	0.1

Motivation characteristics influencing frames. Table 21 presents a cross tabulation table of any media coverage and the salience of articles by the mass shooting motivation characteristics. Unsurprisingly, victim-specific perpetrators had substantially less terrorism and

crime frames (i.e. given that they had a personal target in mind, they are not motivated by ideology and/or previous criminal experiences). Ideological perpetrators received more mental health frames but less gun access frames. They also received more crime and news frames, the latter of which makes sense, given their reliance on news media to spread awareness of their ideology (Norris et al., 2003). Hate crimes received more gender-based frames. Jihadist-inspired extremists were more likely to be framed as terrorists than their far-right and far-left counterparts. Finally, fame-seeking perpetrators were substantially more likely to receive news media social problem frames.

Table 21. Percentage of Frames and Number of Articles by Motivation Characteristics

	Mental		Gun		Masculine		Terror		Crime		News	
	%	Art.	%	Art.	%	Art.	%	Art.	%	Art.	%	Art.
<i>Autogenic</i>												
Yes	41	2.5	41	3.8	29	0.7	14	0.4	37	1.4	9	0.4
No	40	2.8	35	4.1	35	0.7	17	2.6	36	1.6	9	0.1
<i>Victim-specific</i>												
Yes	30	1.1	26	2.0	30	0.5	2	0.0	24	0.7	6	0.1
No	47	3.6	45	5.3	35	0.8	25	2.8	45	2.1	10	0.3
<i>Ideological</i>												
Yes	61	6.4	34	3.0	47	1.1	51	8.4	65	3.7	14	0.2
No	35	1.8	53	8.7	30	0.6	8	0.2	31	1.0	8	0.2
<i>Ideological Type</i>												
Jihadist-inspired	82	8.2	73	18	45	2.0	82	32	100	6.2	36	0.7
Far-right	57	5.8	50	6.8	46	1.0	39	1.6	50	2.6	4	0.0
Far-left	50	6.4	40	3.6	50	0.7	50	1.4	70	3.8	20	0.5
<i>Hate crime</i>												
Yes	59	3.5	52	7.2	59	1.8	44	4.7	63	3.1	7	0.1
No	38	2.5	36	3.6	30	0.6	13	1.3	34	1.3	9	0.2
<i>Fame-seeking</i>												
Yes	68	7.7	70	15	49	1.9	27	3.2	46	3.4	24	1.2
No	36	1.8	32	2.2	30	0.5	14	1.4	35	1.2	6	0.1
<i>Gender-based</i>												
Yes	48	3.0	38	5.0	52	1.4	14	0.4	40	1.7	11	0.5
No	38	2.5	37	3.7	27	0.5	16	2.1	36	1.4	8	0.1

Incident characteristics influencing frames. Table 22 presents a descriptive table of any coverage by the mass shooting incident characteristics. Interestingly, gun access frames did

increase by the number of weapons. However, in the weapons used variable, a rifle was still the most likely to receive any coverage. This reinforces the social construction of the mass shooting problem as an assault rifle problem, despite the majority of incidents involving a handgun.

Additionally, gun frames increased when there was a greater number of fatalities and injuries.

Table 22. Percentage of Frames and Number of Articles by Incident Characteristics

	Mental		Gun		Masculine		Terror		Crime		News	
	%	Art.	%	Art.	%	Art.	%	Art.	%	Art.	%	Art.
<i>Location</i>												
School	57	4.1	55	8.3	33	1.4	15	0.6	48	2.3	17	0.8
Workplace	24	0.7	24	1.3	31	0.5	4	1.4	23	0.6	7	0.1
Religious	67	3.5	33	6.5	50	0.8	33	2.2	58	3.7	0	0.0
Government	56	5.9	44	3.6	22	0.2	28	7.7	50	2.0	6	0.0
Open-space	39	2.7	41	3.4	36	0.7	22	1.7	38	1.2	7	0.1
Outside	32	3.0	29	3.4	25	0.2	21	0.8	32	1.7	7	0.1
<i>Spree-shooting</i>												
Yes	46	3.0	56	8.7	41	0.8	14	1.4	40	1.5	5	0.2
No	38	2.6	25	0.9	29	0.7	21	2.4	36	1.5	10	0.2
<i>Region</i>												
Northeast	50	3.6	47	2.2	34	0.7	22	1.0	38	1.0	0	0.0
Midwest	36	0.8	28	0.7	28	0.5	6	0.1	38	0.4	2	0.0
South	40	3.4	38	5.2	37	0.9	18	2.7	35	1.9	13	0.3
West	39	2.7	39	5.2	30	0.6	16	1.7	38	1.8	11	0.4
<i>Weapons used</i>												
Handgun	34	2.6	32	2.4	32	0.6	11	1.0	32	1.0	7	0.1
Rifle	52	2.0	52	1.5	22	0.2	19	1.4	33	0.6	0	0.0
Shotgun	35	1.4	26	0.8	26	0.6	9	0.3	26	1.0	7	0.0
Combination	49	3.5	47	9.0	39	1.1	26	3.7	50	2.9	16	0.6
<i>Number of guns</i>												
1	32	1.8	29	1.4	28	0.4	11	0.4	29	0.7	4	0.0
2 or more	50	3.7	47	7.1	38	1.1	22	3.2	46	2.4	14	0.5
<i>Fatalities</i>												
3 or less	31	1.1	25	0.9	22	0.4	10	0.5	26	0.6	5	0.1
4 or more	55	5.2	56	8.7	50	1.2	24	3.5	54	2.9	14	0.5
<i>Injuries</i>												
3 or less	30	1.2	28	2.0	29	0.4	12	0.7	30	0.9	3	0.0
4 or more	52	4.4	48	6.3	37	1.1	20	2.8	45	2.2	15	0.4
<i>Conclusion</i>												
Arrested	41	3.7	36	3.6	32	0.7	14	1.6	33	1.4	11	0.2
Killed	34	1.4	34	3.5	30	0.7	23	4.4	41	2.1	7	0.1
Suicide	42	2.4	40	4.6	34	0.7	14	0.5	38	1.3	8	0.3

Unexpected findings indicate, the salience of mental health frames were most often dedicated to attacks on government institutions, followed by schools. Less surprising is that schools were the primary location for gun access frames.

Determinants of News Frames

A logistic regression examines the determinants of whether a mass shooting frame receives any coverage. The following tables present the results of the logistic analyses, and the odds ratios are calculated to simplify interpretation. The odds ratio for any given variable represents the likelihood of being selected for any framing in the news. An odds ratio greater than one represents an increase in the likelihood of framing, and an odds ratio lower than one represents a decrease in the likelihood of framing in the news.

Perpetrator determinants of frames. The logistic regression results in Table 12 show, White perpetrators were significantly more likely than Black and Hispanic perpetrators to be framed as mentally ill (H17). Additionally, Arab-descent perpetrators were significantly more likely to be framed as terrorists (H25), as well as increase crime and news media frames. Perpetrators with a criminal history did increase crime frames (H28), however, age did not increase crime frames (H27). Age also did not influence the framing of the news media as a social problem (H29). Offenders with a history of military experience were significantly more likely to receive mental health frames (H18), but not gender-based frames (H22). However, domestic violence perpetrators did influence gender-based framing. Unsurprisingly, mentally ill perpetrators received significantly more mental health frames, however, they did not significantly impact gun access frames (H19).

Although not hypothesized, similar to the agenda setting analyses, the education status control variable finds advanced education increased framing; specifically, mental health, gun

access, terrorism, and crime. Additionally, gun access frames were focused on students, presumably because many may not have been of legal age to purchase the weapons on their own.

Table 23. Logistic Regression of Framing Coverage by Perpetrator Characteristics

	Mental	Gun	Masculine	Terror	Crime	News
<i>Male</i>	.68	.31	-.64	.28	-.02	-1.13
<i>Age</i>	.00	-.01	-.00	-.02	-.00	-.01
<i>Race / Ethnicity</i>						
White ^a	-	-	-	-	-	-
Black	-.99**	-.46	.12	-.61	-.30	-.11
Hispanic	-1.26*	-.74	-.33	.42	-.84	-.42
Asian	-.21	1.19	-.25	-.32	.71	1.68
Arab-descent	.63	1.01	.10	3.29***	2.11*	1.72*
Native American	.64	.43	1.51	3.07	1.21	0
<i>Education status</i>						
Middle school	.41	-.69	-.77	.88	-.16	1.72
Some HS	.32	.09	.13	.53	.70	.90
Completed HS ^a	-	-	-	-	-	-
Some college	1.25**	1.38**	.74	2.02***	1.42**	.71
AA/BA	2.28***	1.63**	.76	1.33	1.24*	1.45
MA/PhD	1.59	1.14	-1.32	2.12*	.27	1.57
<i>Employment status</i>						
Unemployed	-.25	-.26	.23	.88	.03	.86
Blue-collar ^a	-	-	-	-	-	-
White-collar	-.59	.34	1.04	.28	.36	.58
Student	.38	1.48*	.55	.34	.34	1.18
<i>Criminal history</i>	.01	-.41	-.23	.66	.82**	-.25
<i>Military history</i>	-.79*	-.28	.05	.67	.49	.42
<i>Domestic violence</i>	-.17	.03	-.86**	-.47	.47	1.07
<i>Mentally ill</i>	-1.14***	-.47	-.34	.22	.30	.77
Constant	.78	-.05	-.037*	-2.92*	-1.67	-3.28**
Pseudo-R ²	.241	.205	.100	.184	.165	.098

^aReference category

*p<0.05 **p<0.01 ***p<0.001

Motivation determinants of frames. The logistic regression results in Table 24 find, victim-specific perpetrators receive substantially less terrorism and crime frames than autogenic, however, ideological perpetrators receive substantially more. Ideological perpetrators also receive more mental health frames. Fame-seeking perpetrators increase mental health, gun

access, and news media frames (H30). Surprisingly, hate-crimes did not impact gender-based frames (H24).

Table 24. Logistic Regression of Framing Coverage by Motivation Characteristics

	Mental	Gun	Masculine	Terror	Crime	News
<i>General Motive</i>						
Autogenic ^a	-	-	-	-	-	-
Victim-specific	-.39	-.51	-.00	-2.10**	-.67*	-.09
Ideological	.90*	.47	.64	1.86***	1.11**	.93
<i>Hate crime</i>	.13	.18	.77	.25	.26	-.82
<i>Fame-seeking</i>	1.18**	1.48***	.65	.59	.19	1.47**
<i>Gender-based</i>	.52	.06	1.13***	.33	.44	.33
Constant	-.72***	-.65**	-1.32***	-2.06***	-.67**	-2.86***
Pseudo-R ²	.097	.096	.096	.197	.097	.046

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Incident determinants of frames. The logistic regression results in table 25 show, gun access was not influenced by the number of weapons (H20), however it was influenced by the number of victims (H21). In fact, the number of fatalities significantly increased all frames, but the number of injuries only increased the mental health and gun access frames. Other significant findings indicate workplace incidents receive less mental health, gun access, and crime frames than schools. Open-spaces also receive less mental health and gun access frames. Incidents in the Midwest also receive less coverage than incidents in the Northeast. Finally, a combination of weapons increases the number of terrorism frames.

Table 25. Logistic Regression of Framing Coverage by Incident Characteristic

	Mental	Gun	Masculine	Terror	Crime	News
<i>Location</i>						
School ^a	-	-	-	-	-	-
Workplace	-1.56***	-1.67***	-.03	-1.16	-1.22**	-.12
Religious	.34	-1.52	.65	1.70*	.40	0
Government	.01	-.61	-.76	.94	.10	-1.64
Open-space	-.94*	-1.00*	.09	.50	-.49	-1.55
Outside	-.58	-.57	-.12	1.00	-.34	.61
<i>Spree-shooting</i>	.27	-.05	.43	-.18	-.11	-1.70
<i>Region</i>						

Northeast ^a	-	-	-	-	-	-
Midwest	-.32	-.64	-.00	-1.69*	.25	-1.30
South	-.47	-.54	.09	-.73	-.29	.17
West	-.46	-.35	-.14	-.68	-.02	0
<i>Weapons used</i>						
Handgun ^a	-	-	-	-	-	-
Shotgun	.56	.10	-.23	-.15	-.07	0
Rifle	.63	.63	-.24	.58	-.19	.58
Combination	-.19	-.16	-.14	1.14*	.46	.11
<i>Number of guns</i>	.22	.02	.06	-.32	-.09	.18
<i>Fatalities</i>	.25***	.45***	.26***	.18**	.25***	.18**
<i>Injuries</i>	.08*	.15**	-.00	.04	.05	.07
<i>Conclusion</i>						
Arrested ^a	-	-	-	-	-	-
Killed	-.60	-.26	-.36	.39	.10	-1.38
Suicide	.18	.44	-.22	.34	.21	-.80
Constant	-1.11*	-1.63*	-1.72	-2.27**	-1.23*	2.73***
Pseudo-R ²	.252	.321	.163	.193	.198	.213

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Determinants of Frame Salience

The following multiple regression results²⁹ expand on the results of the logistic regression, measuring perpetrator characteristics influencing any frame coverage, by considering the number of articles dedicated to each characteristic.

Perpetrator determinants of frame salience. The multiple regression results in Table 26 find females are significantly more likely to receive terrorism frames. This is presumably because two of the nine female perpetrators were involved in terrorist attacks (San Bernardino jihadist-inspired and Las Vegas far-right) that received higher levels of coverage. Again, age had no impact on frame salience (H27, H29). Surprisingly, White individuals did not receive more mental health frames (H17). However, Arab-descent perpetrators did receive significantly more

²⁹ This work attempted to use a robust regression, similar to the agenda setting analysis. This is because the robust regression takes into consideration the outliers potentially influencing the results. However, the same analysis could not be run for media frames. This is because of the abundance of missing frames for many of the characteristics, which do not allow for a robust regression analysis. As such, this work uses multiple regressions to consider the characteristics influencing the salience (i.e. number of articles) of media frames.

terrorism frames (H25), as well as crime, gender-based, and gun access frames. Perpetrators with a military background did not influence mental health frames (H18) or gender-based frames (H22). Offenders with a domestic violence history did increase gender-based framing (H23), however, perpetrators with a criminal history did not increase crime frame salience (H28). Additionally, mentally ill perpetrators did not increase gun access framing (H19).

Table 26. Multiple Regression of Framing Articles by Perpetrator Characteristics

	Mental	Gun	Masculine	Terror	Crime	News
<i>Male</i>	1.56	-2.46	.63	-9.82***	-2.55	-.32
<i>Age</i>	-.03	-.12	-.00	-.05	-.01	-.00
<i>Race / Ethnicity</i>						
White ^a	-					
Black	-.75	-2.97	-.20	.34	-.16	-.06
Hispanic	-1.05	-2.19	-.39	.90	-.64	-.07
Asian	4.64	4.31	.46	.18	1.26	.89
Arab-descent	3.4	10.12*	.99*	26.06***	2.98*	.23
Native American	.63	-1.49	-.03	-4.10	.11	-.65
<i>Education status</i>						
Middle school	-.86	-1.11	.19	2.70	.34	-.58
Some HS	.05	1.54	-.04	1.63	.78	.12
Completed HS ^a	-					
Some college	4.41**	6.05	.49	.16	1.50	.30
AA/BA	3.54	10.36**	.32	8.39***	3.26**	.56
MA/PhD	5.38	1.63	-.61	9.34***	1.59	.09
<i>Employment status</i>						
Unemployed	1.22	2.30	-.15	-1.26	.16	.08
Blue-collar ^a	-					
White-collar	-2.00	-5.11	.15	-8.26***	-.82	-.07
Student	1.38	1.90	1.05**	-3.02	.60	.81
<i>Criminal history</i>	.41	.05	.03	-.36	.77	-.17*
<i>Military history</i>	.14	-1.69	.20	1.16	.40	-.08
<i>Domestic violence</i>	-.06	-1.36	.74**	.43	-.14	.04
<i>Mentally ill</i>	2.90**	2.48	.21	-.26	.98	.16
Constant	-.46	7.54	-.14	11.78***	3.05	.45

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Motivation determinants of frame salience. The multiple regression results in Table 27 find, ideological perpetrators receive significantly more terrorism, mental health, and crime framing. Additionally, hate crime perpetrators increase the salience of gender-based framing

(H24). Surprisingly, fame-seeking perpetrators increase the salience of mental health, gun access, gender-based, and crime framing, but not news media framing (H30).

Table 27. Multiple Regression of Framing Articles by Motivation Characteristics

	Mental	Gun	Masculine	Terror	Crime	News
<i>General Motive</i>						
Autogenic ^a	-	-	-	-	-	-
Victim-specific	-.87	-.35	-.03	-.10	-.53	-.22
Ideological	5.18***	5.34	.15	8.82***	2.39**	.05
<i>Hate crime</i>	-2.72	-.24	1.04**	-2.09	-.02	-.34
<i>Fame-seeking</i>	5.33***	12.82***	1.28***	1.50	1.95**	1.05
<i>Gender-based</i>	.97	.96	.79***	-.73	.49	.35
Constant	1.42	1.23	.26	.36	.94*	.15

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Incident determinants of frame salience. Finally, the multiple regression results in Table 28 find, gun access framing is not influenced by the weapons used or the number of guns (H20). Gun access framing salience does increase with the number of fatalities and injuries, however, so do all other frames examined in this study. Although not hypothesized, it is interesting to note that school shootings received more frames than many other locations. For instance, school shootings received more gun access and crime framing than opens-spaces. They also received more news media framing than workplace and open-spaces. Interestingly, they received more gender-based frames than all locations except religious institutions. Alternatively, government and workplace locations received significantly more terrorism frames than schools. Finally, perpetrators who were killed during the attack were less likely to receive mental health framing than those who survive. This is presumably because those who survive go through lengthy trial processes that aim to determine the severity of their mental health.

Table 28. Multiple Regression of Framing Articles by Incident Characteristics

	Mental	Gun	Masculine	Terror	Crime	News
<i>Location</i>						
School ^a	-	-	-	-	-	-
Workplace	-1.36	-4.00	-.69**	3.20*	-.91	-.50*
Religious	.13	-.01	-.49	2.76	1.93	-.66
Government	3.11	-2.76	-1.05**	7.06**	-.15	-.58
Open-space	-1.37	-5.26*	-.69**	.75	-1.25*	-.67**
Outside	2.33	.64	-.65*	2.26	.44	-.21
<i>Spree-shooting</i>	-.10	-.45	.04	.39	-.52	-.10
<i>Region</i>						
Northeast ^a	-	-	-	-	-	-
Midwest	-1.95	-.85	-.01	-.10	-.45	-.01
South	-1.74	-.01	.03	-.17	.21	.13
West	-.75	2.29	-.15	.64	.61	.33
<i>Weapons used</i>						
Handgun ^a	-	-	-	-	-	-
Shotgun	.04	.87	-.05	-.74	.33	-.01
Rifle	-1.78	-1.51	.13	-.20	-.58	-.12
Combination	-1.59	1.25	-.41	.32	.72	.08
<i>Number of guns</i>	-.29	-.33	.31	-.35	-.11	-.03
<i>Fatalities</i>	.54***	1.52***	.15***	.75***	.32***	.09***
<i>Injuries</i>	.49***	.60***	.01***	.37***	.14***	.04***
<i>Conclusion</i>						
Arrested ^a	-	-	-	-	-	-
Killed	-3.69**	-3.20	-.12	.54	.00	-.18
Suicide	-.81	.52	-.07	-2.07	-.03	.18
Constant	1.85	-2.03	.20	-3.99	.01	-.03

^aReference category

*p≤0.05 **p≤0.01 ***p≤0.001

Summary

The overall purpose of this chapter is to determine how the media is framing the mass shooting phenomenon (RQ2). Findings initially illustrate the mediated reality of the mass shooting problem by identifying the frequency of frames over time (RQ2a), as well as the number of words and articles dedicated to each frame. This work supports previous research (Schildkraut, 2016; Schildkraut & Elsass, 2016) finding gun and mental health framing of the social problem are the most salient over the entire mass shooting timeline. This study expands

previous research by finding gun access is largely considered a general problem (i.e. the gun control problem at-large), while mental illness is more often framed within the context of the specific mental health issues the perpetrator was dealing with (i.e. schizophrenia, depression, etc.). Importantly, this research indicates terrorism and crime are also pervasive strategies for contextualizing the social problem, particularly, in the last two years of this analysis (i.e. 2015-2016). Although not surprising, gender-based, and to an even lesser extent, news media, were the least common frames used to understand mass shootings.

Table 29. Summary of Newsworthiness Frame Hypotheses

Hyp #	Frames	Cross-tabs	Logistic	Multiple
	<i>Mental</i>			
17	White	Yes	Yes	No
18	Military	Yes	Yes	No
	<i>Gun</i>			
19	Mentally ill	Yes	No	No
20	More weapons	Yes	No	No
21	More victims	Yes	Yes	Yes
	<i>Masculinity</i>			
22	Military	No	No	No
23	Domestic Violence	Yes	Yes	Yes
24	Hate crimes	Yes	No	Yes
	<i>Terror</i>			
25	Arab-descent	Yes	Yes	Yes
26	Jihadist-inspired	Yes	-	-
	<i>Crime</i>			
27	Younger	Yes	No	No
28	Criminal History	Yes	Yes	No
	<i>News</i>			
29	Younger	Yes	No	No
30	Fame-seeking	Yes	Yes	No

This chapter provides a comparison of the reality and media framing (i.e. cross-tabs, logistic regressions, multiple regressions) to determine the perpetrator, motivation, and incident characteristics influencing newsworthiness (RQ2b) (H17-H30). Table 29 provides a summary of findings based on the three levels of analysis. White perpetrators and previous military

experience increased the decision to include any mental health frames. There was limited support for mentally ill perpetrators and increased weapons influencing gun access frames, however, gun access framing significantly increased with the number of victims.³⁰ Surprisingly, gender-based framing is not influenced by military experience, however, framing did increase with a history of domestic violence and hate crimes. One of the most important and significant findings is Arab-descent perpetrators and jihadist-inspired extremists increased terrorism framing. There was limited support for younger perpetrators increasing frames, however, criminal history did increase the decision to include any crime frames. Finally, there was some support for younger perpetrators increasing the news media as a social problem, and even more support indicated fame-seeking perpetrators increased the chances of any discussion of the news media as a social problem.

³⁰ It is important to note, that fatalities and injuries were predominantly used as a control in this study, and this increase in framing was consistent across almost all other frames.

CHAPTER 9

DISCUSSION

This study contributes to the growing body of research on mass shootings and mass media coverage of the phenomenon. The final chapter presents a detailed discussion of the study's results, and provides implications of the social construction and media distortion of the problem. The purpose is to provide information for scholars, practitioners, media outlets, and the general public. Importantly, this section highlights the impact coverage can have on public perceptions of risk, conceptualizations of potential perpetrators, and the implementation of policy and security measures.

Mass Shooting Reality

There were 275 successful mass shooting attacks in the United States between January 1st, 1966 and December 31st, 2016. During this time, there has been a substantial rise in attacks, with over two-thirds of incidents occurring after the turn of the century. Additionally, incidents with the greatest number of casualties occurred in the last eight years. The large casualty rates are primarily the result of “black swan” events, which have excessively higher levels of victimization. The increase in incidents, casualties, and even “black swan” events highlights the importance of research investigating mass shootings.³¹ This includes the perpetrator, motivation, and incident characteristics that can be used for targeted strategies to address the problem.

Mass shooting perpetrators. Standard homicide data often begins by illustrating the gender, age, and race of offenders. In line with previous crime, homicide, and mass shooting research, findings from this study indicate mass shooters are overwhelmingly male (Capellan &

³¹ Although not included in this study, 5 incidents from 2017 to 2018 (Las Vegas, Texas First Baptist Church, Parkland, Thousand Oaks, Tree of Life Synagogue) would be included in the 20 deadliest incidents. This emphasizes the continued rise in incidents and “black swan” events.

Gomez, 2018; Osborne & Capellan, 2017; Schildkraut et al., 2018). Somewhat surprisingly, the average (and median) age of mass shooters is 35, which is much higher than the national average for homicide offenders. Perpetrators are predominantly White, however, the percentage of White perpetrators is proportionate with the number of White individuals in the United States.

Alternatively, the second most common race, Black, is slightly higher than the number of Black citizens. Hispanic, Arab-descent, Asian, and Native American perpetrators together make up the remaining one-fifth of offenders. Of those, Arab-descent perpetrators are the only race/ethnicity that is disproportionately higher than the national average. However, it is important to contextualize this by emphasizing Arab-descent perpetrators make up only 12 of the 275 shooters. Taken together, this indicates the only physical warning sign of a potential mass shooter is they are male, which is characteristic of perpetrators of all types of violence.

Terrorism research (Smith, 1994) has looked at the education levels of different perpetrators based on ideology. However, no study has identified the different education levels of mass shooters beyond “some college and above” (Capellan & Gomez, 2018). This work finds nearly half of perpetrators are high school graduates, and almost a quarter have attended some college. Interestingly, only ten percent have obtained an advanced degree, which is substantially less than the national average. These results provide a valuable contribution to mass shooting research by finding that shooters are not so much young, as they are uneducated. In line with their level of education, they are largely blue-collar workers, or unemployed, with very few students or white collar workers.

Interestingly, mass shooting perpetrators with a history of domestic violence were higher than the general population. As such, gun control legislation targeting mass shooting prevention may wish to prevent those who engage in domestic violence from owning weapons. This type of

legislation was recently passed in New York: removing guns from domestic abusers, and closing a loophole in state law that ensured domestic abusers are required to surrender all firearms (Marco & Almasy, 2018).

Another particularly interesting finding on the reality of mass shooters is they are more likely than the general population to have previous military experience. Those with military experience often suffer from some form of mental health issue (e.g. PTSD), and mental illness is prevalent in nearly half of all mass shooting perpetrators. However, studies have emphasized the importance of avoiding stigmatization associated with mental illness and mass shootings (McGinty et al., 2013, 2014; Wilson et al., 2016). As such, policies could aim to specifically target treatment and awareness within VA hospitals, similar to targeted strategies used in previous research on preventing school violence. Mass shooting prevention efforts in schools have highlighted a range of assessment and intervention techniques aimed at creating safer and more socially connected environments (Bonanno & Levenson, 2014; Levin & Madfis, 2009). Many of these strategies employ proactive mechanisms that seek to improve the emotional climate of schools through enhancing communication among students, facilitating open dialogue between students and teachers, and identifying and monitoring lonely ostracized youth (Bonanno & Levenson, 2014). Similar strategies could be used to identify and target risk factors in veterans. Although, again, it is important these strategies do not stigmatize veterans with mental health issues, and subsequently contribute to unintended consequences.

Mass shooting motivations. This study provides an extension of Osborne and Capellan's (2017) initial exploration of autogenic, victim-specific, and ideological active shooters.

Interestingly, findings identified 20% less victim-specific shooters than Osborne and Capellan

(2017), with the majority of perpetrators being autogenic.³² Since active shooters do not have to fulfill the 4 or more victim-criteria, these findings indicate victim-specific shooters may be less successful than autogenic mass shooters in incurring as many casualties as possible.

This work found more ideological mass shooters than Osborne and Capellan (2017), however, they only make up less than a fifth of all shooters. Nonetheless, they are still much higher than regular homicide numbers, with fatal ideological attacks well under 1%. Out of the 49 perpetrators who were ideologically-motivated, the majority were far-right, followed by an even split between far-left and jihadist-inspired perpetrators. These findings are relatively similar to the terrorism problem at-large in the United States (Silva, Duran, Freilich, & Chermak, 2019). In general, these findings suggest media outlets, prevention strategies, and policy initiatives should focus on taking all terrorism threats seriously, and not just those rooted in jihadist-inspired extremism, as is often the case (Silva et al., 2019). The danger of different threats should be recognized accordingly, with countermeasures tailored to typology and strategy.

When considering non-mutually exclusive motivations gender-based perpetrators were the most common, followed by fame-seeking, and hate crime. Hate crimes were surprisingly low, especially when considering the close relationship between hate crimes and other forms of violence that are similar to mass shootings (i.e. terrorism and extremist violence) (Mills, Freilich, & Chermak, 2017). However, the low rate of ideological mass shootings, in comparison to autogenic motivations, aligns with the low number of hate crimes (although it is important to remember that these are two distinct, yet sometimes overlapping motivations). Given that autogenic and victim-specific motivations were the most prevalent, it is not surprising that fame-seeking (i.e. often autogenic), and gender-based (i.e. often victim-specific) motivations were

³² It is important to contextualize the finding that autogenic and victim-specific motivations were almost equal in this study.

more common. Fame-seeking perpetrators are a new typology in mass shooting scholarship, differentiated from other perpetrators by their explicit desire for infamy (Langman, 2018; Lankford, 2016a). Fame-seeking shooters recognize one of the few ways to ensure media celebrity is through violent actions against random individuals in a public setting (Lankford, 2016a). As such, it is important to consider the role of fame-seeking with the mass media. Finally, no study has quantitatively assessed the role of toxic masculinity and mass shootings. While scholarship has identified mass shootings as an overwhelmingly male phenomenon, this study highlights the role of male aggression as a specific motivational criteria. Importantly, findings indicate this is more prevalent than ideological motivations.

Mass shooting incidents. Interestingly, findings indicate the workplace is the most common incident location, followed by open-spaces (i.e. malls, bars, etc.). School are the third most common location, amounting to slightly more than one-fifth of incidents. The majority of incidents were not spree shootings, indicating the perpetrator had an intended location in mind, and did not attempt to avoid police intervention. While schools are routinely the target of mass shooting prevention strategies, this work indicates more focus should be dedicated to preventing and mitigating incidents in the workplace and in open-spaces. In the workplace, measures for risk-assessment could be valuable, given co-workers have relationships that would enable them to identify potential warning signs. Alternatively open-spaces are filled with strangers, which would not allow for a similar approach. Instead, strategies for situational crime prevention may prove most fruitful. For example, bars and nightclubs may wish to include heightened security guards or metal detectors, similar to strategies used in airports.

The South and West were the most common regions, together making up over two-thirds of total attacks. These findings differ from Schildkraut et al., (2018), who identified the Midwest

as having more than the South. Interestingly, the Northeast was the least common region, in line with previous research (Schildkraut et al., 2018). This is particularly surprising, when considering the Northeast has over twice the population of the South. One reason for difference in incidents between the Northeast and South could be the drastic differences in gun culture and legislation. The Northeast states have the most gun control, and this could be contributing to a decrease in incidents. In one of the few studies assessing the impact of firearm regulations on mass shooting incidents, Lemieux (2014) finds firearm accessibility and ownership are predictive of firearms deaths (including mass shooting incidents).

Handguns were by far the most common weapon type used, accounting for over half of the incidents. Surprisingly, rifles accounted for less than ten percent of the weapons exclusively used during incidents. Gun control legislation is often focused on bans on assault weapons, however, this type of legislation may be largely symbolic, as it would not be the most useful for preventing the phenomenon at large (Kleck, 2009). Instead, heightened legislation focused on preventing access to all types of firearms would presumably be the most effective for preventing mass shootings. Given the contentious nature of gun control in the United States, targeted legislation focused on those with mental illness and a history of domestic violence, may be the most feasible approach. It is also important to note, perpetrators are not stockpiling mass amounts of weaponry, with the average number of weapons used being less than two.

Despite this, they are incurring large amounts of casualties, with an average of four fatalities and five injuries. Although again, these numbers are skewed by a few “black swan” events. As such, strategies for increasing response police response times, and speedy interventions, may be an effective method for reducing black swan events. This is particularly important when considering, perpetrators are most likely to commit suicide at the end of an

attack. This aligns with findings they are often suffering from some form of mental illness, and this could be contributing to suicidal ideations. Additionally, only slightly more than one-third of perpetrators survive the attack. It is well established that some mass shooters refuse to be “taken alive” (Lankford, 2012; Newman et al., 2004), so trying to negotiate their peaceful surrender may sometimes prove counterproductive (Lankford, 2015). For example, Lankford (2015) found one of the reasons why so many people died during the Columbine massacre was the first responding officers prioritized securing the school’s perimeter and waiting for backup, instead of immediately following the shooters back inside the building. Due to the delay, some victims eventually bled out and passed away, while unbeknownst to responding police, the shooters had already committed suicide (Cullen, 2009; Lankford, 2015).³³ If officers could have known these perpetrators were likely to want to die, there is a chance lives could have been saved.

Mass Shootings and Media Coverage

This research definitively finds what previous studies have suggested (Muschert & Carr, 2006; Schildkraut & Muschert, 2014): Columbine is the most newsworthy mass shooting in the 50 years since the Texas Sniper generated extensive coverage of the phenomenon. Overall, the majority of mass shooting incidents receive little or no coverage, and less than 1% of incidents drive public knowledge. Fifteen incidents account for 68% of the 3,448 articles and 71% of the over 3.5 million words published in the *New York Times*. Interestingly, of the 15 most covered mass shootings, eight were also included in the 15 deadliest attacks. This highlights previous research suggesting casualties are often the greatest influence on newsworthiness (Duwe, 2000; Schildkraut et al., 2018). However, this also opens the discussion for other characteristics

³³ This study does not include the 2018 Parkland shooting. However, it is important to note that history repeated itself, and the response to Parkland was again delayed, causing further casualties. In fact, the Parkland first responders violated the protocol put in place after Columbine (Cullen, 2019).

influencing coverage of the problem. A discussion of the mixed findings identified across the first 16 hypotheses illustrates the social construction and media distortion of mass shootings.

Perpetrator coverage. It was hypothesized that coverage and prominence of coverage will be attributed to those who are (1) younger, (2) Asian, and/or (3) Arab-descent. This work aligns with Schildkraut et al. (2018) in finding limited support for age influencing newsworthiness. In other words, only the cross-tabs indicated younger perpetrators were more likely to receive coverage. This is presumably, at least in part, because of the inclusion of students as an attribute within the employment variable, which significantly influenced the salience of words, and potentially dampened the expected severity of age on newsworthiness. Nonetheless, the descriptive statistics finding age heightened newsworthiness, and the finding that students receive more words, illustrates a media distortion of mass shootings. The coverage devoted to younger perpetrators suggests to the public this is a youth-oriented problem, when the reality is perpetrator age range is diverse (i.e. the average age is 35 years old). This contributes to the perception of a school shooting problem, and misconceptions about potential perpetrators. For example, the coverage devoted to Columbine resulted in a fear of alienated youth (Frymer, 2009) and the juvenile superpredator (Muschert, 2007), when the reality is the bullied youth paradigm is largely inaccurate, and the perception of the alienated youth as a potential mass shooter further stigmatizes already marginalized juveniles (Fox & DeLateur, 2014; Schildkraut & Elsass, 2016).

Results did not support the hypothesis based on the Schildkraut et al. (2018) finding that Asian perpetrators increase newsworthiness. Schildkraut et al. (2018) suggest their finding may be based on the excessive coverage devoted to the Virginia Tech shooting. The larger data set used in this research expanded the sample size of Asian perpetrators from five to nine. This

likely dampened the results of their finding, given another high profile shooting perpetrated by an Asian did not occur before 2000 or after 2012. This illustrates how much one high-profile incident can influence the results of a media distortion analysis, and reinforces the need for studies utilizing larger sample sizes.

This study separated Arab-descent perpetrators from the “other” race/ethnicity category used by Schildkraut et al. (2018), who found “other” influences newsworthiness. Findings indicate Arab-descent shooters provide a salient predictor of newsworthiness. This suggests Arab-descent perpetrators were driving the findings in Schildkraut et al.’s (2018) “other” category. Importantly, this finding highlights the media distortion of perpetrators, given the small number of Arab-descent shooters in relation to the much larger number of White perpetrators. While previous research on media coverage of homicide finds Black and Hispanic perpetrators are disproportionately covered (Gruenewald et al., 2009), this study aligns with terrorism scholarship (Silva et al., 2019), and is the first study to find Arab-descent individuals are overrepresented in media coverage of mass shootings. Significance is presumably the result of contemporary cultural typifications of normalized crime in relation to mass shootings. Arab-descent perpetrators fit with other racial minorities that receive negative portrayals associated with stereotypes about the nature of crime (Gruenewald et al., 2014). The discussion of this finding is continued in the forthcoming examination of terrorism framing.

Although not hypothesized, it is important note that White perpetrators received significantly more coverage than Hispanic perpetrators. This is presumably because Hispanics have not engaged in any high-profile incidents that would include them in the media and public social construction of the phenomenon. Additionally, shooters with some college education were significantly more likely to receive coverage than those with only a high school degree. This

may, at least in part, be attributed to the fact that so few perpetrators have obtained advanced degrees. Those with advanced degrees have gone up over the years (see Capellan & Gomez, 2018), and their advanced education status suggests they may be able to incur greater levels of casualties. However, this work accounts for year and casualties as control variables. As such, there is some other correlative factor contributing to this increased newsworthiness that requires further research.

It was hypothesized shooters with a (4) criminal, (5) military, and/or (6) domestic violence history would increase newsworthiness. Surprisingly, results did not support these hypotheses across any of the three analytic techniques. In relationship to any coverage, this non-finding makes sense, when considering news organizations do not have information readily available on the offender's criminal, military, or domestic violence history the moment the attack occurs. In terms of salience, the lack of focus on offenders with a criminal history is surprising. Newsworthiness is often determined by crime, with research in media agenda setting and crime finding up to 50% of news coverage is dedicated to crime (Chermak, 1994; Graber, 1980; Surette, 2007). In terms of military and domestic violence history, news sources may be doing a disservice by not dedicating more coverage to these type of characteristics, especially given their prevalence in mass shooters in relation to the general public.

Motivation coverage. It was hypothesized newsworthiness will be attributed to those driven by (7) fame, (8) autogenic, (9) ideological, (10) jihadist-inspired, and/or (11) hate crime motivations. This is the first study to find fame-seeking shooters are more likely to receive any coverage, as well as salient levels of coverage, in relation to other mass shooters. This finding has serious implications for societal and media reactions to mass shootings. This indicates the media is helping to fulfill the fame-seekers desires, and reinforcing their initial motivations. To

address this, scholars and news outlets have suggested ways to avoid glorifying mass shooting perpetrators (i.e. “minimize harm”) while still disseminating information. For example, the “No Notoriety” campaign illustrates the need to limit use of the shooter’s name to once per article as a reference point, never in the headlines, and no photo above the fold (Becket, 2018). However, this highlights the delicate balance that must be taken when reporting, given scholars are often dependent on media coverage to identify information about these events.

Duwe (2000) finds victims who have no relationship with the offender (autogenic) are more likely to receive coverage. This work finds autogenic motivations do not influence newsworthiness. The differences in findings are presumably because Duwe (2000) divided victims individually, and not by three categories (i.e. autogenic, victim-specific, ideological). The inclusion of these additional categories may have dampened the severity of results. This could also explain the limited finding that ideological motivation influences newsworthiness (i.e. only the cross-tabs suggest ideological motivations receive more coverage than autogenic and victim-specific).

The results find jihadist-inspired motivations are one of the greatest predictors of newsworthiness. This emphasizes the public fascination with terrorism in the aftermath of 9/11, and the growing concern over lone-wolf terrorism and international threats (Silva et al., 2019). One reason for this may be attributed to the fact that 3 of the deadliest 15 shootings were committed by jihadist-inspired extremists. However, this work uses fatalities as a control variable, and the findings were still significant. Therefore, this presents another media distortion of the phenomenon, given the majority of lone-wolf shootings are perpetrated by far-right extremists. It is important to consider how the media coverage of these incidents may be influencing the exorbitant amount of funding dedicated to the prevention of terrorism in the

United States. Jackson (2007) finds political discourse surrounding jihadist-inspired terrorism is highly politicized, and can often times result in counterproductive security measures. In 2015, 47% of Americans were "very" or "somewhat" worried they or a family member would become a victim of an Islamic State-inspired terrorist attack (Swift, 2015). As a result, the majority of funding has been dedicated to foreign policy approaches, including military interventions and lengthy nation building (Barnes, 2012). More recently, jihadist-inspired attacks have resulted in President Trump calling for more "extreme vetting" of immigrants (Wilts & Sampathkumar, 2018). This is despite the conclusion that terrorist incidents carried out by Americans pose a far greater threat (Silva et al., 2019). As a result, prevention strategies should focus on taking all terrorism threats seriously, and not just those rooted in jihadist-inspired extremism.

Hate crimes did impact newsworthiness in both the descriptive and salience analyses. This provides a media distortion of the problem, given they only account for 10% of total attacks. This finding was presumably driven by the Orlando Nightclub (hated gays) and Charleston Church (hated African-Americans) shootings, both of which were in the top ten most covered attacks. It is interesting that violence against woman is not a more covered form of hate (i.e. the Isla Vista Spree), and suggests public concern of victimization is more concerned with terrorism than gender-based issues (both of which can fit hate crime definitional criteria). This is despite findings that gender-based motivations are more common than terrorism.

Incident coverage. It was hypothesized incident newsworthiness would be influenced by (12) schools shootings, (13) Northeast incidents, (14) spree shootings, (15) a combination of weapons, and (16) perpetrators that survive. Although not hypothesized, this research is consistent with the general body of research examining crime, homicide, and mass shootings finding the severity of incidents influences levels of coverage. Mass shootings with higher

fatalities and injuries are more likely to receive coverage and salient levels of coverage. This type of coverage influences public concern over risk of victimization, which is often conveyed in the news media through victim counts that omit national data which could ground incidents in a broader context (i.e. mass shootings are only a small fraction of overall homicides) (Schildkraut, 2016). Highlighting incidents with the greatest number of victims may be contributing to previous findings of disproportionate fear and anxiety surrounding potential victimization (Fox & DeLateur, 2014; Muschert, 2007). While this finding is unsurprising, the use of the fatalities and injuries in this model (and all models, although the results are not displayed in perpetrator and motivation tables) is important for controlling the analyses, and ensuring certain significant characteristics are not just attributed to heightened casualty rates.

Findings indicate school shootings are one of the greatest predictors of newsworthiness. This reinforces previous research suggesting the public misconception of the mass shooting phenomenon is it is largely a school shooting problem (Schildkraut & Elsass, 2016). One major issue with the media spectacle surrounding school shootings is it skews perceptions of the dangers of school violence. For example, shortly after the Columbine shooting, more than one third of high school students agreed there were students at their school who were potentially violent enough to cause a situation similar to Columbine (Gallup, 1999), and more than half of parents feared for their child's physical safety in school (McCarthy, 2014). The reality is school shootings pose a very limited risk to students, and homicides that occur in school represent less than 1% of the annual youth homicides (age = 5-18) in the United States (Borum et al., 2010). This finding also presents one of the most important media distortions of the problem. Workplace shootings are the most common incident type, but they are the least likely to receive salient amounts of coverage. As a result, public fears may be misguided and subsequent policies

may be focusing attention on the wrong areas for security measures. For example, while schools have routinely utilized metal detectors (with mixed support for effectiveness), similar strategies have not been utilized in the majority of workplace settings.

In line with Schildkraut et al. (2018), findings indicate attacks occurring in the Northeast region were a significant predictor of newsworthiness across all three analyses. This suggests a potential spatial bias, with mass shootings occurring closer to the headquarters of the *New York Times* receiving more coverage than incidents across the country. However, this may also be because the South (the most common area for mass shootings) is historically more violent (Erlanger 1976; Grosjean, 2014; Huff-Corzine, Corzine, & Moore, 1986). As such, coverage of incidents in the Northeast may be because they are especially rare.

Spree shootings had no impact on newsworthiness. This is presumably because audiences are more concerned with the central location of the incident (i.e. schools), and victim counts control for heightened casualties that may occur across the various locations. This also makes sense in terms of salience, given media outlets may dedicate extended coverage for a spree over a 24 hour period, but this will have no impact on the long term coverage of the incident.

While previous research has found gun violence is more newsworthy than incidents using other types of weapons (Duwe, 2000), this research identified limited support (i.e. only the cross-tabs) finding a variety of guns is more newsworthy when only guns are considered. This suggests that as the prevalence of mass shootings becomes commonplace in the American mindset, news outlets are drawn towards the most sensational cases involving individuals armed with a number of firearms as a means for incurring the largest number of casualties. This is particularly important when considering the average number of firearms are less than two, and handguns alone are by far the most prevalent choice of weapon. This is skewing public perception of

perpetrator access to an abundance of guns, and potentially influencing the belief that gun control legislation is a futile effort.

Finally, Schildkraut et al. (2018) identified some support for increased newsworthiness based on shooters surviving. This study included coverage lasting beyond the first month, anticipating this would strengthen the validity of results. Surprisingly, this research did not find any significant difference in coverage between perpetrators that were killed or committed suicide compared to those who survived (i.e. arrested). One possibility for this disparity is the operationalization in this study is more nuanced, as it accounts for different types of scenarios (0 = arrested, 1 = killed, 2 = suicide). Given Schildkraut et al.'s (2018) findings were not strong, dividing the "dead" variable into killed and suicide may have further reduced the strength of the results. A second possibility is that how a mass shooting ends (i.e. whether offenders live or die) does not significantly affect news coverage once all relevant factors are accounted for. This study employs a number of relevant variables that were not specified in the Schildkraut et al. (2018) models.

Mass Shootings and Media Framing

This study offers three major contributions to the media framing of mass shootings. First, this work provides a comprehensive examination of media framing of the phenomenon at-large (i.e. all mass shootings, not just school shootings). This work supports previous research (Schildkraut, 2016; Schildkraut & Elsass, 2016; Schildkraut & Muschert, 2013) finding gun and mental health framing of the social problem are the most salient over the entire mass shooting timeline. Importantly, the results expand previous knowledge by finding gun access is largely considered a general problem (i.e. the gun control problem at-large), while mental illness is more often framed within the context of the specific mental health issues the perpetrator was dealing

with (i.e. schizophrenia, depression, etc.). Second, this work introduces an examination of the framing of terrorism, crime, gender-based, and news media as factors contributing to the social problem. Findings indicate terrorism and crime are pervasive strategies for contextualizing the social problem, particularly, in the last two years of analyzed (i.e. 2015-2016). Although not surprising, gender-based, and to an even lesser extent, news media, were the least common frames used to understand mass shootings. Finally, this is the first study to utilize a media distortion analysis to examine media framing (of any problem, not just mass shootings). A discussion of the mixed findings identified across 14 hypotheses illustrates the media framing, social construction, and distortion of mass shootings.

Mental health frames. In line with previous research (Schildkraut & Muschert, 2013), findings illustrate mental illness was the second most utilized frame to contextualize the social problem. However, this frame has not increased at the same rate as other frames (i.e. gun, crime, terror) in the last few years of the analysis. This is interesting, when considering 50% of shooters suffer from some form of mental health issue. Additionally, it was hypothesized the newsworthiness of mental health frames would be attributed to (17) White shooters, as well as those with a (18) military background.

Results indicate White perpetrators increase mental health framing in the cross-tab and logistic (i.e. any coverage) analyses. This aligns with research suggesting mass media focuses on unstable White individuals who never should have had access to firearms (Metzl & MacLeish, 2015). However, there is no reason to believe mental illness is race based, as research shows mental health is relatively consistent across the general population and across mass shooters with differing motivations (Capellan, Johnson, Porter, & Martin, 2018). In other words, the media is distorting the reality of mental illness, and contributing to the social construction of racial

stereotypes surrounding crime and violence. Insanity excuses the behavior of White shooters as something beyond their control. In-turn this normalizes and demonizes the behavior of minority shooters as ingrained in their racial/cultural backgrounds. The interpretation of specifically White shooters as “insane” reinforces perceptions of perpetrators from other racial backgrounds as “thugs” and “terrorists”. This discussion is reinforced and continued in the examination of race/ethnicity and terrorism framing.

Findings support the hypothesis perpetrators with a military history increase mental health frames. Metzler and MacLeish (2015) suggested in the aftermath of Vietnam, PTSD increasingly became associated with violent behavior in the public imagination, and the stereotype of the “crazy vet” began to emerge. While it is important not to stigmatize veterans, they do have a higher rate of suffering from some form of mental illness. There is currently a suicide crisis plaguing the United States military. The rate of suicide is 2.1 times higher among veterans than non-veterans (DVA, 2018). Importantly, guns were used in two-thirds of suicides by veterans (DVA, 2018). This aligns with findings that mass shooting perpetrators often suffer from suicidal ideations, and do not anticipate they will survive the attack. Mental health frames increased any coverage, but not the salience of coverage. This suggests news outlets are mentioning shooters had a military history, but not providing depth or nuance in terms of how to approach this sensitive issue. As noted, increased mental health treatment for veterans may be one of the best strategies for prevention. Additionally, this increase in veteran treatment can coincide with an increase in training for those working in VA hospitals to identify the warning signs of at-risk offenders.

Gun access frames. Gun access frames were the most common frames associated with the mass shooting problem. This study does not consider a distinction between gun control and

gun rights framing. As such, this finding is only reinforcing the contentious debate surrounding gun access and mass shootings. This is further exemplified by the finding that more framing was focused on general coverage (i.e. the gun problem at-large) than specific framing (i.e. how did individual shooters get their guns). Instead, this work hypothesized the newsworthiness of gun access frames would be driven by (19) mentally ill perpetrators, (20) incidents involving more weapons, (21) and greater casualties.

Only the cross-tab analysis indicates mentally ill perpetrators influence gun access frames. This is surprising, given the media is often blamed by scholars for associating mental health with gun violence, and contributing to general stigmatization surrounding mental illness (McGinty et al., 2013, 2014; Wilson et al., 2016). Instead, this work suggests those with mental illness are not significantly blamed for the gun access problem. This means gun access is a concern that extends beyond the perpetrators mental health. In other words, the media is willing to accept alternative strategies for preventing access to firearms. This could include evidence from this study suggesting preventing those with a history of domestic violence from obtaining a weapon, as well as monitoring military veterans may be alternative strategies for prevention. Findings also identified limited support indicating incidents with more weapons influenced gun access frames (i.e. again, only cross-tabs). This is again surprising, however, this means media outlets are aware only one weapon is necessary to carry-out a deadly attack. In other words, the media is not only focusing on preventing individuals from obtaining a collection of weaponry. Instead, the media is interested in preventing even a single weapon from being obtained by a potentially violent offender. The limited support for mentally ill perpetrators and more weapons influencing gun framing may also be attributed to the inclusion and significance associated with casualties (i.e. deaths and injuries). The most significant indicator of increased gun access

framing was larger numbers of victims. This was not surprising, and reinforces public opinion that the number of casualties is a direct result of the access to weapons.

Gender grievance frames. This is the first mass shooting and/or mass media study to quantitatively examine issues with gender-based grievances surrounding the phenomenon. Gender grievances were the second least common frame used to conceptualize the phenomenon. The media is overlooking an important aspect of the problem, considering mass shootings are an overwhelmingly male form of violence. One reason for this lack of coverage may be attributed to the media preference for simple narratives that can be easily digested by the general public (Gruenewald & Chermak, 2014). In other words, the problems associated with gender and masculinity are difficult to splice into simplified frames in a way that does not ostracize male viewers. As a result, the media appears to avoid this narrative all together. Nonetheless, it was hypothesized the newsworthiness of gender-based frames would be attributed to perpetrators with a (22) military and/or (23) domestic violence background, as well as shooters motivated to commit a (24) hate crime.

A history of military experience had no impact on gender-based frames. This is presumably because military experience is already an overlooked characteristic in the media, despite the prevalence of perpetrators with a military history. Similar to the aforementioned discussion of military and mental illness, the media may wish to avoid stigmatizing military personnel. Alternatively perpetrators with a history of domestic violence were significantly more likely to influence the newsworthiness of gender-based frames. This indicates the media is only willing to associate the mass shooting problem with specific perpetrators who have a history of male aggression, and not problems with toxic masculinity at-large. This aligns with the finding that gender grievances is one of the social problems framed as a specific instead of general issue.

Hate crime motivations also influenced the newsworthiness of gender-based frames in both the descriptive and salience analyses. These findings are presumably driven by hate crimes against women (i.e. the Incel movement), and again suggests the media is avoiding the male problem as a whole. These findings provide important information for future research (see Chapter 10) investigating the phenomenon.

Terror frames. Surprisingly, terrorism frames were relatively low for the majority of the analysis period, even in the aftermath of 9/11. This suggests media coverage, public perception, and political discourse did not equate the mass shooting and terrorism problems (similar to most scholarship during this time). However, findings highlight a tremendous increase in terrorism framing during the last two years (i.e. 2015 and 2016), equaling gun access frames in 2016 and surpassing mental health frames. This further justifies the inclusion of ideological perpetrators in the current study, as they are now being viewed as a relevant issue in mass shooting discourse. It was hypothesized the newsworthiness of terrorism frames would be influenced by (25) perpetrators of Arab-descent, and (26) jihadist-inspired motivations.

Arab-descent shooters were significantly more likely to receive terrorism frames across all three analyses. As noted, Arab-descent perpetrators increase all newsworthiness, and this finding suggests this increased newsworthiness is largely associated with terrorism frames. This aligns with previous scholarship, finding in the aftermath of 9/11 there was a tremendous increase in focus on Islam, Muslims, and Arabs in television, radio, and print press (Ahmed & Matthes, 2017; Nacos, 2016), and because of the limited amount of information most Americans have about Middle Eastern culture, terrorism images served an essentializing function (Shah & Thornton, 1994). In other words, this work supports general terrorism findings that in the media and public discourse, the essence of a terrorist was being of Arab-descent (Powell, 2011, 2018).

The normalizing function of the media and Arabs-as-terrorists has important implications for security approaches in the United States. A recent study by Saleem, Prot, Anderson, and Lemieux (2017) finds exposure to news portraying Muslims as terrorists is positively associated with support for military action in Muslim countries and public policies that harm Muslims domestically and internationally. This is despite research finding these policies do not address the reality of the terrorism problem (i.e. domestic extremists), and can contribute to stigmatization and Islamophobia (Silva et al., 2019). These findings also align with the threat surrounding jihadist-inspired extremism.

Jihadist-inspired extremists were also more likely to influence the newsworthiness of terrorism frames. This aligns with research finding, in popular discourse, “it is seen as self-evident that Islamic terrorism remains one of the most significant threats to the Western world in general, and U.S. national security in particular” (Jackson, 2007, p. 407). Again, jihadist-inspired extremism is often linked with international terrorism, with 79% of Americans saying airstrikes and visa controls provide effective means of control against terrorism (Newport, 2015). However, research finds the threat is not only domestic (Silva et al., 2019), but as identified in this study, also largely rooted in the far-right. Therefore, prevention strategies and policy initiatives should focus on taking all terrorism threats seriously, and not just those rooted in jihadist-inspired extremism, as is often the case (Silva et al., 2019). The media needs to provide more accurate reporting that avoids framing the terrorism problem in America as rooted in jihadist-inspired extremism.

For example, the percentage of far-left shooters was higher than expected compared to the low level of Black Nationalist (i.e. far-left) shooters identified in Capellan’s (2015) work. Despite this, similar to previous research on terrorism at-large (Mitnik, Freilich, & Chermak,

2018), far-left perpetrators received substantially less coverage. One reason for this may be attributed to media bias, and fear of associating far-left extremists with constructive leftist movements. For instance, the majority of far-left perpetrators were Black Nationalists, and in recent years, these offenders often aligned themselves with the Black Lives Matter (BLM) movement. The media may wish to avoid drawing attention to the negative aspects of what it regards as a largely positive social movement.

Crime frames. Crime frames were only slightly less common than terrorism frames, and received a similar spike in 2015 and 2016. They were also similar to terrorism frames in that they remained relatively stable across the entire analyzed time period, except for a single spike driven by the Columbine shooting. This aligns with late 90s public fear of the juvenile-super predator. However, it is important contextualize these frames with the finding that only one-third of perpetrators have a previous criminal history. It was hypothesized the newsworthiness of crime frames would be attributed to (27) younger perpetrators, and those with a (28) criminal history.

Findings provide limited support suggesting younger perpetrators influence crime framing. This is surprising, considering the spike in crime frames in the aftermath of Columbine. However, this finding also makes sense, given that a juvenile's criminal history would not impact their ability to own a weapon, since they would be unable to own a weapon regardless. In other words, the majority of younger offenders who obtain a weapon do so through illegal means. This aligns with the finding that general crime coverage frames are more common (i.e. preventing those with a criminal history from obtaining a weapon). This is presumably the narrative being used during the more recent spikes in crime framing.

Results indicate perpetrators with a criminal history increase crime framing in the descriptive and logistic analyses. However, it is also important to consider many more articles

received general crime frames than specific. In other words, the media is presumably focusing on the general crime problem, and preventing those with a criminal history from accessing firearms. However, media outlets have to make these claims despite the findings that most offenders do not have a criminal history. They are aware that preventing those with a criminal history from accessing firearms will not have a large impact on preventing the problem. Nonetheless, this narrative has remained consistent, because they lack alternative simplified narratives. The implications of these findings suggest the media should turn to alternative solutions identified (i.e. domestic violence, military history, mental illness).

News frames. This study offers an examination of how the media views itself as potentially responsible for contributing to the social problem. Mass shootings by definition require a public stage before an audience (Krouse & Richardson, 2015), and perpetrators require news media coverage to widen the breadth of their audience (Newman et al., 2004). Lankford and Madfis (2018) highlight the consequences of media coverage of mass shootings, finding it: (1) gives perpetrators what they want; (2) increases perpetrators competition to maximize victim fatalities; and (3) leads to contagion and copycat effects. Despite this, the mass media does not offer much self-reflection, as the news was the least common frame used to contextualize the social problem. The lack of media accountability is further supported by the largely specific frames (i.e. specific individuals were influenced by the media) instead of general frames (i.e. the media is contributing to the problem at-large). Nonetheless, it was hypothesized the newsworthiness of news frames would be attributed to (29) younger perpetrators, and (30) fame-seeking motivations.

Findings indicate limited support to suggest younger perpetrators influence the decision to frame the news media as a social problem. Lankford (2016b) finds fame-seeking perpetrators

are significantly more likely to be younger, given the millennial obsession with attention and notoriety in America. However, news outlets understand not all younger perpetrators are influenced by the news media. Instead, results indicate perpetrators motivated by fame increase framing the news as a social problem in the descriptive and logistic analyses. This makes sense, when considering the media is likely to blame specific individuals with their media desire for celebrity, rather than blame the media's general glorification of the phenomenon.

Finally, although not hypothesized, it is important to note that none of the terrorist characteristics impacted news media framing in any of the analyses. In other words, the news media has failed to recognize their role in providing extremists with a platform. However, scholarship finds the impact of media notoriety on terrorism is two-fold. First, it provides a platform for extremist ideology, thereby glorifying perpetrator actions and striking even more fear in the general public. Second, it provides information for potential terrorists, and may contribute to contagion effects. Recent scholarship finds domestic terrorists are often lone-wolves that become radicalized through online pathways (Holt et al., 2019; Silva et al., 2019). In other words, their awareness of ideology is often not through direct contact with extremists. Instead, it is garnered via media outlets, including news sources. Taken together, as the no notoriety campaign focuses on mass shooting glorification, particularly fame-seeking shooters, it is necessary to consider notoriety in the context of terrorism. For example, news outlets may wish to reduce mention of ideology, ideological groups (i.e. ISIS, Al Qaeda, etc.), and role-models associated with specific ideologies. The no notoriety campaign has emphasized the need to reduce mention of "heroes" like the Columbine perpetrators, which contributes to glorification and potential copycat crimes. The same could be said for individuals like Anwar-al Awaki, who is often cited as the motivating force behind domestic lone-wolf Jihadist-inspired extremists.

CHAPTER 10

CONCLUSION

A media distortion analysis compares the reality of a social problem against the mediated reality to determine the media distortion of a phenomenon. The current study compares the reality and news media coverage of all mass shootings in the United States from 1966 to 2016. This work expands on previous research by increasing the breadth of time examined (i.e. 50 years of shootings and coverage), depth of data (i.e. all types of mass shootings and all *New York Times* coverage), and variables included (e.g. incident, perpetrator, media frames, etc.). This work also provides the largest study of the media framing of the mass shooting problem, as well as the first media distortion analysis to examine media framing. Taken together, this in-depth media distortion analysis provides the most comprehensive examination of media coverage of mass shootings to date. Despite this, it is important to acknowledge certain limitations inherent to this type of research design, along with strategies for future research.

Limitations and Future Research

Mass shooting studies are predominantly limited by definitional, temporal, and data collection issues (Silva & Greene-Colozzi, 2018). The current study attempted to overcome the intersection of these limitations by providing a comprehensive definition, a temporal examination of the entire “second wave” of mass shootings (see Schildkraut & Elsass, 2016), and a detailed open-source data collection process. Nonetheless, these limitations may still be influencing the results of this study.

The contentious nature of defining a mass shooting is largely rooted in the victim criteria. In an effort to expand the sample size, this work includes incidents involving four or more casualties in the definition. This means an incident does not have to involve any deaths to be

included. Given this database is predominantly drawn from open-source news data, and news coverage is largely driven by the number of casualties, it is possible this database is being influenced by the “publicity effect” (Silva & Greene-Colozzi, 2018). In other words, the less publicity an incident receives, the more difficult it is to identify for case inclusion. While many databases aim to identify all mass gun violence incidents, it is impossible to know for certain if cases have been missed. For example, Lankford (2013) identified 185 incidents, and Kelly (2012) identified 202 incidents, between 1966 and 2010. The current study included many more incidents than previous studies and identified 275 incidents over a 50-year period. While this research used more expansive victim inclusion criteria and an additional 6 years of incidents (2011-2016), this larger dataset may be partially attributed to advancements in data collection strategies over time.

The “time period effect” suggests open-source data collection strategies also tend to be biased against older events. Cases that occurred further in the past, and/or received less coverage, are less likely to be identified and included in the sample. The extensive media coverage of mass shootings that is pervasive in contemporary society was not afforded to similar public displays several decades ago. This can skew the perception that mass shootings are on the rise, when in fact, it is just difficult to identify incidents that occurred decades in the past. Publicity and time period effects may also be influencing the mass shooting characteristic information. In other words, the missing characteristic information may be resulting in the underreporting of certain characteristics that are rarely covered in news outlets (i.e. domestic violence, etc.). Futures studies should continue to provide detailed accounts of the data collection process to help develop this unavoidable data source.

This study is also limited by the decision to focus on a single national newspaper. Findings suggest spatial bias, with mass shootings occurring closer to the headquarters of the *New York Times* (i.e. Northeast) receiving more coverage than incidents across the country. It is possible these incidents were more prominently covered in more localized news outlets and this could result in different policy responses at the local level. However, this does not impact the national understanding and response to the phenomenon, which is what this research is concerned with. Nonetheless, future research should consider utilizing this analysis strategy using different national and local news coverage, to ensure the reliability of the current study, and provide comparisons of results. For example, this work finds perpetrators that survive did not impact newsworthiness. However, more localized news outlets may be more concerned with the details of a lengthy trial process. Similarly, this work finds that gun access and mental health frames were the most prominent. However, these findings, as well as the characteristics influencing framing more generally, are likely to differ across national news sources catered to different audiences. For example, far-left terrorism may receive more coverage in a conservative newspaper than the *NYT*, which is considered left-leaning in framing. As such, future research should provide a comparative approach to framing in different national news sources.

The utilization of social construction as an analytic framework in this study posits an academic reality of mass shootings against a mediated reality. The focus was on medias social construction of reality. However, the intertextual nature of media coverage, academic knowledge, and public understanding (i.e. the strategic web of facticity) is what determines social construction more broadly (Fisk, 1987; Tuchman, 1978). The blending of these experiences contributes to (and mutually reinforces) reality (Tuchman, 1978). Similar to the mediated construction of reality, it is important to recognize academic “reality” of mass

shootings is also a social construction (see Silva, 2019 for an in-depth analysis). As such, this work, and scholarship on mass shootings and terrorism more generally, is also contributing to constructions, which may be producing unintended consequences. For example, this study uses the leading terrorism datasets to operationalize three distinct forms of terrorism. However, only one of those, jihadist-inspired extremism, is characterized by its roots in religion. This ignores religion in alternative forms of extremism, such as the far-right Christian identity movement and/or anti-abortion movement. This can reinforce and contribute to stereotypes of Muslims, often identified in academic knowledge as the sole perpetrators of negative religious constructions. One way to address this issue would be create a religion categorization more broadly, and examine subsequent characteristics and coverage surrounding this issue. In general, research should continue to explore different academic realities influencing social construction.

Finally, this research provides an examination of news coverage, as a means for exploring policy makers' willingness to address certain types of mass shootings. However, this work did not specifically examine its effect on policy responses. In a recent study, Luca, Malhotra, and Poliquin (2016) find the occurrence of a mass shooting led to a 15% increase in the number of firearm bills introduced in state legislatures. However, these firearm bills took drastically divergent approaches to addressing the phenomenon. For instance, in Republican-controlled legislatures, mass shootings led to the enactment of policies that loosen gun restriction (Luca et al., 2016). Future research should consider whether the type of shooting has an impact on the legislative response. It is possible school shootings may induce a response to restrict gun control, whereas terrorist shootings lead to legislation to loosen gun restriction. In addition to the type of shooting, the perpetrator and incident-level characteristics, as well as news salience, may be important factors in shaping the legislative responses.

APPENDIX

Appendix A

Table A1. Mass Gun Violence Definitions

Active Shooting	
FBI	An individual (or individuals) actively engaged in killing or attempting to kill people in a populated area. Does not include incidents involving gang or criminal activity.
Familicide	
Congressional Research Service	Familicide mass shooting means a multiple homicide incident in which four or more victims are murdered with firearms—not including the offender(s)—within one event, and a majority of the victims were members of the offender’s immediate or extended family, the majority of whom were murdered in one or more private residences or secluded, sparsely populated settings in close geographical proximity, and the murders are not attributable to any other underlying criminal activity or commonplace circumstance (e.g., armed robbery, criminal competition, insurance fraud, argument, or romantic triangle).
Mass Shooting	
Mass Shooting Tracker	Four or more people shot in one event, not just those murdered.
Mother Jones	Four or more fatalities carried out by a lone shooter including a handful of cases of spree killings, those mass murders that take place in more than one location, but over a short period of time.
Congressional Research Service	A multiple homicide incident in which four or more victims are murdered with firearms—not including the offender(s)—within one event, and at least some of the murders occurred in a public location or locations in close geographical proximity, and the murders are not attributable to any other underlying criminal activity or commonplace circumstance.
Serial Shooting	
Fox & Levin	A shooting involving two or more victims, during a single event, in two or more locations with no cool-off period.
Spree Shooting	
Fox & Levin	A shooting involving three or more victims, during three or more events event, in three or more locations with a cool-off period.

Table A2. Mass Shooting Data Sources

Academic Articles
Lankford, A. (2013). A comparative analysis of suicide terrorists and rampage, workplace, and school shooters in the United States from 1990 to 2010. <i>Homicide Studies</i> , 17(3), 255-274.
Lankford, A. (2015). Mass shooters in the USA, 1966-2010: Differences between attackers who live and die. <i>Justice Quarterly</i> , 32, 360-379.
Lankford, A. (2016). Fame-seeking rampage shooters: Initial findings and empirical predictions. <i>Aggression and Violent Behavior</i> , 27, 122-129.
Books
Schildkraut, J. (2018). <i>Mass shootings in America: Understanding the debates, causes, and responses</i> . Santa Barbara, CA: ABC-CLIO.
Dissertations
Capellan, J. A. (2015). <i>Looking upstream: A sociological investigation of mass public shootings</i> (Doctoral dissertation, City University of New York).
Schildkraut, J. V. (2014). <i>Mass murder and the mass media: An examination of the media discourse on US rampage shootings, 2000-2012</i> (Doctoral dissertation, Texas State University).
Government Reports
Blair, J. P., & Schweit, K. W. (2014). A study of active shooter incidents in the United States, 2000-2013.
Hamm, M. & Spaaij, R. (2015). Lone Wolf Terrorism in America: Using Knowledge of Radicalization Pathways to Forge Prevention Strategies.
Kelly, R. (2012). Active shooter report: Recommendations and analysis for risk mitigation, 2012 edition. New York, NY: New York City Police Department.
Paparazzo, J., Eith, C., & Tocco, J. (2013). Strategic Approaches to Preventing Multiple Casualty Violence. COPS.
News Outlets
Follman, M., Aronsen, G., & Pan, D. (2017). US Mass Shootings, 1982-2017: Data from Mother Jones' investigation. Mother Jones. Retrieved from: http://www.motherjones.com/politics/2012/12/mass-shootings-mother-jones-full-data/
Lott, J. R. (March 2015). The FBI's misinterpretation of the change in mass public shooting. <i>ACJS Today</i> , 40(2), 18-29.
Scholarly Datasets
Stanford Mass Shootings in America, courtesy of the Stanford Geospatial Center and Stanford Libraries. Retrieved from: https://github.com/StanfordGeospatialCenter/MSA/blob/master/Data/Stanford_MSA_Database.csv

Table A3. Description and Operationalization of News Frame (Dependent) Variables

Media Frame	Description	Measurement
Mental Health Coverage	Did mental health receive any coverage? (e.g. reference to the mental health policy / stability of the perpetrator / other similar incidents, etc.).	0=No, 1=Yes
Mental Health Article		
Article Total	How many total articles did mental health receive?	Continuous
Specific Article	How many articles address the who, what, when, and why of the perpetrators mental health throughout all stages of the justice process?	Continuous
General Article	How many articles mention mental health within the context of larger discourse?	Continuous
Mental Health Word		
Word Total	How many total words did mental health receive?	Continuous
Specific Word	How many words address the who, what, when, and why of the perpetrators mental health throughout all stages of the justice process?	Continuous
General Word	How many words mention mental health within the context of larger discourse?	Continuous
Gun Access Coverage	Did gun access receive any coverage? (e.g. reference to gun control in any form, including stricter enforcement or relaxing of laws / the perpetrators ability to gain access to weapons, etc.).	0=No, 1=Yes
Gun Access Article		
Article Total	How many total articles did mental health receive?	Continuous
Specific Article	How many articles address the who, what, when, and why of the perpetrators gun access throughout all stages of the justice process?	Continuous
General Article	How many articles mention gun access within the context of larger discourse?	Continuous
Gun Access Word		
Word Total	How many total words did gun access receive?	Continuous
Specific Word	How many words address the who, what, when, and why of the perpetrators gun access throughout all stages of the justice process?	Continuous

General Word	How many words mention gun access within the context of larger discourse?	Continuous
Gender Grievances Coverage	Did gender grievances receive any coverage? (e.g. domestic violence, hate towards women, overt masculinity issues, etc.).	0=No, 1=Yes
Gender Grievances Article		
Article Total	How many total articles did gender grievances receive?	Continuous
Specific Article	How many articles address the who, what, when, and why of the perpetrators gender grievances throughout all stages of the justice process?	Continuous
General Article	How many articles mention gender grievances within the context of larger discourse?	Continuous
Gender Grievances Word		
Word Total	How many total words did gender grievances receive?	Continuous
Specific Word	How many words address the who, what, when, and why of the perpetrators gender grievances throughout all stages of the justice process?	Continuous
General Word	How many words mention gender grievances within the context of larger discourse?	Continuous
Crime Problem Coverage	Did crime receive any coverage? (e.g. reference to the perpetrators previous criminal history / the crime problem in the United States at-large, etc.).	0=No, 1=Yes
Crime Problem Article		
Article Total	How many total articles did crime receive?	Continuous
Specific Article	How many articles address the who, what, when, and why of the perpetrators crime throughout all stages of the justice process?	Continuous
General Article	How many articles mention crime within the context of larger discourse?	Continuous
Crime Problem Word		
Word Total	How many total words did crime receive?	Continuous
Specific Word	How many words address the who, what, when, and why of the perpetrators crime throughout all stages of the justice process?	Continuous

General Word	How many words mention crime within the context of larger discourse?	Continuous
Terrorism Coverage	Did terrorism receive any coverage? (e.g. reference to the perpetrators ideological motivations / terrorism in the United States at-large, etc.).	0=No, 1=Yes
Terrorism Article		
Article Total	How many total articles did terrorism receive?	Continuous
Specific Article	How many articles address the who, what, when, and why of the perpetrators ideology throughout all stages of the justice process?	Continuous
General Article	How many articles mention terrorism within the context of larger discourse?	Continuous
Terrorism Word		
Word Total	How many total words did terrorism receive?	Continuous
Specific Word	How many words address the who, what, when, and why of the perpetrators ideology throughout all stages of the justice process?	Continuous
General Word	How many words mention terrorism within the context of larger discourse?	Continuous
News Media Coverage	Did news media receive any coverage? (e.g. reference to the news media on the perpetrators motivations / news medias impact in the United States at-large, etc.).	0=No, 1=Yes
News Media Article		
Article Total	How many total articles did news media receive?	Continuous
Specific Article	How many articles address the who, what, when, and why of the news media influenced the perpetrators throughout all stages of the justice process?	Continuous
General Article	How many articles mention news media within the context of larger discourse?	Continuous
News Media Word		
Word Total	How many total words did news media receive?	Continuous
Specific Word	How many words address the who, what, when, and why of the news media influenced the perpetrators throughout all stages of the justice process?	Continuous
General Word	How many words mention news media within the context of larger discourse?	Continuous

Table A4. Inter-coder Reliability Results

Independent Variable	IRR Score
<i>Perpetrator</i>	
Age	.96
Sex	.99
Race / Ethnicity	.96
Education Status	.90
Employment Status	.87
Mentally Ill	.82
Criminal History	.85
Military Experience	.85
Domestic Violence	.82
<i>Motivation</i>	
Fame-seeking	.85
Victim-specific / Autogenic / Ideological	.85
Ideological Type	.90
Hate Crime	.85
Gender-based	.82
<i>Incident</i>	
Fatalities	.90
Injuries	.92
Location	.92
Region	.96
Spree Shooting	.89
Weapons Used	.85
Number of Guns	.85
Shooter Status	.93

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