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DEVELOPMENT OF A DEFINITION AND MEASURE FOR THE STUDY OF VIOLENT
MASS VICTIMIZATION

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Sociology
in the College of Sciences
at the University of Central Florida
Orlando, Florida

Summer Term

2016

Major Professor: Lin Huff-Corzine

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ABSTRACT

For decades there has been a growing body of literature and research on the topic of mass murder with no attention paid to incidents of mass violence whose death toll falls just short of the minimum three body requirement. The purpose of this study is to address this gap and develop a valid and reliable definitional measure for the future study of violent mass victimization events. A mixed methods approach was employed and consisted of assessing 1,118 news articles collected from 42 U.S. states for the years of 2009 through 2012. These articles were collapsed into a sample size of 550 cases for the initial measure testing phase. The articles were used to identify themes related to mass violent events and operationalized for statistical testing. Once the measure had been tested, 682 cases of mass violence were obtained from the National Incident Based Reporting System for the years of 2009 through 2012. These data were used to test the mass violent victimization measure. Bivariate, OLS, and logistic regressions were conducted in the testing of the measure. Results of the study showed the measure to be reliable and suitable for future research on incidents of mass violence.

I would like to say thank you to my amazing Mother. I could not have made it this far without you! You are gracious, kind, and above all, patient. You are who I want to be when I grow up. I would also like to thank my wonderful friends, who stood by me when things got rocky. Thank you Gypsy, Mike, and Jake..... and coffee.

Thank you coffee!

ACKNOWLEDGMENTS

I would like to thank all of the members of my dissertation committee for their time and patience. And a special thank you to my advisor, Lin Huff-Corzine for helping me through this process.

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CHAPTER 1: INTRODUCTION

Incidents of mass violence and murder have been around longer than we have had names to give them. Over the past few years numerous incidents with relatively high victim counts have been featured in high profile news reports across the country. Between July 2012 and April 2013 there were four highly publicized incidents of mass murder. The movie theatre shooting in Aurora, Colorado which left 12 people dead and 58 injured; the shooting of ten worshipers at a Sikh Temple in Oak Creek, Wisconsin left three injured and seven dead; the shooting at the Sandy Hook Elementary School in Newton, Connecticut, which left 26 dead; and the bombing of the Boston Marathon in Boston, Massachusetts, which killed three and left approximately 140 injured. Mass killings in 2015, such as the one in Colorado Springs, Colorado, where a man laid siege to a Planned Parenthood clinic, killing three and wounding nine, or the mass shooting in Charleston, South Carolina, where a man entered the Emanuel African Methodist Episcopal Church and executed nine people, or the more recent 2016 mass shooting in Orlando, Florida where a man entered The Pulse nightclub, a known LGBT hotspot, killing 49 people and injuring 53 others are the types of cases that tend to garner the attention of news media, politicians, academics, and the public. Yet these incidents account for approximately 1% of homicides each year and the total injured is usually unknown. Incidents such as these, and many more, suggest that events of mass violence are on the rise where multiple victims are either injured or killed. It is either that such incidents are on the rise or past incidents have simply gone under reported in news media (Lundman, 2003). Generally, it is from various news outlets that society gains their understanding of how prevalent mass violence is in the country and what mass violence means.

Duwe (2000) notes that "...the higher the body count the more newsworthy the mass killing because it is more serious, shocking, and tragic." (p.391). Academics have developed categories, typologies, and theories associated with violent crime and done so by compartmentalizing various subject matters (Akers & Sellers, 2013; Fox & Levin, 1998; Petee, Padgett, & York, 1997). However, the majority of these studies are focused on the dead, and the victims in general are treated as supporting characters in a larger story. In order to bring the victims to the forefront of violence research it is first necessary to understand how these victims are identified; what contextual components play the most influential parts, and how many victims are required for the event to be classified as one of violent mass victimization. In essence, a definition and measure is required.

Currently, there is no definition for violent mass victimization. This study was conceived with the concern that the distinct compartmentalization of subject matter and lack of focus on all victims was hindering our full understanding of violent mass events and that inclusion of all victims, living and/or killed, is necessary to move forward in the realms of academia, policy, and proactive approaches meant to reduce the volume of mass violence in the country. Recently, there has been a move in this particular direction. The Federal Bureau of Investigation (FBI) produced a monograph which highlighted the need for law enforcement to begin taking a proactive approach geared toward the prevention of violent mass victimizing events (FBI, 2015). Law enforcement acknowledges that more information and understanding of violent events resulting in mass casualties is necessary to reduce the volume of violence and harm incurred by these events. However, the focus appears to remain on incidents of mass murder. Data on firearm-related mass homicide obtained from Grant Duwe for the years of 2010 through 2013

were utilized by The Congressional Research Service to provide a base line of mass murder shootings and found that, on average, incidents of firearm related mass murder occurred four times per year resulting in approximately seven deaths and six wounded per incident, when defining mass murder as the killing of four or more people in a single incident (Krouse & Richardson, 2015). This average is surprisingly low but it is one of the few that accounts for the number of reported injured, as well as the number killed in these violent events. Studies on mass violence have consistently failed to include all victims and as such have created a gap in the field. The purpose of this study is to address this gap and develop a valid and testable definition and measure for the future study of violent mass victimization.

Four main research questions guide this study in the development of a workable definition and measure for incidents of violent mass victimization. The first is, how is a victim identified as a victim making them distinctly different from a witness? Second, beyond number of deaths what are the notable differences between incidents of mass murder and violent mass victimization? Third, is a minimum fatality count necessary for the construction of a valid violent mass victimization measure and if so, how many? Last, what does inclusion of the surviving victims of mass violent events offer to future research? Admittedly, this last question is speculative but it carries a large weight in furthering our understanding of mass violent events.

The project design for this study has been divided into three stages. Each stage is presented in their own chapters of this dissertation. To complete this study data were collected on incidents of mass violence, which occurred between the years of 2009 through 2012. Over the decades, studies of mass murder suggest that the intricacies of these types of events share similarities over time, from offender typologies to situational circumstances. Even the frequency

of mass murder events in the U.S. has remained consistent over the past few decades with little to no increase or decrease (Fox & Levin, 2015). Even so, news coverage of these events suggests that there has been an upsurge in the number of mass murder events or as shown by Dr. Huff-Corzine (2014), the proportion of all homicides made up by mass murders has increased. As a result, mass murders are likely to demand more attention than they did in the past. Such events include those occurring in Massachusetts, Colorado, and Florida, as noted earlier. The timeframe selected for this study, by design, does not include these more current events. Though the more recent mass murder events may indicate an increase in victim count per event there is little evidence provided by news accounts to propose that the mechanisms have changed between the timeframe selected for this study and the recent incidents. This means that the findings and inferences derived from this study can be applied to historical events or to future cases of mass violence.

“Mass violence” is defined here as an event, which produces three or more injured and/or killed victims. It is, in part, modeled after the current reasoning given for Federal agencies, e.g., FBI or ATF to respond to a mass murder mass killing law employed by Public Law 112-265, 2013. This description specifies that a mass killing must occur in a public place in order for assistance from federal law enforcement agencies to be offered. Other definitions of mass murder do not place a limitation on location type and attempt to classify both the offenders and events (*see*. (Dietz, 1986; Duwe, 2007; Fox & Levin, 1998; Holmes & Holmes, 1992; Schildkraut & Muschert, 2013). These descriptions and explanations for mass murder and their offenders have been developed over the last thirty years and are discussed in future chapters. Since the study of mass murder is structured, valid, reliable, and broad enough to encompass

various violent crimes resulting in multiple victims under one umbrella, but not so broad as to create research impeding theoretical or methodological overlap between incidents, it has been chosen to be the comparative measure and model foundation for this study. Data for this study were collected from both news media and secondary data sources, there was no deviation from this four year timeframe between sources. Lastly, it was expected that limiting the study to only four years would provide a large enough sample to develop a valid and reliable definitional measure for violent mass victimization. This study as a whole employs a qualitative content analysis, a mixed methods quantitative analysis, and a secondary data analysis to address the research questions guiding this study.

Stage one, discussed in chapter two, is a qualitative content analysis of news reports. Though there is a wealth of literature on violent crime, offenders of violent crime, and a variety of victimizations it is necessary to develop this measure from the ground up. News articles, reports, and available excerpts on cases of mass violence have been collected and analyzed with the aid of Qualitative Data Analysis (QDA) Miner, qualitative research software. All cases and news publications occurred within the designated four year timeframe. A number of themes were disseminated and preliminary coding was done during this stage. Themes include, but are not limited to, violent causation, location, accessibility to the location in which the violent event occurred, and injury severity. Addressing the first postulated research question, levels of injury severity are identified and defined. These severity levels are used to differentiate victims from witnesses while informing the working definition of victims utilized in this study. As the content analysis is not a conventional content analysis, where two or more researchers analyze the same content to determine the validity of themes, a directed content analysis was conducted using

themes found in violent crime related literature (Hsieh & Shannon, 2005). The literature presented in the content analysis was used to validate the developing themes. Frequencies and percentages of theme characteristics are presented but no statistical test could be conducted during this stage. In this initial stage of the analysis parameters for news article inclusion were also developed, which outline the parameters for case inclusion in the final stage of the study. Each case had to fall in line with the minimum three victim count stated earlier. Offenders injured or killed during, or as a result of, the violent event were not classified as victims. Incidents, which suggested the offender may have had the intention to kill or injure more than two victims were also not included. An example of this is the case of Abdulhakmin Muhammad who was suspected of killing a soldier and injuring another in Little Rock, Arkansas. Though this particular case only includes one fatality and one injured victim “authorities said they recovered Molotov cocktails, three guns and ammunition from” the suspects pick-up truck (Barnes & Dao, 2009). This leads to speculation that the suspect was intending on injuring and killing more people but was apprehended before any other plans could be carried out. It is not within the scope of this study to explore the “could have” but to report on and explore the “what did.” Once data collection and coding was complete themes, which occurred frequently enough to be quantified, were extracted for the second stage of the analysis.

In stage two of the study, discussed in chapter 3, themes derived from the content analysis were quantified and statistically analyzed. Identified themes were transformed into numeric dichotomous, continuous, and categorical variables. A total of 550 cases were constructed from the content analysis and comprises the total sample size for this portion of the study. Data were first imported from the QDA Miner program into an Excel file. There is an

option to import the data directly into an SPSS format but this particular statistical software was not utilized in this study. Instead, the Excel format allowed for a preliminary examination of the data which was then imported into the STATA statistical software program where conversion of the variables to numeric format and the collapsing of identified themes into usable variables was done. Both bivariate and ordinary least squares (OLS) regressions were conducted to determine if the identified variables were suitable for inclusion in the final definition and measure of violent mass victimization. As the definition of mass murder has provided the base parameters for the development of this measure it was pertinent to conduct a comparative analysis. From this analysis similarities and differences among incidents of mass murder and violent mass victimization could be observed and assessed. This addresses the second research question driving this study by analyzing and comparing situational components in reference to the number of victims produced in incidents of violent mass victimization and mass murder events. In the final stage of this chapter a comparative analysis of fatalities occurring within incidents of violent mass victimization was conducted to address the third stated research question. The results of these analyses are presented in chapter three.

Stage three, covered in chapter 4, is the final step in this study design. In this chapter the components of the violent mass victimization measure are tested using data obtained from the National Incident Based Reporting System (NIBRS). Unfortunately, not all of the variables produced and tested in the first two stages of the study were available in the NIBRS data. For example, there is no way to differentiate between specified targets and innocent bystanders. In addition, some variables from the NIBRS data had to be recoded or operationalized differently, i.e. from categorical to continuous. Due to the differences in variables and available data the

statistical tests conducted in this stage of the study could not be precise replications of those conducted and discussed in chapter 3. Instead, logistic regressions were calculated in place of the OLS regressions to identify differences between incidents of violent mass victimization and mass murders. These variations were somewhat expected and regarded as part of the process associated with the development of a new measure. It also informed the final definition and measure parameters. After all, what good is a measure if you cannot test it beyond its origins?

In all, the study provides empirical evidence that incidents of violent mass victimization occur at higher frequencies than those of mass murder. Also, it is clear that there are statistically significant differences between among these events. The construction of this measure, for violent mass victimization, addresses a notable gap in victimization and violent crime literature with. Schreck, Stewart, and Osgood (2008) note that it has only been in the last decade, or so, that criminological theory and research has begun to explore the interrelated dynamics of the victim/offender overlap, indicating that up until recently victims and offenders have been studied as two separate groups. The same could be said for the field of mass murder in regard to the discussion of offenders and victims of mass violent events, where primarily it is the dead that are counted and the offenders explained.

CHAPTER 2: QUALITATIVE STUDY

A qualitative approach to identifying underlying commonalities among incidents of mass violence as reported in the news.

Introduction

This study began due to the concern that over compartmentalization, and exclusion, of subject matter, specifically surviving victims, in relation to the study of mass violent crimes has hindered our full understanding of violent mass events and that inclusion of all victims, living and dead, is necessary to see the picture as a whole. For inclusion of surviving victims, alongside the dead, to be considered in future research of mass violent events, it is necessary to understand what the common event characteristics are and how to distinguish an event of mass murder from one of violent mass victimization. As such this study employs a qualitative content analysis of news media articles, reports, and excerpts to examine commonly occurring themes found in incidents of mass violence. A dataset was compiled of 1,118 news articles, reports, and excerpts spanning 42 U.S. states. This dataset was collapsed into 550 cases of mass violent events, which makes up the total sample size for the first and second stage of the study. All data collected for this study were extracted from the four year timeframe of 2009 through 2012. This four year timeframe was selected for purposes regarding sample size. It was intended to provide a large enough sample that would be as inclusive as possible for a variety of mass violent crimes resulting in the injury and/or death of at least three non-offender victims. Initial coding was through theme development and coding was done so through the use of the QDA Miner qualitative statistical program.

Among the goals of identifying consistent themes found throughout incidents of mass violence it is necessary to determine if differences exist between incidents of violent mass victimization and mass murders. With this in mind, the following analysis is based on incidents of mass violence where a minimum of three victims were reported as injured or killed as a result of the violent event. Collection of news content followed the three victim criteria set by the current definition for mass murder but includes incidents where less than three victims are reported as being killed as a result of the event. The themes discussed here were naturally occurring within the dataset and derived through use of inductive category development. The only category developed deductively was that of violent mass victimization since it is following the underlying victim count, timeframe, and geographical requirements set forth by the mass murder definition (FBI 2011). These requirements state that at least three non-offender individuals are killed during a single event occurring within a small geographical area. Holmes and Holmes (1992) suggest that the violent event can span multiple locations that are in close proximity to each other. Duwe (2004) set a time cut off of 24 hours to signify a single event timeframe as these events can last from a few minutes to several hours. This way the mass murder data would not overlap that of spree or serial murder which tend to occur over several days (for spree) to years (for serial). From this definition it is ascertained that incidents of violent mass victimization should also include a minimum three victim count which occurs within a small geographical area and comes to an end within twenty-four hours of the initial violent act. An incident is deemed concluded when the violence of the initiating incident has ended. This includes incidents where the offender(s) commit suicide, are killed prior to arrest, surrenders or are apprehended by law enforcement, and when the offender escapes. The fleeing of the offender

is interpreted as the violent event concluding. Finally, it is also necessary to distinguish a victim from a witness. Identifying and discussing emotional trauma resulting from being present at a violent event or having a loved one killed or injured during a violent event falls outside the scope of this study. As such, it seems as though it would be an easy task to explain what constitutes a victim and victimization, but there is actually some debate about how these terms are defined throughout the field. As such, injury and injury severity among victims of mass violent events is explored.

As there is no true set criteria for “small geographical area,” this vague description is interpreted as ranging from a few city blocks to several miles. With the window of time an event can occur within set at 24 hours it became acceptable to include incidents, which occurred at multiple locations and were no more than an hour or two’s drive apart. It could be argued that a few hours’ drive is too long between instances of violence but if the offender(s) appear to have a particular target, or targets, who happen to be located miles apart, then it is only logical to consider the span of time and distance as part of the ongoing event. This was mostly seen in incidents related to domestic issues where the offender sought out particular family members and/or family acquaintances within the dataset. Also of note here, incidents of mass violence which fell into the category of accident, natural disaster, or act of God, were not included in this study. A so called act of God, for example, took place in St. Clairsville, Ohio, which left six people injured and one deadⁱ. On the surface this appears to fit the victim count parameters of the study. However, because the incident in question refers to a prison inmate who was struck by lightning and the six other inmates who were in close proximity were injured, this event may constitute an act of God.

It is the primary goal of this study to produce categories related to incidents of mass violence which can be quantified for statistical analysis. Each theme derived from the dataset describes or represents a component of mass violent events, which can be operationalized for empirical research. The quantifiable components are discussed in the coding and themes section. It is important to note that the structure of this analysis does not follow that of a traditional qualitative content analysis. Since it is the primary purpose of this initial portion of the study to identify themes that can be utilized in statistical analyses the focus is on how these themes were identified, defined, and coded within the dataset. It may be more appropriate to identify this portion of the research study as the data and methods section of the mixed methods quantitative content analysis. For the purposes of clarity and continuity throughout the remainder of this paper, this section will be referred to as the content analysis. The data collection and methods of coding remain consistent with a conventional content analysis (Hsieh & Shannon, 2005). However, conclusions of this analysis in this chapter are not focused on word counts or the reporting of summative findings. Instead, the conclusions are focused on distinguishing between suitable and unsuitable themes for quantitative analysis, conducted in the next chapter. Though this is an alternative approach to a content analysis, it allowed for the primary purpose of the project as a whole to remain at the forefront without stemming off into a secondary project better suited for a future research study.

Literature Review

Because coverage of murder and violent events from numerous media outlets is plentiful, academics have utilized this medium to explore how violence is presented to the public, to

measure the publics' perception of violence, to identify contextual components of violent crime, and to determine the validity of media content as an empirical measure (Duwe, 2000; Hubbard, Defleur, & Defleur, 1975; Lundman, 2003). This brief review of literature focuses on previous discussions of media as a data source and use of media in research regarding mass murder and violent crime.

Media as a Data Source

Though news content can offer context-rich information about an event or social phenomenon, many academics have expressed concerns regarding its use. These apprehensions stem from selection bias commonly exercised by media sources. The old adage “if it bleeds, it leads” exhibits this bias in that news sources are renowned for presenting news and information they deem newsworthy (Lundman, 2003). There are two big concepts presented here in regard to using news content as a data source. These are “newsworthy” and “selection bias,” which can act symbiotically in producing skewed perceptions of criminal and social phenomena. The concept of ‘newsworthiness’ refers to the process that news sources determine what to present to the public. The main goal of this process is to produce the type of news and information that will keep viewers tuned in and subscribers reading. Selection bias refers to the criteria that news is considered to be newsworthy (Dickersin, 2005). An example of newsworthiness and selection bias, though not crime related, can be seen in Bomlitz and Brezis’ (2008) study examining the medias’ coverage of various health hazards. The researchers found that coverage of health risks, diseases, and other health hazards were over-reported if the health hazard could be described as recent or new and under reported if it was considered old or common knowledge. It did not matter which type of health hazard posed the more serious risk to public health. Gekoski, Gray,

and Adler (2012) conducted a survey study to gauge journalists' perception of what types of homicides were newsworthy. They explain that, even though homicide is the most frequently reported type of crime, not all homicides are considered newsworthy because it is not just the homicide that matters. Additional characteristics regarding status, race, sex, sexual orientation, and victim age act as determining factors in gauging a story's level of newsworthiness. These characteristics are employed to determine if a victim and/or offender are 'ideal' for the news (Gekoski, Gray, & Adler, 2012, p. 1228). Victims, offenders, and homicide circumstances that are considered conventional lack newsworthiness.

Lundman (2003) explains that the relative frequency of homicide characteristics can impact their level of newsworthiness but that the selection bias exercised by journalists also represent the current or existing social structure. White (2005) conducted a content analysis of 'hard news' reporting to identify patterns of language and structure within the content, which produced a flexible and subjective model of social order. The context that these social order 'models' are discussed and presented to the public change as the controlling groups in society redefine the parameters of acceptable social norms. White makes no claims that the news content is impartial or objective but rather that within the content of news reports and stories the concept of objectivity is itself subjective. This suggests that the news content produced by mass media is crafted to its audience, and as the audience, i.e. society, negotiates the parameters of acceptable social norms, mass media adapts its presentation of social order. Greer (2007) describes this subjectivity as a "Hierarchy of victimization" where victims of crimes are separated into the two categories of 'ideal victim' and 'undeserving victim' (pp. 23). Under this term a victim may be considered undeserving if the victims are involved in situations where the public may have

difficulty identifying them as victims or that the victims involved do not represent characteristics deemed important in society. Such as, people who are injured during a drunken brawl or a victim who has been previously stigmatized by society. Greer's discussion on the demographic correlates of criminal victimization in news media exemplifies this and supports White's (2005) stance that a victim's or offender's race, sex, class, or sexual orientation or the type of violence involved in the event influences the value of the story. Media selectivity is therefore biased based on what event characteristics are more valued by the public (Greer, 2007).

Though there are arguments warning researchers of these news bias pitfalls when using media derived data there are no arguments explicitly stating to avoid it all together. This is because media provides avenues of context rich data that can be applied to the study of society, crime, and violent crime that is not typically available in official or police report based databases (Tewksbury, 2009). Qualitative and quantitative content analysis of media content has the ability to examine and disseminate the relationship between the text and the audience, as well as act as a reflection of the current social structure and acceptable norms of society (Macnamara, 2005). Neuendorf (2002) discusses media content analysis as a quantitative research tool, which is not limited by pre-prescribed variables. She argues that the main use of data extracted from media content is best applied quantitatively as opposed to qualitatively because any inferences made about the intent of the producer of the content and the audiences interpretation are the reflection of the researchers own subjective perceptions. Other scholars in the field of media content analysis argue that both approaches serve a purpose in deriving meaning from content to identify, determine, or explore the impact of the content on the audience (Curran, 2002; Newbold, Boyd-Barrett, & Van Den Bulck, 2002).

Crime and Murder in the Media

Mass media are often cited as increasing the public's fear of crime, even in areas where crime is not prevalent and the probability of victimization is low. Dowler (2003) explains that the public's general knowledge of crime is based off of news media content which can manipulate the public into believing crime in their area is an epidemic. The study conducted by Dowler primarily focused on understanding the strength of the mass media and fear of crime relationship. Results of the analysis indicated that the type of media consumed by the public dictated their level of fear of crime. For example, the study indicated that individuals who watched more crime drama television had an increased fear of crime. The way in which news media portrays incidents of violent crime and mass violent events has a direct effect on how the public perceives the prevalence and severity of crime and violence around them (Sacco, 1995). It has been noted that the fear of crime produced by the media is misplaced since much of the news content has been selected based on its newsworthiness. Trust in media content has diminished over the last decade as news sources are accused of reporting biased news (Lee, 2005). This is in part due to the growing knowledge that news content is constructed to be both informative and profitable (Duwe, 2004). In spite of the commonly known limitations of media as unreliable sources of information the public is still apt to base their knowledge of crime, crime prevalence, and understanding of the criminal justice system on the information produced by news and the mass media (Dowler, 2003). McGinty et al. (2013) conducted an online randomized survey experiment to understand how media shapes public ideals on gun control policies. The focus of their research was on mass shootings conducted by offenders diagnosed with serious mental illnesses. Results of the study indicated an increased negative view of people with mental illness.

Enhanced gun control initiatives were also highly supported by respondents at the conclusion of the study. What this illustrates is the positive and negative effects media have on public perceptions of crime.

Actual news coverage of violent and criminal events indicate that most of the reporting presents facts as they are known. The bias noted earlier is typically regulated to the selection process of determining which stories to include and which to leave out. Taylor and Sorenson (2002) utilized newspaper articles covering incidents of homicide from the Los Angeles Times, for a four year timeframe, to examine the relationship between news coverage of homicide and the victim's ethnicity and victim/offender relationship. Noted among their findings was a review of how the news articles presented the homicide offenses. They briefly discuss that the news articles portrayed the violent events in a factual and "unemotional tone" supporting the notion that the news is not altering the frame of the events to generate profit (Taylor & Sorenson, 2002, p. 123). From their analysis they were able to identify that the victim/offender relationship had an increased effect of news coverage when the victim and offender had a prior relationship. Altheide (2009) employed a qualitative media analysis in a study on the publics' perception of the "Columbine Effect." The study illustrates the use of news content to develop themes and event frames from which the analysis was conducted and results generated. The study did not specifically gauge the public's perception of school shootings but rather used the news content to explain how it affected the public's perception and opinions of school shootings and youth violence. These studies illustrate both the pitfalls and function of news media content in academic research.

In the study of mass murder it is typical for researchers to utilize official crime data. Duwe (2004) used a mixed methods approach in his study on mass murder in the media. He began by sampling multiple news sources to obtain news articles covering incidents of mass murder over a twenty year timeframe. He then paired the data generated from the news sources with data obtained from the Supplemental Homicide Reports (SHR). His findings coincided with Gekoski et al. (2012) in regard to newsworthiness, suggesting that the formula for sensationalized news has not changed in over thirty years. Other studies employ this type of mixed methods approach to understand violent crime, the impact of violent crime, and how the news reflects society's reaction to incidents of murder and mass violence. Duwe (2004) conducted his study with the bias of media in mind and incorporated it into the analysis. Peelo et al. (2004) used newspaper reports to show how distorted press reporting is in their study of society's construction of homicides in Europe. They note that news sources have the unique ability to conceptually frame criminological issues within society on a large scale. They sampled news articles from various sources for a four year time period and paired it with the Homicide Index. Their findings indicated that news selection bias provided a distorted representation of homicide frequencies between the news reports and the Homicide Index. They note that differences can be found between the official data source and the news reports. The context of the news reports allowed for variables to be effectively assigned.

Each of the studies and qualitative approaches discussed in this literature review highlight the use and validity of news content as a data source within academia. Whether the focus is crime, violent crime, or even health issues news media content has been consistently sighted and utilized as a source of context rich information in academic studies. The presence of this rich

contextual information makes news media content the most suitable data source for this initial stage of the study.

Stage 1 of the Current Study

This portion of the study is intended to analyze and identify commonly occurring themes in incidents of mass violence for the purpose of quantitative analysis. These themes are discussed and supported by available relevant literature to add validity to their use in later chapters. Following the coding process and discussion, themes that were identified throughout the dataset are categorized as suitable or unsuitable for the quantitative content analysis conducted in the next stage.

Data

Data describing 550 incidents of mass violence used in this analysis were collected from 1,118 news articles and reports regarding incidents of violent mass victimization occurring between 2009 through 2012, where there are a minimum of three physically injured, non-offender, victims documented. Upon completion of data collection from 42 of the 50 U.S. states the cases were assessed and coded.

Publically available articles were obtained through a variety of online key word searches spanning local, state, and national news coverage outlets. Figure 1 presents the key words used during the collection process. Words followed by an (*) were the most commonly used in the search process. There was no intuitive analysis conducted regarding these words. They were selected because they embodied two of the three units of analysis of this research study, the number of people killed and the number of injured during an incident of mass violence.

Keywords used to identify news articles covering incidents of mass violence			
Injured*	Killed*	Shot	Stabbed
Wounded*	Dead*	Shooting	Stabbing
Hurt	Death	Gun Violence	Fire

Figure 1 List of keywords used during data collection

The third unit of analysis is mass violent event type which is discussed below and implemented in the following chapters. Each of the other key words were selected because they represent ways in which people are killed and injured. News reports often used these keywords in article headlines, designed to grab the reader’s attention. Their use within the articles, reports, and news excerpts was monotone and implemented in a factually descriptive way. Print, digital, and televised news outlets were utilized to gain as much information as possible for each case. Some sources compiled these articles and reports into publically accessible data files and lists, such as Lexis Nexis, the Brady Campaign “*Mass Shootings in the United States Since 2005*,” the Boston Globe Active Shooters 2000-2013 list, USA Today “Everytown Mass Shootings Analysis data 2009-2014,” and Mother Jones. Articles were also obtained through key word searches of state specific news sources. A complete listing of news sources and links to their home pages can be found in Appendix A. It is important to note that some of these sources compile their archived news stories into on-line dedicated archives. These archives host archived data for multiple news outlets, many that are in some way inter-affiliated. Stories, which were located in these archives, would cite which publication source the article originated from but examination of those sources home pages indicated that they sampled from each other and, in many cases, were connected in some way to the Associated Press.

On-line access to news outlets and archived data was often restricted, limiting the number of articles a non-subscriber could view. Other sources would not permit any perusal of archived articles without the payment of a subscription fee. No subscriptions were purchased or fees paid to gain access to news content.

Methods

Data Collection

Data collection began by locating news articles related to incidents of mass violence. Each article was transferred from its on-line source to a word document. Storage of the articles in this way facilitated the content analysis, as each word document represents a single case. These cases were then uploaded individually into the QDA Miner statistical program for analysis. This program is akin to NVivo with only subtle differences. Where content segments are gathered in clusters under specified nodes, QDA Miner gathers clusters into variables and variable sub-categories. However, the process and abilities provided by these two types of analysis tools are practically the same in every way. Once a suitable article had been located a specified search was conducted to identify any other articles published on the same incident. Originating article sources did not always coincide with the location of the violent event. For instance, an article for an incident occurring in California may have been originally located in an Arizona based newspaper. Many articles documented events, which occurred in other cities, counties, or states. However, identifying articles published from news sources operating out of the geographical area in which the event occurred was not always possible due to restricted source access. Once

the number of free articles of a given source had been viewed and further access to the archives was denied, a new source was explored.

Gauging incident severity by number of articles published on the event and the number of varying states the event was covered in was not possible, primarily, due to limited source access. Another unforeseen caveat was found in the effects of inter-affiliation among news sources. Stories published in one news source would appear to be copied and pasted directly into another, where the news sources shared an affiliation. It was not clear if the affiliation between sources required that stories be repeated throughout all affiliated news sources or to what degree of selection power individual news sources were able to exercise. The Associated Press also played a key role in omitting this incident severity measure. One-third of the media news sources included in the dataset were affiliated with the Associated Press in some way. Either they were listed as the primary author, contributing author, or simply mentioned that the production of the news article was affiliated. This brought doubt and confusion about how to categorize news content with an Associated Press affiliation. Though the article may have appeared in a local publication; the Associated Press is a hub for local and national news, which could be utilized by affiliated news outlets at their discretion. Ultimately this approach to determining incident severity was abandoned because parameters for coding could not be clearly defined or mutually exclusive. Employment of word/sentence count as a measure of severity was also rejected as length of content was more associated with the news author and source than with the event. This was made apparent when several cases showed to have varying content length from sources published out of locations close to where the event occurred. As such, articles were primarily selected based on content and not the locations where they were published. Faced with these

limitations an Incident Severity measure will be constructed at a later time as part of a future project.

Use of Google or searches through multiple local and national news source websites was necessary to gain as much information about the violent event as possible. Once information on a case had reached saturation the search for a new case began. A case reached saturation when either the information provided from various news sources began to repeat, providing no new information, or additional articles could not be located. The dates of the articles publication was recorded to maintain a chronological timeline of facts reported but was not included in the final analyses. This way new information could be incorporated and older information could be amended as needed. For example, a case in St. Louis, Missouri that documented a drive-by style shooting that killed one and injured two is comprised of two articles. The first published article documents the event and victimⁱⁱ and the second article documents offender information.ⁱⁱⁱ These particular articles are spaced months apart and, combined, they provide information on the event as a whole. Cases where victims were described as being in critical or life-threatening condition in one article and reported as having died as a result of their injuries in another were both included in the case file. When this type of information was reported the variables associated with number of victims injured and killed was amended to show the updated information. Most of the articles in the dataset are same-day or within a few days of the original event. Additional updated case information was sought but not always found.

Coding Process

During the search process articles would be found related to cases already cataloged and incorporated into the dataset. When this occurred, the case was pulled up and the new article was

matched against the existing articles to determine if the new article provided any new or updated information not previously found within the case. If new/updated information was present then it was added to the case within the dataset before final coding was concluded.

Word frequency counts were not used during the coding process to identify or classify themes because the initial development of theme clusters word queries were attempted and it was determined that this method of coding and analysis was highly inaccurate (Elo & Kyngas, 2008). Since cases were frequently comprised of multiple articles regarding a single event, the word counts for words associated with identified themes would inadvertently be counted multiple times or the word was being used in a context which did not correctly fit the theme. For example, a word query was conducted for the word “gang.” This led to miscoding incidents as gang-related when the article was expressing that the incident was not gang-related or that the group in question was a social club and, again, not a gang. These miscoding was corrected. In other cases the word “gang” appeared in descriptions of prior violent events, which had taken place and were not directly linked to the causal factor of the incident that the article(s) were primarily covering. Another example was when a word query was used to identify whether the victims shared a familial relationship with the offender. Searching for the words “family,” “mother,” “father,” “daughter,” or “son” produced a large number of results that referred to the victims’ families or surviving members of the family who were not involved in the violent event. Instead, phrases, statements, and, occasionally, full paragraphs were selected manually through open coding (Polit & Beck, 2004). This was to ensure that all coding was correct and stored in the appropriate variable.

Each selection was provided a general descriptive term or phrase that acted as a preliminary variable label for each theme. The selected text was grouped into clusters under these generalized themes and stored in designated variables and variable sub-categories throughout the coding process (Hsieh & Shannon, 2005). Whenever a new theme emerged the cases, which had already been coded, were reassessed to identify text matching the new theme. The dataset was constantly evaluated to ensure that data assignment remained consistent across all themes (Krippendorff, 1989). Case identification codes were constructed during the initial data collection. These case identifiers provided a reliable means for removing duplicate data from any one theme or variable.

Since the number of articles varied for each case, (two to three articles on average), it was necessary to reassess the coding at varying intervals during the coding process. When the coding of fifty cases was completed, those cases were reassessed to ensure continuity of coding. After the coding of 200 cases was completed the entire dataset was reevaluated up to that point. Only when a new theme emerged did a reassessment of the entire dataset, up to the point that the new theme emerged, occur. This was done in addition to the previously stated process of reassessment. The process of reevaluation continued in this pattern until all 550 cases had been successfully coded. To ensure that the variables were mutually exclusive, variable subcategories were developed (Krippendorff, 1989). Subcategories had two functions; first they indicated when multiple themes were found in a segment of text and second, they provided a place marker for when a new theme was emerging. When it had become clear that a subcategory represented a new theme it was recoded into a theme variable.

Coding and Discussion of Themes

To determine consistent characteristics of mass violent events, for the purpose of identifying differences and similarities among incidents of violent mass victimization and incidents of mass murder, it is first necessary to explore the components of mass violent events. Only after a broader exploration of the intricacies of these events has occurred that testable variables can be identified and a clear and distinct definition for incidents of violent mass victimization be constructed. Please recall that a total of 550 cases were derived from a sample of 1,118 news articles, reports, and excerpts for this analysis. Frequencies and percentages of theme and subcategory occurrences presented in this section are primarily based on the 550 cases identified in the dataset, unless otherwise specified. This was necessary to avoid overrepresentation of any particular theme or subcategory per case.

Victims

Victim demographics and characteristics are well-documented in existing literature to the point that it is common knowledge that men are killed and injured at far higher frequencies than women; men are also far more likely to be involved in risky criminal behaviors increasing their risk of victimization (Forde & Kennedy, 1997). Literature regarding mass violence, or more specifically mass murder, have segmented the victims into event types. For example, both children and adults of both sexes are targeted in cases of family annihilation and domestic abuse turned murder. The perpetrators of these types of mass violent events are typically male and the victims are usually at least one adult female and two or more children. Extended family can also find themselves targeted in these situations. Children in these cases are typically infants to early teens with gender having little effect on the overall child victim typology (Davies, 2008). Studies

relating to victim demographics in incidents of mass murder and violent crime remain consistent in that victims are male at higher frequencies than females and most victims fall within the age ranges of eleven to thirty years of age (Cooper & Smith, 2011; Holmes & Holmes, 1992; Huff-Corzine, et al., 2014). To say the least, research associated with victimization is diverse with a singular underlying theme that some form of injury is inflicted on a target (person, group, or object) by one or more motivated offenders. The scope of victimization is so broad that it has been fractured into varying categories and specific crime types, each with their own frameworks, interpretations, and methodologies (Daigle, 2012). Shreck, Stewart, and Osgood (2008) explain that the intersection of victims and offenders is not coincidental. These two groups often share in the types of activities, relationships, and daily routines. This intersection of victim/offender space then increases the likelihood of victimization for individuals in these geographical areas regardless of whether or not these individuals have had prior face-to-face interaction.

For the purposes of this study, victim ages and sex were documented where available. Discussion of the victim/offender intersection and relationship will be discussed further in the target selection section. Race could not be coded for victims or offenders in any meaningful way because it was rarely presented in the dataset. Ages of victims ranged from new born babies to victims in their 90s. A total of twenty-six percent of victims fell between the ages of sixteen and thirty years of age (N=716). This is in comparison to the forty-six percent (N=1,294) of victim ages that were not presented in the content dataset. Other means were utilized to separate adult from juvenile offenders. With much of the existing literature separating adults from juveniles, it is possible to make that distinction in the available data as determination of adult and juveniles

could be made in ways not associated with specifically stated age. This coding for victim's sex and age is discussed in the methods section of chapter three as the main purpose in this portion of the study is to understand and discuss how victims are differentiated from witnesses and offenders.

Differentiating victims and offenders in violent events is not as easy as counting the dead, wounded, or people present. Cases within the dataset would often describe a violent event as an argument or fight was taking place when "someone" pulled a gun. It would be easy to argue that either individuals or groups involved were offenders as it was their altercation, which produced the violent event. It became necessary to develop criteria, which would then separate victims from offenders, as well as differentiate victims from witnesses. To begin, parameters had to be established to better identify victims of these events.

One of the more common definitions employed in victim and crime-related surveys refers to an individual who acknowledges or reports that they have experienced a crime against their person or property by another individual (Nettlebeck & Wilson 2002). Two things are present in this description, the first is that the individual recognizes and reports to law enforcement or a researcher that they have in fact been victimized. Second, the concept of victimization is directly connected to crimes as they are defined by state and federal laws. In the case of violent victimization the laws are generally conceptually uniformed across state constitutions, with slight variations occurring based on the type of crime committed, in that it involves some form of violation of an individual by another. Examination of Florida law shows individual victim definitions specific to crime type with no all-encompassing designation. For example, Florida law dictates that a victim of sexual battery is defined as "a person who has been the object of a

sexual offense” (Online Sunshine, 2015). This definition infers that a particular person was selected and harmed by the offender. The dictionary defines a victim as a person harmed, injured, or killed as a result of a crime, accident, or other event or action (Dictionary.com, 2015). Here the scope of the definition continues to be broad and can include incidents where injury or victimization is caused by an accident or natural disaster. In a study focused on the violent victimization of individuals suffering from mental retardation the researchers employed a similar definition for victim, explaining “victimization as events involving a person being exposed to violence, harm, or threat of harm to oneself whether physical or sexual, that is intentionally inflicted by another person” (Newman, Turnbull, Berman, Rodrigues, & Serper, 2010, p. 710). Under this definition, offender intent is a key aspect of determining victimization but does not require that a victim be physically injured, only exposed to violence. So far the common thread is that a victim is a person harmed by another person or event outside of the victim’s control. As articles for this study were being selected a similar pattern began to emerge. Victims would be discussed by degrees of harm and injury they suffered during the event. When an event took place at a public business, such as nightclub or restaurant, only those suffering wounds were discussed while all other present were mentioned in passing.

A triple shooting outside of a downtown nightclub had people running and ducking for cover... The violence left one man dead and two others recovering at The MED. – (Hall, S. 2012, December 24)

The Bureau of Justice Statistics (BJS) defines a victim as the recipient of a criminal act, which is usually used in relation to personal crimes (BJS 2015). For personal crimes, according to this definition, the number of victimizations is equal to the number of victims involved, and

the total number of victimizations may be greater than the number of incidents because more than one person may be victimized during an incident. This explanation of victims is one of the few that blatantly incorporates multiple victims within a single incident whereas most speak of the singular victimization of an individual. Illinois Victims' Rights Laws, Article I, § 8.1 (120/3-Definitions), also employs an encompassing definition for crime victims which incorporates incidents of violent crime against an individual or "any person against whom a violent crime has been committed" and differentiates between crime victims and witnesses (IVRL, 2015, p. 2). This is an important distinction in that it acknowledges that individuals may be present during a violent event and not be considered a victim themselves. People who are present at a violent event may not be considered victims depending on the level of involvement or physical harm they experience. This provides the basis for the distinction between victims and witnesses.

A gunman shouted at the children to leave his son's birthday party at a Texas roller rink before fatally shooting his estranged wife and four of her relatives and then killing himself as others panicked and some fled screaming in their skates, police and witnesses say. – (Brown 2011, July 24)

In this segment of news text the victims and witnesses are discussed separately. The key component in this separation is the inference to who was victimized. The wife and family members are then identified as the victims of the incident because they were shot, the suicidal husband is the offender, and everyone else present at the time of the shooting are witnesses. As previously noted, this distinction is not always so clear. For cases where a fight broke out or there is a crowd present at the time of the shooting it becomes difficult to assign a victim classification. The example below illustrates this type of situation. The case is out of Concord, North Carolina, and the violent event left three reported as injured and one dead. With no arrests

Concord Police said the fight broke out about 4 a.m., when shots were fired. WSOC-TV is reporting that 150 people were involved in fight... investigators believe there was a party going on at the time, when an argument erupted. Shots were fired and people were hit, Rummage said. Police said no arrests have been made. – (Independent Tribune 2009, July 11)

being made and no suspects described, it is difficult to determine if the offender is among the wounded or dead. In cases such as these, all of the injured and dead were categorized as victims with an unknown offender. This decision is based on the “Police said no arrests have been made” statement, which suggests that the offender(s) is (are) still at large. Mostly, these incidents will refer to one person, typically male, who opened fire or is believed to be the shooter. At this point the man with the gun is categorized as the offender and all wounded or killed are coded as victims.

The examples provided do not address how to classify an individual who is not injured or killed directly by the offender. People fleeing a violent scene may suffer cuts, broken bones, or varying degrees of bruising and internal injuries from blunt force trauma, typically from being trampled, received as a result of the violent event. With physical injury and victimization being synonymous in legal, scholarly, and media perspectives all people suffering a physical injury as a result of the event and who were identified or suggested to be non-offenders were categorized and counted as victims. Incidents where three and four victims were wounded or killed accounted for sixty-one percent of victims in the dataset. Frequency of incidents reporting five or more victims dropped dramatically suggesting that the majority of mass violent events incur three or four victims on average. These percentages are illustrated in Table 1.

Table 1 Frequencies of total victim count per case.

N= 2,787	Total Victim Count	Frequency	Percent
	3	186	34%
	4	147	27%
	5	81	15%
	6	49	9%
	7	26	5%
	8	17	3%
	9	10	2%
	10 or More	34	6%

Percentages do not equal 100 because they are rounded

With mass murder accounting for only one percent of homicides each year it is pertinent to this discussion on mass violence to observe how the injured and dead fit into the percentages shown in Table 1. Variable subcategories were constructed to account for the number of reported injured and the number of reported killed victims, shown in Table 2. Offenders are not included in these frequencies, regardless of whether they were injured or killed as a result of the violent event.

Table 2 illustrates the frequencies and percentages of injured and killed non-offenders per case found in the dataset. The frequencies indicate that eleven percent (N=63) of the cases report no injured victims and twenty-six percent (N=142) of the cases report no fatalities suggesting that more victims are injured than killed in an incident of mass violence. An injured victim count of three and four per case accounts for thirty-two percent (N=180) of the cases of mass violence from 2009 through 2012 as opposed to mass violent events where three and four victims (N=120) are killed per event, which accounts for twenty percent.

Table 2 Frequencies of total number of injured victims per case.

Per Case	Injured (N=1,836)		Killed (N=951)	
	Frequency	Percent	Frequency	Percent
0	63	11%	142	26%
1	79	14%	175	32%
2	106	19%	91	17%
3	106	19%	80	15%
4	74	13%	30	5%
5	47	9%	12	2%
6	21	4%	8	1%
7	18	3%	3	1%
8	14	3%	4	1%
9	3	1%	--	--
10 or More	19	3%	5	1%

Percentages do not equal 100 because they rounded

This variance suggests a difference in victim count between incidents of violent mass victimization and incidents of mass murder. This difference is discussed in chapter three. What can be gleaned from these results is that there are far more victims injured than killed during incidents of mass violence. There were 1,836 injured victims reported and 951 killed during this four year timeframe.

Innocent Bystanders

The legal dictionary, defines an innocent bystander as “a faultless witness, spectator and onlooker”¹ and the Merriam-Webster dictionary defines a bystander as “a person who is standing

¹ Definition of innocent bystander provided by Legal Dictionary. Retrieved from <http://legal-dictionary.thefreedictionary.com/innocent+bystander>

near but not taking part in what is happening.² In both definitions the individual is referred to as not being involved in what is happening. In scholarly literature the concept of the innocent bystander branches into the realms of primary and secondary victims; also referred to as direct and indirect victims. Discussion on the topic of innocent bystanders often focuses on domestic violence, school bullying, community cohesion, and the psychological effects of trauma. In these fields of study the primary victims are present at the time of the traumatizing event and secondary victims feel the after effects of the traumatizing event. For the purpose of this study the attention is placed on the direct, or primary, bystanders who are present during a violent event.

In the literature, innocent bystanders who are present at the time of some form of victimization are described either as passive onlookers or victims in the wrong place at the wrong time. Alpert and Dunham (1989) discuss the presence of innocent bystanders in their study on police pursuits. In this study the innocent bystanders are described as both injured and uninjured during a police pursuit making the term itself flexible. When this arises in the literature there is little to no distinction on the difference between a witness and an innocent bystander. In another study, Wilson-Simmons, Dash, O'Donnell, and Stueve (2006) describe bystanders as innocent onlookers during incidents of school bullying. Their use of the term bystander remains consistent with that of the Alpert and Dunham study in that the term bystanders is used flexibly. Mostly they are described as not being directly involved directly with the bullying but offer some discussion regarding the intervention of bullying by bystanders. However, when a bystander

² Definition of bystander provided by Merriam-Webster's Learner's Dictionary. Retrieved from <http://www.merriam-webster.com/dictionary/bystander>

interceded in a bullying event they were still referred to as a bystander even though these individuals had become a part of the event.

Fluctuation of the meaning behind the word bystander is seen consistently throughout the literature to describe individuals who are not involved in events and individuals who were not the intended target. This distinction is important since it speaks to the concept of target selection, which is covered later in this paper. For now the term bystander, or innocent bystander, can best be explained as an individual not known to be directly involved in a violent, criminal, or delinquent event and who may or may not be injured or killed as a result of being present at the mass violent event. News media employ the definition of bystander in an actionable way. Using street slang this actionable use of the word bystander, or innocent bystander, is best described by Sherman, Steele, Laufersweiler, Hoffer, and Jullian (1989) as “A ‘mushroom’ is street slang for an innocent bystander who ‘pops up’ in the path of fire, catching a bullet intended for someone else” (p. 297). In their study of news reports from four cities, they state that homicide studies focus on victim/offender relationships and that the bystander is often over looked. Here, they employ the same flexibility in the term ‘bystander’ but include them as victims indicating that the innocent bystander may not be the target, but that they are a part of the event. This distinction separates bystanders from witnesses. Of note here is the distinction they make between “typical” mass murders and mass violence, in that “the character of random murders of bystanders, as well as the nature of the perpetrators and situational motives, appears to be quite different from the traditional mass murder” (p. 300). Though the topic of stray bullets is discussed in the section on target selection the overlap between target selection and the presence of innocent bystanders is

worth noting here. In the general discussion surrounding mass murder there is often a specified target, either a person or place.

News media reports the presence of innocent bystanders, who were wounded or killed in one of two ways. First, it would be clearly stated by the author of the article, an eye-witness, or a law enforcement official. The article would indicate that one or more of the individuals victimized during the event had no apparent connection to the offender. An example of this can be found in a case from Birmingham, Alabama, that left one dead and two wounded. In the example below there is a clear target and the other victims are clearly stated as being bystanders.

A man shot and killed a man and injured two bystanders outside a methadone clinic. Police chased the shooter, who then killed himself. The deceased victim and shooter had both been involved with the same woman. – (The News Courier 2009, May 28)

Second, the presence of innocent bystanders would be implied by referencing one or more of the victims as children. In cases where children were reported as shot or injured as a result of the event it was coded as having an innocent bystander present, as long as it was not indicated that the child was not an intended target. Such is typically the case in family annihilations and school shootings.

A feud between rival drug gangs led to a shooting at a backyard cookout that left 12 people wounded, including a pregnant woman and a 2-year-old girl - (Kirschbaum 2009, July 7)

In this example the 2-year-old girl and the pregnant woman are considered to be innocent bystanders since it is not noted anywhere else in the article that the child or the pregnant woman were targeted in any way. This is supported by the inclusion of the gang-related component. The article later notes that the intended target was the leader of a rival gang. The gang leader suffered

a moderate gunshot wound to the arm. This type of scenario was most often reported in cases where the offender(s) would shoot into a crowd at a social function such as a club, house party, or BBQ. The presence of bystanders was not assigned in cases where an offender would attack a group of people who appeared to be the offenders' primary target. For example, violent events, which occurred at a place of employment where a current or former employee shot multiple victims did not fall into the category of a bystander being present. The reasoning behind this decision is that the implied motive of the offender was to harm the business making all employees present at the time of the violent event specified targets.

Cases indicating the presence of one or more innocent bystanders were found in forty-four percent (N=243) of the dataset. Due to the way in which the articles presented victim information and descriptions it was not always clear which victims would be considered innocent bystanders. As such the cases could only be included in the innocent bystander variable if one of the two ways news media presented or suggested the presence of bystanders was identified, such as clearly stating the victims were bystanders or there was enough information to determine that some of the injured were not the offenders' primary target.

Injury Severity

As has been illustrated in the various definitions presented for victims and victimization, there must also be an element of injury or harm inflicted on the victim. Without this component an individual may only be regarded as a witness, or observer, to the criminal event. For decades criminologists have paired injury and harm to psychological, social, and physical mechanisms in addressing the measurement of injury severity (Allen 1986; Daigle 2012; Hickey 2003; Landau & Freeman-Longo 2001; Nettlebeck & Wilson 2002; Newman et al. 2010; Wolfgang, Figlio,

Tracy, & Singer 1985). Injuries were reported in a number of ways. They were reported by injury level (i.e. minor to life threatening), by type and location (i.e. shot or stabbed in the chest), or simply stated as injured. Hospital and health officials are bound by law under The Health Insurance Portability and Accountability Act of 1996 (HIPPA) to maintain a patient's confidentiality and privacy. Regulations under this act have specially crafted guidelines for how and when patient information can be released. Medical officials must also comply with any and all state and federal medical privacy laws³. Under these guidelines health officials may dispense non-identifying information regarding patients in an effort to reduce fear and anxiety among the public. This information is typically limited to the number of patients treated from the incident, patient's gender, and an estimated age group for injured or killed individuals. This protection of privacy is upheld regardless of who the patient may be; including "matters of public record," which require health officials to report to law enforcement agencies. Situations considered to be "matters of public record" include gunshot wounds and situations involving several patients, who arrive at the same time suffering from wounds suspected to have been received in the same event. These are typically reported in cases involving gang members within the dataset. When this occurs hospitals will go on lockdown as a precaution to deter and prevent the spread of violence from the street to the hospital. Health officials are required to notify law enforcement, but if a notification has not been made then inquiries by the media or law enforcement concerning any patient should not be answered.

³ Information on HIPPA regarding the guidelines presented were provided by the Missouri Association for Healthcare Public Relations and Marketing. Retrieved from <http://www.mahprm.org/resources/Guidelines%20for%20Releasing%20Information%20on%20the%20Condition%20of%20Patients.pdf>
For further information regarding crisis communications and media relations visit www.stratsociety.org

When medical officials do provide information to police and the press there can be some confusion about what that information means. According to Boston's NPR news station the more common levels of injury severity are narrowed down into five main categories, included below, which effectively portray the injury.

Undetermined – Patient is awaiting physician and/or assessment.

- Good – Vital signs are stable and within normal limits. Patient is conscious and comfortable. Indicators are excellent.
- Fair – Vital signs are stable and within normal limits. Patient is conscious, but may be uncomfortable. Indicators are favorable.
- Serious – Vital signs may be unstable and not within normal limits. Patient is acutely ill. Indicators are questionable.
- Critical – Vital signs are unstable and not within normal limits. Patient may be unconscious. Indicators are unfavorable. – (Goldberg, 2013)

However, “Fair” and “Good” were rarely observed in the dataset. Reports would more often indicate these levels as minor and moderate. A source list of injury severity resembling the one above, though less descriptive, was located at Trauma.org⁴. On this site, injuries are scaled one to six, with one referring to a minor injury and six referring to an un-survivable, life-threatening injury.

Severity of physical injury is usually a clear indication of victimization as it is observable, well documented, and can provide insight into event circumstances (Allen 1986; Safarik & Jarvis 2005). The trouble facing researchers is in the classification of injury severity based on physical harm and victim involvement in the violent incident. Landau and Freeman-Longo (2001) approached this issue by developing a multidimensional victimological typology

⁴ Trauma.org is a non-profit organization providing education, information, and communication for the health care community. The injury severity scale referenced in the content was retrieved from <http://www.trauma.org/archive/scores/ais.html>

comprised of eleven dimensions which ranged from the source of victimization to the severity of victimization/harm. Six categories were identified in the dimension dedicated to victimization and harm; none (no harm), mild (some non-serious injury), moderate (some injury, requires medical attention), severe (requires periodic to long term treatment), extreme (serious injury with poor prognosis even with medical attention), and maximal (victim dies) (Landau & Freeman-Longo 2001, p. 279-280). Others have divided injury severity into lethal and non-lethal outcomes while attempting to determine what factors contribute to a situation going from assault to murder. Felson and Messner (1996) discuss offender intent and how the differences between a homicide and an assault rest specifically on the outcome of the event. Utilizing data obtained from the Supplemental Homicide Reports (SHR) and the National Crime Victimization Survey (NCVS) the researchers found that, barring the use of weapons, “the variables that predict lethal outcomes do not predict serious injury in a similar manner” (Felson & Messner 1996, p. 536). They found an increased likelihood for lethal outcomes was directly connected to victim/offender relationship, particularly in incidents in which the offender is a family member. This finding is supported throughout mass murder literature associated with family annihilations (see. Fox & Levin 1998, 2003; Hickey 2003; Holmes & Holmes 1992; Lester, Stack, Schmidtke, Schaller, & Müller 2005; Liem 2013; Petee, Padgett, & York 1997). Weaver, Wittekind, Huff-Corzine, Corzine, Petee, and Jarvis (2004) found a number of significant factors, which increased the odds of a conflict situation turning lethal. Specifically, the use of a firearm or knife, participation in illegal activities such as dealing drugs, older victims, and male victims all significantly indicated increased likelihoods of lethal outcomes.

Safarik and Jarvis (2005) explain the importance of being able to study and analyze the type of bodily injury and the severity of injury, albeit in homicide victims. In their study, the researchers utilized the Injury Severity Score (ISS) to operationalize qualitative victim injury information into a scale that was then used to explore the relationship between injury and homicide characteristics. The exact method utilized in constructing this particular injury severity could not be replicated in this study but the idea that injury severity is related to violent crimes and victims is supported by their study. Much like homicide cases, providing information on survivable injuries can further the study of violent mass victimization. Though law enforcement has the surviving victim to talk to; researchers can utilize victim injury information in future studies to develop situation specific injury measures, which go beyond the more typically employed case studies. Injury severity is can also be means of identifying victims in incidents of mass violence. For this study it is necessary to understand what type of wounds correspond with what level of injury in order to better differentiate between victims and witnesses present during incidents of mass violence.

As previously mentioned the news articles in the dataset provided both injury severity and injury location. Reporting of this information varied within articles and across news sources. Injuries reported by level of severity were coded into the subcategory of injury severity under the injury variable. These included minor, moderate, serious, severe, critical, and life threatening. With no clear guidelines for distinguishing serious from severe by location of injury these two categories were collapsed into serious. Injury location and weapon type were coded into the subcategory of injury location. This coding was done by victim per case. To illustrate the coding, take the example below. When coding a statement like this one a variable was created for victim

That third victim was discovered with a gunshot to the chest and was rushed to a local hospital in extremely critical condition. – (KAKE News 2009, January 27)

three. Under the injury category the level of severity was recorded as “extremely critical” which translates to life threatening and placed in the injury severity subcategory. The “gunshot to the chest” was then placed into the subcategory injury location. This way severity, location of injury, and what inflicted the wound were recorded. In total, forty-four possible injury locations and five severity levels were documented. Only 586 victims out of 1,836 had injury locations that could be documented. Many of these were partially incomplete as a specific location was not reported. Instead the article would note that one or more victims suffered graze wounds, or were “hit” by bullet fragments. Other cases would note the location of the injury but were not clear on what caused the injury, such as the victim was reported to have a head wound.

Cross coding of injury location into injury severity was conceptually based on a collaboration of the Injury Severity Score (ISS) developed by Baker, O’Neil, Haddon Jr., and Long (1974) and those presented by Goldberg (2013) (*see*. Safarik & Jarvis 2005). This collaboration allowed for injuries with little information to be assigned to the severity level of best fit. Without the medical records or coroner reports on victims injured or killed in the sample the ISS could not be utilized to its full potential. It did, however, provide enough information to confirm the level of severity in reports, which identified where the injury was inflicted. If the article only stated that the victim had been shot multiple times and was taken to the hospital, a severity level could not be assigned.

Reports of being shot in the shoulder would be reported in the news articles with a severity level ranging from moderate to critical. Of the eighteen cases where a gunshot to the

shoulder was reported, ten indicated that the wound was serious, or required surgery. Surgery and extended hospital stays were used as an indicator of injury severity. If the victim was listed in stable condition in the Intensive Care Unit then their severity level was ranked as 3, for serious. When a shoulder wound appeared with no severity level indicated it was also coded as 3 for serious due to the increased probability it would require surgery and extended medical care. Using a five point scale injuries that had not been assigned a level of severity within the article were provided classification with 1 indicating minor and 5 indicating life threatening. For all injuries where a firearm was used, the hands and grazes were regarded as minor; injuries to the feet, arms and legs were regarded as moderate; injuries to the hip, abdomen, shoulder, and back were regarded as serious, and injuries to the chest, neck, and head were regarded as critical unless otherwise specified within the content of the dataset. The classification for life threatening was only applied in cases where this level of severity was directly stated. Only two cases reported broken bones, which were classified as moderate injuries. Injuries inflicted with a bladed weapon included stab wounds and cuts to the neck, torso, and arms. Cuts were regarded as minor and stab wounds were regarded as moderate to critical as specified by the article content. Injury locations were also recorded for the victims killed in the mass violent events, though there were far fewer reports on these injuries. It did not appear to be as important to report on these injuries since the outcome was death (Safarik & Jarvis, 2005). The majority of injury locations for the victims killed in these mass violent events were inflicted by a firearm with 32 cases indicating a gunshot to the chest and 93 cases indicating a gunshot to the head. A total of 753 homicides out of 951 were reported as being shot but with no injury location. Frequencies of the injury location subcategory can be found in Appendix B.

Offenders

There is a mountain of literature throughout the fields of criminology, sociology, victimization, and criminal justice regarding offender typologies, motives, demographics, and types of violent crime committed. Schreck et al. (2008) state that there has been a firm disconnect between discussions of offenders and victims even though the overlap between these two groups is what transforms an individual into a target or motivated offender (Cohen & Felson, 1979). As was stated in the victim section, it is important to note that offenders or not the main focus of this study. Due to the abundance of prior research, which is discussed more in chapter 3, this section is dedicated to explaining how offenders were identified and distinguished from victims and witnesses in the content dataset and follows the earlier discussion in the section on victims. Prior literature on offenders is only briefly discussed here as to not detract from the study's main purpose.

Incidents of gang-related mass shootings, school shootings, and workplace shootings all share similar offender characteristics in regard to target selection. Typically, they are more interested in maximum carnage than they are in solely seeking out one or two primary targets, so their use of a firearm appears to lack direction and proficiency (Krouse & Richardson, 2015). This is not to say that these offenders do not have specific targets in mind, only that the group of people they are firing into represent those specified targets. Gang shootings and gang-related violence are umbrella terms which often encompass gang-related and non-gang-related violence in areas where it is difficult to differentiate the two (Anderson E. , 2000; Sampson &

Raudenbush, 2001). Over the last several years a new area of mass violent event research has emerged regarding the role of the active shooter. Now, these cases refer to incidents, such as the ones stated, where shooters select a public or semi-public venue to inflict harm to a high number of potential victims (FBI, 2013; Jarvis & Scherer, 2015). Described as the victim/offender overlap the relationship between the offender(s) and their targets seem to follow parallel paths (Schreck, Stewart, & Osgood, 2008; Tita & Griffiths, 2005; Pyrooz, Moule Jr., & Decker, 2014).

Mass violent offenders have been typically portrayed by media, in the past, as White, middle-aged, 'lone gunmen' suffering from mental illness or intense stress who will inevitably select a public location to either make a point or take their frustrations out on others (Bowers, Holmes, & Rhom, 2010; Clarke & Eck, 2005; Cooper & Smith 2011; Duwe 2000, 2007; Fox & Levin 2014; McGinty, Webster, & Barry 2013). Research on mass murder tends to focus on these large scale, news worthy cases. However, the vast majority of mass murders are related to family annihilations and domestic abuse (Huff-Corzine, et al., 2014). Understand that these two categories can be both mutually exclusive and synonymous. The offenders in these scenarios are far more often men experiencing some form of loss, (i.e. job, marriage, child custody, significant other) and who are unable to cope (Felson & Messner 1996; Liem 2013; Websdale 2010). Fox and Levin (2003) attempt to explain this loss as a loss of power and/or control over, or in, their lives and the resulting violence is a means to regaining that power and control. As is with most violent crime literature the focus shifts to the offender.

Literature addressing adult and juvenile offenders is immense. Research regarding the age division among offenders attempts to quantitatively and conceptually compare these two groups of offenders. What has been found is that juvenile violent offenders are far more likely to

participate in neighborhood or gang-related violence suggesting that the socialization process these juveniles experience presents violent actions as favorable and normalized within their surrounding communities (Stretesky & Pogrebin, 2007). By the numbers, adult offenders appear to be evenly split between involvement with violent criminal ties and those who snap as result of strain linked to the concepts of anomie and alienation (Agnew, 2001; Durkheim, 1951; Fox & Levin, 2003; Merton, 1969). Adult violent offender typologies range from family annihilators to workplace avengers. Juvenile offender typologies tend to follow the theoretical structures originally created to explain adult offender violent crime. For instance there is a great deal of literature, which explores student perpetrated school shootings and (ex) employee perpetrated workplace shootings (McGinty, Webster, & Barry, 2013). These two event typologies only appear to vary when it comes to the offenders' age. In both cases the offenders feel betrayed, slighted, or singled out for persecution. Retaliation or revenge can be linked to the motivations of both juvenile and adult violent offenders in research related to socialized violence, culture of violence, and domestic violence (Forde & Kennedy, 1997; Lederman, Loayza, & Menedez, 2002; Stretesky & Pogrebin, 2007).

In the current study, offenders' ages and sexes were coded, when available. Of the available ages of total number of known offenders (N=601), twenty-nine percent (N=176) fell between the ages of eighteen and thirty. Ages were not presented in the dataset for a total of sixty percent (N=363) of known offenders. Additional coding for offender age and sex is discussed in chapter 3. It was occasionally difficult to discern from the content presented who should be coded as an offender. This was especially true in cases where the initiating cause of the violent event was linked to an argument turned violent altercation. It would be easy to argue that either

individuals or groups involved were offenders as it was their altercation which produced the violent event. To distinguish offender from victim it became necessary to develop criteria which would then separate these two categories. The use of multiple news articles per case was incredibly helpful in determining these classifications. For instance, a case in Oklahoma City, Oklahoma, which left eight people injured, resulted in initial reports stating that two males had been arrested for the shooting outside a NBA basketball game. Later reports stated that one of the males was cleared of all charges and a confession had been obtained from the remaining suspect.

First Report

Rodney Dewon Hill, 19, was jailed on eight complaints of shooting with intent to kill, records show. Tuesday night, Avery Meyers, 16, also was jailed on eight complaints of shooting with intent to kill, records show. - (Dean, Willert, Clay, & Campfield, 2012)

Second Report

Bricktown shooting suspect Avery Myers “confessed to shooting into the crowd,” an Oklahoma City police detective reported Wednesday in a court affidavit... A judge has ordered the release of a Warr Acres man who was jailed Tuesday on eight complaints of shooting with intent to kill. Rodney Dewon Hill, 19, was arrested Tuesday afternoon as police investigated the shootings of eight people in Bricktown following Monday night's Oklahoma City Thunder playoff game - (Teen confesses in Bricktown shooting, Oklahoma City police say, 2012)

When this type of updated information was not available the suspects arrested would have both been coded as offenders because there would have been no way to determine otherwise. In this example the offenders’ ages and sex are presented. The ages are plainly stated and, in this case, sex can be determined by the offenders’ first names. Additional coding for offender age and sex are discussed in Chapter 3. Data derived from the news media content

provides information on suspects, arrests, and ongoing investigations. This information would be utilized to determine the number of offenders, known and suspected per case. A total of nineteen percent (N=107) of cases reported multiple offenders, fifty-eight percent (N=319) of cases reported a single offender, and for twenty-two percent (N=124) of cases the offender was unknown and the police had no suspects, or descriptions of possible suspects.

Offender outcome

In the mass murder literature there is often mention of mass murderers committing suicide, surrendering to police, or being apprehended after a mass violent event has concluded (Dietz, 1986; Holmes & Holmes, 1992; Fox & Levin, 2003). There is some available literature touching on and exploring the relationship between violent crimes and the offenders' outcome in the event. Research on "suicide by cop" and murder-suicide represents two categories identified in the dataset that describe the outcome of the offender(s) following a violent event. The phrase "suicide by cop" refers to an offender goading law enforcement into taking deadly action against them (Delisi & Scherer, 2006; Lindsay & Lester, 2004). As of 2012, lethal force employed by law enforcement was considered rare, though this may no longer be the case, in part because of the heavy scrutiny of the criminal justice system and the public and the expectation that the majority of citizens comply with police instructions. Kesic, Thomas, and Ogloff (2012) found that officers would most often employ lethal force during an arrest after non-lethal means of apprehension had failed. Lankford (2015) found significant differences in offenders who committed mass shootings and lived and those who committed mass shootings and died. There was an increase in the number of fatalities in incidents where the offender(s) died. Lankford linked this and other significant findings regarding the locations chosen for the mass violent

event to offender behaviors and possible motivations. He posited that offenders who conduct incidents of mass shootings have little regard for their own lives as the offenders in his sample either died by their own hand, attempted “suicide by cop,” or made no attempt to flee once the violence was over (p. 361).

Subcategories found in the dataset under this theme resulted in four main categories, two of that are discussed above. The first category of suicide referred to offenders who committed suicide. Officers were sometimes at the location of the violent event when the suicide occurred but often they arrived after the offender had completed the suicide. A common thread observed in the dataset was between this offender event outcome and mitigating factors of persistent domestic issues or mental illness. These outcomes were identified in cases through content, which stated how the offender died, either through statements provided directly by police or from witness and victim statements. Of the eighty-two cases of offender suicide documented in the dataset, two committed suicide by stabbing or cutting their own throats. All other suicides indicated that a firearm was used. In only four of the cases under this category did offenders attempt to goad police into taking lethal action against them. When the police did not oblige the offenders committed suicide. These incidents were coded as suicides based on reports of police arriving on the scene of a murder-suicide or active shooter and reported to the press that the offender died of a “self-inflicted gunshot wound” or “took their own life.”

The second subcategory under this theme is that of killed prior to arrest. In this category incidents in which the offender is killed before an arrest can be made include such situations as “suicide by cop” and citizen intervention. Though only forty-one cases in the dataset report an offender dying before arrest it is an important distinction to be made. Within these cases officers

would get into gun fights with offenders, which would result in the death of the offender, but inferences of suicide could not be made. Intervention of civilians ranged from injured victims fighting back to onlookers interceding. For example, in an incident of a shooting at a night club, a bouncer intervened when a man pulled out a gun during an argument with another club goer. The bouncer pulled out his own gun and the men exchanged gunfire. The bouncer and gunman died of their wounds and two other people were injured.^{iv}

The third category to be developed under this theme is when the offenders are arrested. Incidents included under this category include attempted suicides, is wounded during the event, surrenders, and the offender is apprehended. In cases where the offender was wounded during the event was unable to flee due to the extent of the injuries as they were too severe and the offender required medical attention. A case that best exemplifies this is of a man in Harlem, New York, which left one dead, six injured, and two of the injured were officers. The offender was too critically injured to attempt to flee the scene, which led to an arrest.

While the police were at the scene, one of the men, Angel Alvarez, 23, pulled out a .38 caliber revolver and fatally shot the other man, Luis Soto, 22, the police said. Then, the police said, Mr. Alvarez turned and fired at a group of police officers who had approached. Four or five police officers shot back, firing 46 rounds, striking Mr. Alvarez several times... Alvarez was hit at least 21 times and, remarkably, lived to tell the tale. - (Lauingersimone & Parascondola, 2010)

Attempted suicides were rare. Usually, the offender was successful. One man was listed in extremely critical condition after shooting himself in the head and another man attempted to slice his own throat but both attempts failed and an arrest could be made. There are not so subtle differences between an offender who surrenders and an offender who is apprehended. In both cases an arrest is made, but in the cases where the offender surrendered it would follow a stand-

off with police. In these cases crisis negotiators were able to talk the offender into giving themselves up. Of the seventeen cases involving an offender surrendering only three took place at a non-residential location. An offender was coded as apprehended if they were actively caught by police. This usually involved resisting arrest, running from the scene, or a police car pursuit. In 143 cases the article only reported that the offenders had been arrested.

The final category under this theme refers to offenders who escaped serious injury and arrest. They are reported to still be “at large.” Areas suffering from high volumes of reported violence would often have this classification. In seventy-three cases the articles indicating that the offender was still at large would reference other incidents of violent victimization which had occurred weeks, days, or hours earlier. Drive-by-shootings were also synonymous with this classification as the offender(s) never left their vehicles for witnesses or surviving victims to identify or provide a description; that is of course when witnesses were cooperating with police.

Event Characteristics

The explanation about the process and structure of criminal activity is referred to as the criminal event perspective. Under this perspective, it is expected that victims and offenders intersect for an undetermined amount of time in which the criminal activity is conducted (Anderson & Meier, 2004; Weaver et al., 2004). The victims and offenders may or may not have a pre-existing relationship prior to the criminal act. In this generalized category themes regarding target selection, location, event causation, time, and police involvement are discussed. Each of these themes were found throughout the dataset and are believed to be intricately related to incidents of mass violence.

Violent Causation

The category of violent causation is a blanketed term used to describe inciting components and underlying motivations which caused the violent event to occur. Themes discussed in this section refer to underlying causes of violence cited throughout the dataset. Since there is no shortage of explanations, motives, or causes for murder or incidents of mass violence, the categories discussed in this section are not extensive or all inclusive. Numerous theories have been generated and research conducted on attempting to explain why people commit violent crime and murder (Almgren, 2005; Arneklev, Elis, & Medlicott, 2006; Gottfredson & Hirshi, 1990; Fox & Levin, 2003). Here, violent causation refers to the reasoning behind the violent events as they were documented in the dataset.

A total of seven identifiable themes were extracted from the dataset that fit within the concept of violent causation, as it pertains to this paper. An eighth category was coded to account for the cases where a specific causation was not identified or did not fit into one of the other subcategories. These causal factors include Argument, Domestic Issues, Retaliation, Gang-related, Felony, Mental illness, and Police involvement.

Altercations and arguments were common within this variable. They comprise seventeen percent (N=96) of cases in the dataset. Most of the cases encompassed within this subcategory were easy to identify as they were clearly stated within the article as the inciting component to the violent event. These altercations were often described as happening spontaneously. This type of aggressive behavior can represent the loosely described code of violence, whereby the aggressive actions and quick escalation of conflicts are the result of the involved individuals abiding by a written rule stipulating that for the conflict to end there has to be a winner and that winner is usually the last man standing (Anderson E. , 2000; Copes, Hochstetler, & Forsyth,

2013). Though the code of violence has never been clearly explained, Lukenbill (1977) outlines six stages of a situated transaction where two or more individuals involved in the conflict negotiate the situation through verbal and nonverbal indicators. If neither walks away from the situation then the likelihood of a verbal argument turning violent increases. Many of the cases noted or eluded to the fact that the victims and offenders did not share a personal relationship with each other prior to the inciting argument. A deadly argument could be triggered by something as seemingly trivial as accidentally bumping into someone. The examples below illustrate these points. Articles associated with each of the examples presented here provided no indication that the victims or offender(s) knew each other prior to the violent altercation.

Five people were shot outside of a nightclub after an argument inside escalated. - (Miami Herald, 2009, March 3)

One person was killed and three others were wounded after an argument sparked a shooting early Tuesday at an Oxon Hill apartment complex, authorities and neighbors said. – (Zapotosky, 2009)

Joshua Lewis, 19, was killed and three others wounded after Lewis bumped into Baltiman Malcom, sparking an argument that led to gunfire. – (Foster, 2011)

Incidents indicating that an argument occurred between two people identified as being a couple, husband and wife, or were related in some way, were coded under the theme of Domestic Issues within this variable. News articles would often explain if there were known domestic disputes between the offender and victims, citing a bad divorce, or custody battle.

Documentation on and research regarding domestic violence is well established and ranges from incidents of intimate partner homicide to the damaging emotional effects inflicted on children (Websdale, 2010; Wilkinson & Hamerschlag, 2005). Cases within the dataset coded under this subcategory would often refer to family annihilation scenarios where a family member would

kill or attempt to kill members of their immediate family. Only three cases indicated a juvenile as the offender under this subcategory.

The theme of retaliation was rare within the dataset and only accounted for six percent (N=31) of cases. Retaliation is described here as an offender motivation where there is a clear sense of revenge in the offenders motives. School and workplace shootings fall into this category as the offenders were often portrayed as seeking revenge (Fox & Levin, 2003). This subcategory differs from that of an argument in that there is a previously established relationship between the offender and victims. The primary determination for coding a case under this subcategory was whether there was evidence present that the offender(s) were taking revenge against one or more people. An example of this can be seen in a case from Montgomery, Alabama. In the example below the offenders had been rejected from a party which is implied to be the underlying cause

Two 18 year olds who were refused admittance to a private party opened fire later that night at the same party. Five people were wounded and a 17 year old boy was killed. – (The Birmingham News 2009, November 12)

of the violent event. It is important to note that gang-related causes of mass violence are not coded under this subcategory.

Literature related to gang and juvenile gang violence is extensive. A case was coded as gang-related if the article stated that it was, or was suspected to be, gang-related. Early in the data coding process it became apparent that gangs and gang-related violence required parameters to maintain the category as mutually exclusive. Gang-related violence was not always distinguishable from neighborhood violence. Cases where this issue came up were either coded as gang-related or retaliation depending on the situational context. If a single gunman walked up to an individual and began to fire it was considered an act of retaliation as the victim appeared to

have been specifically targeted. Cases of drive-by shootings also invoked ambiguity, which is why the parameters of the subcategory of gang-related stipulate that at least one of the articles in the case had to identify the situation as being gang-related.

Cases within the dataset were coded as Felony if the articles indicated that the offenders were in the commission of a crime when the violent event occurred. This included drug deals, burglaries, and robberies gone wrong. As laws can differ from state to state, criminal offences that cited drug dealing as the cause or mitigating factor were coded as felonies due to the presence of a firearm or bladed weapon. In eight percent (N=42) of cases the causal factor was described as a felony interrupted or an illegal activity such as drug dealing and armed robberies that ended in gunfire. Two cases under this subcategory document a robbery where the offender(s) were armed with a bladed weapon.

Indications of an offender suffering from mental illness were rare within the dataset. These cases only accounted for four percent (N=18) of the dataset with the type of mental illness stated ranging from Post-Traumatic Stress Disorder (PTSD) to dementia. When a case came up like this, there was usually a discourse of the offender's history providing support for the claim that the offender had suffered from or was mentally ill. It was often suggested or implied that the offenders identified mental illness was the underlying cause of the violent event.

Police involvement at the time of an incident of mass violence was also rare. Incidences of officer involvement occurred in only four percent (N=13) of cases. In the majority of cases police and emergency services arrived after the violence had come to an end (FBI, 2013; Jarvis & Scherer, 2015). Though news reports cite that they arrived in minutes after being notified, that was as long as it took for the violence to have ended and the offender(s) to escape if they were

not wounded or killed, or had committed suicide. Of the thirteen cases four involved a stand-off with police. These incidents typically took place at a residence where the offender could attempt to barricade themselves inside the dwelling and hold off police. Police presence at the onset of a violent incident corresponded with the officers delivering arrest warrants or executing sting operations which caused violent reactions from offenders. In these incidents the officers present were often among the wounded and killed. The number of victims would fluctuate in cases where officers were present at the time of the violent event depending on where the event happened. When the event occurred on the street or at a public gathering place there was an increase in the number of total victims and when the event took place in an enclosed setting such as a residence or apartment building the number of non-officer casualties dropped to zero but officers were often shot and killed. Stories covering police involved mass violence would note the number of injured victims believed to have been shot by police. When these cases occurred all victims were counted as they suffered their injuries during the violent event.

Location

Studies have been able to identify high risk areas, behaviors, and groups, which have an increased propensity for victimization. Borum, Fein, Vossekuil, and Berglund (1999) found that for a threat assessment to be effective an offender, or potential offender, must already be known to law enforcement. That is, they have to be able to identify whether the potential offender is an actual threat as opposed to a perceived threat. Unfortunately, the majority of the time potential offenders are unknown to law enforcement making such threat assessments void, which turns the attention to location, or the space, in which crime occurs. Studies on hot spot policing utilize statistics and geographical information systems (GIS) to identify areas where crime is prevalent.

This is done so that law enforcement agencies can effectively and efficiently allocate resources. Braga (2001) note significant reductions in crime in areas where law enforcement agencies practiced hotspot and problem-oriented policing. Techniques under this approach take the focus off of the offender and directs it to the places where crime occurs. If the location is considered the specified target it is easier to assess the likelihood of victimization.

Various locations identified in the content data were noted as “trouble spots” which seemed to attract fights, drugs, and a police presence on a regular basis, while violence occurring at other locations was met with surprise. A total of 166 different location types were identified throughout the dataset. These locations included shopping centers, restaurants, clubs, parks, schools, churches, convenience stores, hospitals, festivals, various businesses, and more. These locations were collapsed into six subcategories. Identifying locations and the environment in which events of mass violence occurred provided insight into perceived guardianship and the weight of social capital.

Locations, which attracted a large portion of incidents in the content dataset included bars, nightclubs, and strip clubs. These types of locations are tantamount to high levels of alcohol consumption. Schreck et al. (2008) found drunkenness to increase an individual’s likelihood to commit violent victimization. Even with increased security in the form of metal detectors, bouncers, and the hiring of off-duty officers to patrol the area some bars and nightclubs continued to be plagued with violence. A total of forty-seven incidents of mass violence began inside a club and when the aggressors were ejected from the location they returned with a firearm and shot into the club. Other altercations beginning inside one of these establishments would end just outside the front door when two or more individuals would argue and one or more would

pull a gun. This indicates that fortification of a location does not make it impermeable to violence. However, the majority of cases located at these types of establishments experienced spontaneous mass violence. The offenders did not appear to have gone to the establishment to start, or end, a fight. At some point during or just following the inciting altercation, the offender(s) chose to use deadly force (Felson & Messner, 1996).

Businesses such as shopping centers, stores, and even a taco truck were also susceptible to violent mass victimization. Cases linked to these types of business experienced a different kind of offender. When an event took place at one of these locations the offender was described as having a specified target and all other victims of the event were collateral damage. Cases involved men hunting down their spouses, drive-by style shootings, and offenders often described as “lone gunmen.” Lone gunmen were considered to be the primary type of mass murder perpetrator (Fox & Levin, 1998; Holmes & Holmes, 1992; Petee, Padgett, & York, 1997). In each of these cases the offenders went to the location for the purpose of committing a mass violent incident. Articles implied that businesses such as malls and restaurants were selected due to the high number of potential targets. It also stands to reason that these are places which people frequent as part of their daily routine. If an offender is looking for a particular person or a particular type of person they have the ability to locate them based on these routines (Cohen & Felson, 1979). Businesses accounted for twenty-five percent (N=133) of locations in the dataset.

Residences are high risk locations for individuals involved in personal disputes, domestic disputes, or are known to police through repeated calls for service regarding domestic disturbances. Four types of events typically occurred at a residence. The first includes incidents

of family annihilations where offenders kill members of their immediate and extended family. The offenders were usually men with only two incidents perpetrated by women. Second, twenty-two cases of home invasions were reported where the offenders forced their way into the home with motives suggested to be theft. One home invasion was a case of mistaken identity where the offender forced his way in looking for a girlfriend. In one of the few bifurcated cases the offender killed one of the residents and injured another before heading to a local bar where he shot and injured seventeen people. This type of case was atypical within the dataset but illustrates an event of violent mass victimization that spans multiple locations, has a high casualty count, and low fatality count. Residencies are considered safe and secure by residents as they can monitor who enters and who leaves. Third, drive-by shootings are explored. In these cases the violence is literally projected onto the house and the residents within or just outside. Lastly, the mass shootings which occur during social gatherings at residences, are examined. House parties, birthday parties, graduations, and family BBQs reduce the amount of control over the comings and goings of people. In these situations offender types were split. In some cases the article would state that the offender(s) went to the party to kill a specified target. In other cases the violence resembled that of clubs and bars in that it began with an argument that evolved into the killing and injuring of several people.

Though streets and parking lots accounted for twenty-four percent (N=129) of case locations, it is more pertinent to discuss the locations categorized as safe havens. These locations characteristically exhibit high levels of social capital, which scholars indicate is employed through strong social bonds to repel violent and criminal behavior (Lederman, Loayza, & Menedez, 2002). Yet these locations are still targeted. Locations coded under this subcategory

include churches, hospitals, and schools. Churches, temples, and other religious-oriented locations are expected to be places of worship and sanctuary. Incidents of mass violence occurring at these locations primarily took place at a funeral as people were leaving. Incidents ranged from targeted to spontaneous acts of violence whereby an argument between mourners sparked violence or, in two cases, the offenders walked directly up and killed one person. Additional injuries and fatalities occurred when the offender attempted to flee the scene using gun fire to cover their escape. Hospitals are often thought of as places to heal and receive treatment. If you are injured or sick it is a safe place to go. Articles would describe how incidents of shootings between gang members would send these safe havens into lockdown, where the only way in or out was through the main emergency room door. This is done in an effort to keep patients and staff safe from the violence that may spill from the streets through their doors. These precautions suggest that these locations are considered safe by patients and people seeking medical aid. A total of four cases occurred in a hospital. The offender types which perpetrated these incidents did not coincide with the previous planned or spontaneous forms of mass violence. In these cases the offenders were erratic, with presented implications leading the reader to understand that the offenders may have been suffering from an undetermined level of mental illness. The last subcategory under this theme involves incidents of mass violence, which took place at schools. Offenders of these events were current or former students, faculty, and strangers who selected the schools for varied reasons.

Accessibility

The theme of accessibility emerged when it became apparent that the ease to which an offender could access a target location played a large role in the number of victims they had

access to (Yar, 2008). The concept behind this theme is that accessibility can determine the potential for mass violence occurring at a particular location. This theme was broken down into three subcategories of private, semi-private, and public. Mass murder and violent events occurring in public places are often thrust into the view of the public by the media. This coverage increases if there is special identifier to the victim. This includes if the victims were military, law enforcement, the elderly or small children. Public access indicates that the general public has direct access to the location with little to no hindrances for entry. Nearly half of the locations (N=265) in the content dataset were coded as having public access. Also, locations that would typically be considered private, such as a residence, provided additional access to offenders during social gatherings. House parties, BBQs, and even wakes provided the offender(s) an opportunity to access a person's residence with relative ease. In these situations, there is far less social control in place to keep unwanted elements out. In these cases a residence would be coded as semi-private instead of private.

Locations coded as having private access had to indicate that access could not be easily achieved by an offender. In the majority of cases this coding was reserved for residences as there is a high level of control. In St. Louis, Missouri, a disgruntled employee opened fire at the ABB Inc. plant, killing three and wounding five. The man was still an employee and had access to the facility, which was considered to be a secure business location. In this case the location was considered secure, guarded. This was supported by reports of when officers arrived to "Locked exterior doors were hard to breach, requiring officers to obtain pass cards from fleeing workers. Isom would like to buy forcible entry tools for each district" – (Shooting Spree at St. Louis Plant Leaves 4 Dead, 2010). Though this location was a business it required special pass codes and key

cards for anyone to gain entry. Cases like this one were difficult to code. The location was presented as secure with a number of security measures in place to restrict public access. The offender in the example was an employee with access to the location, which voided the security precautions making it easily accessible. In cases like this one, the determining factor in coding relied on whether a person who would not naturally have access to the location be able to gain access. In this case the answer was no. This was also applied when coding the accessibility of residences. Though the threat could come from within the location

When “Time of Day”

Meloy, Hempel, Gray, Mohandie, Shiva, and Richards (2004) conducted a comparative study of adult and juvenile mass murderers and found that adults committed mass murder in the morning and juveniles more frequently committed mass murder in the afternoon. Their study is based off a total sample size of thirty adults and thirty-four juveniles. In the Weaver et al.’s (2004) study concerning the effects of violent event characteristics on lethality outcomes, the hours of the day were divided into four segments of time; midnight-5:59am, 6am-11:59am, 12pm-5:59pm, and 6pm-11:59pm (p. 359). They found that homicides occurred more frequently during the weekend and nighttime hours. This theme emerged from the content data as a pattern of early morning mass violent events. Determining how the day should be segmented required considering the typical goings on during these hours as they were presented in the dataset. Taking into consideration the Weaver et al. study and the information found in the dataset, the hours of the day in the current study were divided into four time segments. 1:00am-5:59am (early morning), 6am-11:59am (morning), 12pm-4:59pm (afternoon), and 5pm-11:59pm (night). News reports would state that the event happened in the early morning hours and another article

would note that an event occurred late in the evening after midnight. With these type of temporal references plainly stated in the dataset it became a natural way to divide the hours of the day. When time of day was examined in this study forty-four percent (N=159) of incidents of mass violence occurred between the hours of 5:00pm and 1:00am followed by twenty-five percent (N=90) occurring in the early morning hours of 1am-5:59am. Fifteen percent (N=53) of cases occurred in the morning hours of 6am-11:59am and sixteen percent (N=59) occurred in the afternoon, between 12pm-4:59pm.

Weapons

Violent victimization, referring to when a victim is physically injured or killed most likely involve the use of a firearm (Weaver et al., 2004; Huff-Corzine, et al., 2014; Cooper & Smith, 2011). According to information available on the Brady campaign website⁵ there are approximately 98,000 violent victimizations where people are injured or killed by a firearm each year. This averages out to just under 300 gunshot victims per day (Brady Campaign to Prevent Gun Violence 2013). Thus, it should come as no surprise to learn that the most frequently employed weapon in incidents of mass violence documented in the current dataset is a firearm. A total of 607 firearms were observed in the dataset. Offenders would occasionally have two guns on them but the notable increase of weapon count above that of actual case count is related to the number of reported offenders per case.

⁵ The Brady Campaign is an organization dedicated to the prevention of gun violence. It is listed among the news sources in Appendix A. Information referenced from the Brady Campaign website was retrieved from <http://www.bradycampaign.org>

What was most noticeable regarding incidents of mass violence in the dataset was the consistent lack of, or attempt at, aiming. This “wild fire” style of firearm usage was extremely common among offenders who were apparently trying to aim and those that were not. The lack of accuracy among offenders who employed a firearm fell into two observable subcategories. First were those who did not appear to have a specified target and second were those who fired at a specific target but fired wildly. There were cases in which the offender was able to injure or kill their primary target with ease and then began to shoot at those who were in the general vicinity. This was most often observed in cases where the location was a place of employment, either to the offender or to their primary target. Incidents where a target did not appear to be specified would occur at a place of social gathering. Accuracy, but not necessarily lethality, improved in cases where a non-firearm were employed (N=52). Only two cases reported the offender striking out wildly with a knife.

Target Selection

Target selection refers to how offenders determine the who, what, and where of committing a crime. Cohen and Felson (1979) developed the routine activities approach to understanding criminal behavior as the convergence of motivated offender, suitable target, and lack of capable guardianship in space and time. Criminological research in this area has attempted to understand how targets are selected and if there are any components of these violent events that can aid in proactive threat assessments. Determining why these events occur and what mitigating factors bring them into being has been a focus of violent crime-related research for years. Exploration of this literature demonstrates the fields’ fixation on the offenders of violent events. However, the offender is only one side of the crime event triangle. To complete

the set there is a call to discuss the interaction of offenders, victims, and event place as a whole (Schreck, Stewart, & Osgood, 2008).

Criminological studies have separated victims and offenders into divergent fields unto their own. Strategies, policies, and procedures have and are being developed to better identify serious potential threats and risks to public safety, but at the moment this level of threat assessment on a public scale is still in its infancy (Jarvis & Scherer, 2015). Anderson and Meier (2004) explain that when the intersection between the victim and offender(s) occurs an opportunity for criminal activity is presented. Identifying potential offenders before they have the opportunity to inflict harm is one approach to subverting a criminal event from occurring. Meloy, Hoffman, Guldemann and James (2012) suggest a theoretical model that can be used to observe changes in risk-identifying behavior over time. This model consists of eight ‘warning behaviors’ that, they stipulate, can be empirically tested to observe and assess changes in the known behavior of a potential offender (for a complete listing of these behavior measures *see* Meloy et al. 2012, pp. 66). The framework and presentation of these ‘warning behaviors’ suggests that, during the implementation phase, the measures can only be empirically tested after an offender has committed an act of violence against a target. They continue to explain that cases where high profile targets have been selected, such as government officials, celebrities, or other public figures, the measures can be applied prior to a violent act taking place. This still is only possible when the potential offender(s) make themselves, and/or their intentions, publically known. However, it is not always possible to differentiate those who might, those who would not, and those who will commit acts of violence and mass violence (Jarvis & Scherer, 2015).

Examples of the inability to predict what people will do were apparent throughout the dataset.

For instance, a case out of Cleveland, Ohio, which left one injured and five dead.

It didn't seem anything was wrong or anything like that," Cobb told Channel 8. "He just got married on his birthday; his birthday was [March 2]. He just had a baby girl. I don't understand what went wrong. I don't know what happened. I'm still trying to find out myself. – (Baird, 2009)

In the example above the interviewee suggests that there was no warning. That nothing seemed wrong or out of sorts with the offender. The article continues to describe the demeanor of the offender and provides a possible explanation for the violent event. It was identified that the offender had recently failed a drug test and was going to be sent back to prison. Though this may have been the triggering factor, the article reports that the offender “didn’t sound upset enough to turn violent” (Baird, 2009; McEntire, 2001).

As such, a different approach is required, which steps away from attempting to identify potential offenders and that can attempt to identify suitable or high risk targets instead. Within the dataset, targets included family members, coworkers, rival gangs, racial and ethnic groups, and targeted locations, which ranged from businesses to residences. Since the concept of target selection encompasses people, as well as locations and accessibility to locations, which were discussed earlier, the remainder of this section is focused on people who are targeted and indications that target selection may be linked to offender outcome. In the dataset victims and places were referred to as targets in a total of twenty-three percent (N=132) of recorded cases.

News reports, in the dataset would clearly state, employ witness quotes, or make efforts to elude to the presence of warning signs or indicators of an offenders’ intent, or potential, to commit an act of mass violence. In cases of mass murder the media will often produce information on the offender highlighting possible warning signs in such a way that the public is

given the notion that these individuals could have been stopped. As was noted earlier, making this type of determination accurately is not possible. Borum, Fein, Vossekuil Berglund (1999) developed an approach to evaluate risk of target violence, which was based on the methods employed by the U.S. Secret Service. Under this approach, potential offenders are identified and assessed independently. The U.S. Secret Service has one advantage in this approach that most law enforcement agencies do not. They know who or what they need to protect. It is easier to thwart an attack if you know what they are targeting. As resources of law enforcement are not infinite, new measures of target threat assessment should be considered so that officers and resources can be allocated efficiently and effectively.

Conclusion

It is not surprising that the themes developed in this content analysis were supported by existing literature. The study of violent crime and mass violence has been a point of scholarly focus for more than a century. But as previously stated, this study is not about trying to reinvent the wheel. The fact that themes observed in and developed from the dataset are so well covered adds to the validity and reliability of the coding and to the study itself. Components of mass violent events were broken down into testable units. Many themes appear to be interrelated such as offender outcome, cause, and victim/offender relationship. To ensure that these categories remained mutually exclusive for quantitative analysis they are coded independently in the next chapter.

Suitable Variables

A standard among the news reports was to identify how many victims were injured or killed during a violent event. Information relating to characteristics of both victims and offenders varied by cases and across news reports. These data can still be numerically coded from these reports for the victim and offender age and sex. In many cases, gender was coded for adult sexes, (e.g. men, man, woman, women) were in place of ages. When the press referred to a juvenile they would employ the corresponding language (e.g. boy(s), girl(s)).

By determining how a victim is classified variables of victim count, number of injured, and number of killed can be quantified to identify how these counts may indicate differences between incidents of mass murder and violent mass victimization under the three victim minimum requirement. The theme of innocent bystander can be quantified, but only as a dichotomous variable since an actual bystander count for this classification was not possible. The presence of innocent bystanders was often noted in reference to the injured and killed victims. Injury severity can be quantified from the number of victim counts per case for each of the five identified severity levels (e.g. minor, moderate, serious, critical, and life threatening). With such a large number of injury location possibilities and the low frequency of reporting this variable is better suited for a future study where more data can be gathered. As such, only a victim count per injury type can be quantified.

For offenders, besides their age and sex, motives and actions would be stated to identify the underlying cause of the violent event. From an argument between two seemingly random people to those seeking retaliation for a perceived slight or offense. When articles discussed gang-related violence there was little more offered in the way of cause than implying that violent

behavior is just the way gang members act. This notion is supported in the available literature concerning gang violence and juvenile affiliations with gangs. Though a number of subcategories were identified under the theme of Cause, they can be collapsed into usable variables for quantitative analysis.

Unsuitable Variables

Among themes discussed in this chapter, two were deemed unsuitable for inclusion in the violent mass victimization definition. First is the role of police involvement. Only counts of when police were present at the start of the violent event are acceptable to be included in the next stage of the analysis. Aspects of police investigation, community cooperation, and presence after the fact are not suitable as these components occur after the violent event has completely concluded. It could be argued that offender outcome is an element which occurs after the event. However, studies have shown that offenders who commit suicide or surrender as soon as the violence is over have varying effects on the number of fatalities accrued during the event. This has been credited to the offender's state of mind at the time of the event (Holmes & Holmes, 1992; Lankford, 2015; Lindsay & Lester, 2004). It is worth testing if significant effects can also be found in incidents where offenders are arrested or remain at large. Second is the theme of target selection. Though much could be gained from further investigation of this variable it could not be coded independently from the other themes. Additionally, there is little in the way of a usable frame to quantify risk of potential targets. As was noted earlier, rather than examining the potential harm targets may endure or what targets may be at higher risks, threat assessments are geared toward identifying potential offenders.

CHAPTER 3: QUANTITATIVE CONTENT ANALYSIS

How many bodies does it take to make a headline? A comparative analysis of mass murder and mass victimization in media reports from 2009-2012

Introduction

This stage of the analysis addresses questions two and three of the research questions guiding this study. Question two refers to determining if differences exist between incidents of violent mass victimization and mass murders, beyond fatality count. Question three of this study design looks to determine if a minimum fatality count should be incorporated into the final definitional measure of violent mass victimization. As it is, the question remains about whether there are statistically significant differences between incidents of violent mass victimization and mass murder and what event characteristics may contribute to this distinction, if any exist. Determination of a minimum fatality count for incidents of violent mass victimization is also required and addressed in this chapter. Themes disseminated from news media articles, reports, and excerpts have provided quantifiable components from which quantitative analysis is possible. In this chapter previously identified and discussed victim, offender, and event characteristics are quantified and tested through use of bivariate statistical tests and ordinary least squares (OLS) regressions.

It has never been an expectation of this study to discover that the archetypes and typologies previously developed for violent offenders, mass murder events, and violent crime in general would differ significantly from incidents of violent mass victimization. Much like the decades long debate over how many fatalities are required to determine a base line measure for

mass murder research, this study explores the possibility of developing a baseline measure for incidents of violent mass victimization. To achieve this, a criminal events approach is used to identify the effects of mass violent event characteristics on incidents of violent mass victimization and mass murder events. This approach is a means of organizing and testing variables believed to be related to a type of criminal event or activity (Anderson & Meier, 2004). Bivariate analyses were conducted to observe the relationship between select victim and offender characteristics, firearms, and the number of victims produced during events of mass violence. The OLS regressions employed at this stage of the study are designed to compare how violent event characteristics effect the victim count in events of violent mass victimization and mass murder. Results of these analyses are presented side-by-side for easy comparison. Event characteristics, such as domestic issues, gang involvement, and mental illness, were chosen as the independent variables for the OLS regressions because they are commonly occurring among both violent mass victimization and mass murder incidents. Taking in to consideration that the difference may be simply a matter of determining a minimum victim count, it is pertinent to determine if a minimum fatality count is required to complete the definition and measure for violent mass victimization. OLS regressions were conducted to compare the similarities and differences among violent mass victimization events where there were zero, one, and two reported fatalities.

Literature Review

For decades the phenomenon of violent crime, mass, and multiple murder, has been explored, dissected, and analyzed. Offender and event typologies have been developed,

discussed, and debated. Specialized protocols, policies, and training among law enforcement officials has been implemented in an effort to reduce the number of casualties produced during these events. In this attempt to develop a valid measure and definition for incidents of violent mass victimization, it is necessary to discuss the relationship of these violent event archetypes and typologies a bit more. Definitions connected to mass murder concentrate on two hard parameters, singular event and victim fatality count.

The Mass and Multiple Murder Debate

The debate over how many fatalities it takes to equate to a mass violent event is decades long and continues. As of January 2013, congress enacted the Investigative Assistance for Violent Crime Act of 2012, which is a public law identifying a mass killing as “the killing of three or more people in a single incident” for the purpose of defining when federal agents should respond. Thus, with this new law if three or more people are killed, rather than four or more as had been the case, in “a place of public use” the federal government will have the right, as well as the obligation, to offer aid to the local law enforcement agencies investigating the incident (Public Law, 112-265, 2013).

The number of minimum deaths necessary to establish a violent event as a mass murder has fluctuated between three and four victims killed during a single violent event. Levin and Fox’s (1985) study of mass murder was among the first to employ a minimum count of four deaths that had been established by the FBI at that time. Following their publication other researchers also employed this basic body count criteria for the study of mass murder (Holmes & Holmes, 1992, 2001; Meloy & Felthous, 2004). At this time the distinction provided by a body count of four allowed for incidents of mass murder to be separated from those of serial murder.

As both types of multiple homicide incur multiple deaths the differentiation sites the difference between simultaneous and serial mass homicide. It is from here that the initial inclusion of a timeframe was conceived. Other studies of mass murder have contested the use of four fatalities as the minimum as its initial inception appeared arbitrary and lacked justification, e.g., (Dietz, 1986; Hickey, 1987; Petee, Padgett, & York, 1997). Dietz (1986) supported the notion that a more specific classification of mass murder events was necessary to utilize it as a quantitative measure and that events labeled mass murders should occur within a “single incident” (p. 479). Dietz acknowledged that identifying a numerical cut-off of number killed was essential for intuitive and informative research to be conducted. Set the number too high and the cases become too rare and set the number too low it becomes overly inclusive. Instead of suggesting a cutoff of only the number killed in a single incident, Dietz suggests that an incident of mass murder should require a minimum of five total victims where at least three are killed (Dietz, 1986, p. 480). This is the first time the suggestion of non-fatal casualties is presented to be part of the definition for mass murder. However, the focus for defining mass murder remained on differentiating it from other forms of multiple murder, identifying and understanding offenders, and violent event characteristics without much attention paid to incidents with high casualty counts and low death tolls. Based on the argument presented by Dietz, others employed a fatality count of three deaths as the minimum number of deaths necessary for a violent event to be considered a mass murder, but did not require that two or more people were also injured (Dietz, 1986; FBI, 2011; Holmes & DeBurger, 1985, 1988; Holmes & Holmes, 1992, 2001; Meloy & Felthous, 2004; Petee et al., 1997).

With the study of incidents of mass murder still in its infancy, other definitional issues were brought to light. In an attempt to differentiate between other forms of multiple murder and those of mass murder, Holmes and Holmes (1992) explained that offenders of mass murder die at the scene of the crime by either committing suicide or in a “suicide by cop” scenario. They considered it rare for an offender to surrender to authorities and make no mention of offenders who escape apprehension. It is assumed that the level of violence during the time of their study was not as it is now. This could be due to a number of varying factors as instances of offenders of mass violence being arrested or evading capture have been seen far more frequently over the last decade (Hickey, Ed.). Gone are the days when incidents of mass violence were solely carried out by suicidal lone gunmen. That is not to say that they no longer exist; only that these types of cases have birthed new forms of mass murder and new categories of mass violence. In a study of mass murders executed by lone gunman there were differences found between the number of killed victims and offenders who committed suicide and those who did not (Lester, Stack, Schmidtke, Schaller, & Muller, 2005). Sporting the usual smaller sample size typical in these types of analyses the study of 98 cases showed that offenders who committed suicide accrued higher victim fatality counts than offenders who surrendered to law enforcement. What this indicates is that body count remains at the heart of the mass murder definition, but that new categories were developed to encompass the intricate dynamics within the umbrella definition.

In the mid- to late-1990s, literature began developing classifications of mass murder by offender and event type. Petee, Padgett, and York (1997) noted that much of the discussion surrounding mass murder up to this point had been focused on distinguishing it from other forms of multiple murder and that research supporting these distinctions was based on cases studies,

which did not provide enough information to fully distinguish and explain incidents of mass murder (p. 334). At this point the literature became saturated with the “who’s, what’s, and why’s” of mass murder events. Discussion on interfamilial mass murder covered the intricate nature of offenders who killed members of their own family, referred to as family annihilators or familicide in cases where one member of a family killed many or all of their immediate family members, patricide, matricide, filicide, and the list goes on (Clarke & Eck, 2005; Dietz, 1986; Heide, 1993; Websdale, 2005). Offender archetypes outlined, explored, and redefined include, but are certainly not limited to, rampage killers, pseudo-commandos, disgruntled employees, set-and-run killers, mission killers, disciples, revenge, disgruntled citizens, psychotic, and school shooters (Bowers, Holmes, & Rhom, 2010; Dietz, 1986; Duwe, 2007; Hickey E. W., 1987; Fox & Levin, 1998; Holmes & Holmes, 1992; 2001; Petee, et al., 1997). Development of mass murder events and motive typologies also grew dramatically, encompassing such types as workplace and school shootings, intimate partner homicide, dangerous cults, and for profit, love, and fame (Davies, 2008; Fox & Levin 2014; Holmes & Holmes 2009). In fact, pick up any violent crime related textbook and there is likely to be at least one chapter dedicated to one or more of these archetypes and typologies.

Mass murder incidents are still rare in comparison with all other forms of offender perpetrated homicide and the actual frequency of events is disproportionately represented by news media (Dietz, 1986; Duwe, 2004). A report produced by the Bureau of Justice Statistics noted that in 2008 a slight increase in mass murder events occurred, where three or more victims were killed, but the national average of these events fell just below 1% of all reported homicides (Cooper & Smith, 2011). Using data obtained from Grant Duwe, the Congressional Research

Service estimates that 4.5 incidents of firearm related mass murder occur each year, where four or more victims are killed during a single event (Krouse & Richardson, 2015). Though this estimation is believed to be incredibly low it shows that the four count minimum is still considered valid. With conflicting uses of the mass murder body count measure still appearing in recent literature it was determined that a minimum fatality count should be addressed in the construction of a violent mass victimization definition. Just as Deitz (1986) attempted to do by providing a statistically supported reason for the inclusion or exclusion of a minimum fatality count among the victims produced in incidents of violent mass victimization.

Target Selection

Relatively new to the fields of mass murder and violent crime is the classification of the active shooter. This designation refers to mass shootings where the fatality counts are capable of reaching the mass murder minimum but is not required. Over the last seven or eight years the role of the active shooter has only begun to be explored in mass violence literature. The U.S. Department of Homeland Security defines an active shooter as “an individual actively engaged in killing or attempting to kill people in a confined or populated area; in most cases, active shooters use firearms and there is no pattern or method to their selection of victims.”⁶ Notice how this definition does not state a specified victim count requirement. It does, however, indicate that there is no identifiable pattern related to target selection. It implies that an active shooter’s target is anyone in front of them, but fails to answer why the offender picked one place over another. There are cases in which the target is a type of person such as a specific gender or race

⁶ Active Shooter; How to Respond. (2008). U.S. Department of Homeland Security, Retrieved from https://www.dhs.gov/xlibrary/assets/active_shooter_booklet.pdf

(McDevitt & Levin, 2002). Other cases imply that the target was a current or former workplace and the people injured or killed were a means of striking back for some perceived slight (Davies, 2008; Fox & Levin, 2003). Incidents where the label of active shooter also applies are those related to intimate partner homicide where the offender seeks out their primary target in a public location and unintended targets become victims of the violence. The point of this classification is not to address these definitional issues but rather to identify the situation caused by violent mass offenders in an effort to develop proactive measures, which are expected to reduce the number of casualties. It is necessary to make this distinction as it is typically not law enforcements' concern to identify why the offender is attempting to kill a bunch of people. Though recently, a monograph produced by the FBI was published on how law enforcement agencies may better thwart incidents of targeted violence before they begin (Jarvis & Scherer, 2015). Implementation of proactive measures and protocols is expected to be tricky with 60% of active shooter incidents ending before police arrive on the scene (FBI, 2013). The question then becomes one of targeted versus non-targeted victims and how place matters?

Felson and Messner (1996) posited that the level of violence reached in a given situation was based both on the offender(s) possession of lethal intent from the start and “as the result of quick and sometimes careless decisions” (p. 521). The U.S. Secret Service had been primarily responsible for the development of risk assessment procedures and protocols used to identify and defuse potential threats against government officials for more than twenty years. Many of their tactics have become integrated into the training of specialized law enforcement task forces, which attempt to provide a higher level of security to risky targets (Borum, Fein, Vossekuil, & Berglund, 1999). Targets include locations where the probability of violence occurring is high

such as large scale sporting events, concerts, high risk neighborhoods where violence is prevalent, and other places prone to violence, such as downtown on a Saturday night when the bars close. Literature regarding school, workplace, family, and gang-related mass shootings and murder indicate that targets are selected through personal connections or perceived personal affiliations to the offenders (Fox & Levin, 1998; Holmes & Holmes, 2009; Meloy, et al., 2004; Rosenfeld, Bray, & Egley, 1999). Should the offender be hunting a particular person and other non-targeted people get killed or injured in the process then these victims are considered to be innocent bystanders, as discussed in Chapter 2. In the case of gang-related violence, Rosenfeld et al. (1999) discussed gang-related and non-gang-related acts of violence in areas suffering from high levels of socioeconomic disadvantage. They found that compared to gang-related, non-gang-related violence occurred at higher frequencies in areas suffering from economic disadvantage than gang-related violence. These areas are commonly considered to be at higher risk for violence, but a key underlying explanation for these results is that gang members and non-gang members are provided access to high risk situations in areas where criminal behavior is an accepted way of life.

Accessibility to a location may increase the likelihood of a violent event occurring and make it a suitable target for would-be offenders. Nightclubs, bars, and places of social gatherings offer motivated offenders the opportunity to enter or approach a targeted location or person with ease. The combination of location (where admittance is only partially monitored by in-house security), venue layout, type of entertainment, and level of average expected alcohol consumption are all indicators of a location's potential for violence (Green & Plant, 2007). Typically, events of mass violence, which occur in these types of locations, are fueled by

underlying emotional factors such as low self-control, an assertion of masculinity, or some form of loss. Gottfredson and Hirschi (1990) suggest that all types of crime can be linked to the internal mechanism of low self-control. Under this broad perspective violent crime is explained as something out of the offender's control. Of the six elements described in Gottfredson and Hirschi's general theory of crime, it is the element of anger/temper that is believed to be behind mass violent events, which stem from arguments or fights. When alcohol or other drugs are combined with a potential offender's anger/temper, a resulting violent event is even more likely to occur. Bye (2007) found that alcohol consumption had an independent effect on violence rates, which can be directly related to changes in rates of violence over time. Nightclubs and bars are perfect melting pots for this type of combination. Evidence of this can be observed in the level of internal security a venue employs in an effort to keep the peace. From use of metal detectors and bouncers to the hiring of off-duty police officers to patrol the venue, many nightlife style venues acknowledge the potential of violence from its clientele. Piquero, MacDonald, Dobrin, Daigle, and Cullen (2005) tested Gottfredson and Hirschi's general theory of crime to determine how it related to homicide victimization. They found that the theory was useful to predict or explain certain types of homicides, but not all. Taking this into consideration it could be suggested that incidents of mass violence and murder occurring at locations where there are elevated risk factors are linked to the offenders' low self-control. But, as Piquero, et al. explain, this is not always the case. When the offender(s) leave(s) the location of the inciting conflict and then returns with a weapon in hand to inflict grievous harm or death on the person(s) they had an altercation with, the argument of low self-control becomes questionable. However, this does

indicate that a specific target had been identified by the offender(s). In this scenario the target is a specified person who became targeted due to a conflict with the offender.

Probably the most referenced literature related to target selection and victimization is that of routine activities, which stipulates that crime has a higher probability of occurring when both a motivated offender and suitable target are in the same location and there is the lack of some form of capable guardianship. Cohen and Felson (1979) explain that a potential or “suitable” target increases their risk of victimization by following their daily routine so that their location is predictable or they may repeatedly frequent the same establishments. The notion of location accessibility falls directly in line with that of capable guardianship just as events of mass violence require the same components as those dictated under this theory. Determining target selection or suitability based on level of accessibility can still vary depending on the degree of determination on the part of the offender to carry out the act of mass violence. For example, a motivated offender may find a way to subvert security safeguards to gain access or partial access to their target. In the case of Adam Lanza, who killed twenty-six people at the Sandy Hook Elementary School in 2012, a firearm was used to shoot out a glass window pane next to the school’s security door, which completely bypassed the in-place security measure. From there, he was able to wander the halls, relatively unhindered.^v Tita and Griffith (2005) identified five combinations of victim/offender intersection. In their study, which utilized a sample size of 420 cases of murder, they determined that offender’s motives play a key role in understanding how and when victims and offenders crossed paths. In gang-related homicides violence typically erupted from “chance meetings in “unclaimed” areas... than territorial battles over home turf” (p. 298). Criminological theory and research has a long history of neglecting the commonalities

between victims and offenders (Schreck, Wright, & Miller, 2002). It has only been in the last ten years that criminological theories and studies have really begun to explore the victim/offender dynamic as a whole (Bowers, Holmes, & Rhom, 2010; Schreck, Stewart, & Osgood, 2008).

Violent Crime and Victimization

There are some who might say that violence begets violence and people become violent as a result of their environment. The life course perspective in criminological theory explains that continuity and stability of criminal and delinquent behavior can be traced from an offender's childhood through adulthood (Thornberry & Krohn, 2005). Though a broad theory for explaining criminal and violent behavior it provides a baseline for understanding why some offenders behave the way they do. In Anderson's (2000) work, *Code of the Street*, the subculture found in urban areas of lower socioeconomic status has its own set of rules, which operate outside the law. For an adolescent to survive the streets, it is necessary for them to adapt to the expectations of the 'street.' This includes fighting for respect, partaking in criminal and gang-related activities and ultimately incorporating these rules and expectations into their core values. This is not to say that all people who grow up in rough neighborhoods become criminals and delinquents, only that these areas have become synonymous with violence and danger. These are places where gun shots and the sound of sirens has become so common place that the adolescents and young adults learn violence as a way of life and the only way to settle differences. Social disorganization theory, by Shaw and McKay (1972), was originally designed to explain delinquent behavior among juveniles. Since its construction, this theory has also been applied to adults and is mainly used to illustrate the social disconnect between individuals living a crime ridden areas. Research on urban areas, such as the ones described in *Code of the Street*, exhibiting social disorganization

typically examine how the kind of place effects the behavior of those who live there. Within these areas there is often a noted lack of community organization and social bonds which are used in socially organized areas to repel crime and delinquency from the area (Kubrin & Weitzer, 2003). However, these areas are not necessarily socially disorganized but, rather that the community and social bonds have a strong tie to delinquent and criminal structures as opposed to sharing bonds or values with the larger society. Anderson (2000) notes that many of those who participated in his study would make distinctions between the ‘street family’ and the ‘decent family’ as if they were from two different worlds that just happened to be next to each other. In areas such as these, where violence and aggression run rampant, locations which would, or were, expected to hold a high level of social capital in the community, such as a church, are not immune to violence. Funerals and wakes for the dead become target rich environments as members of opposing gangs and neighborhoods gather to mourn their dead. Theories of life-course and social disorganization provide insight into incidents of mass violence, but do not explain mass violence as a whole.

The location of an incident of mass victimization may involve the convergence of the routine activities approach with that of social disorganization theory. Events of gang violence represented in the news often present stories and images of gang, or street, violence, which, result in civilian casualties during a violent conflict between gang members (Thompson, Young, & Burns, 2000). There is some debate among scholars about whether gangs hinder or support neighborhood cohesion but the general consensus stands that high-risk urban areas that experience large amounts of violent and non-violent crime are socially disorganized and lack collective efficacy among neighborhood residents that would act as a safe guard against

victimization (Browning, Dietz, & Feinberg, 2004). The theory of social disorganization shifts the focus presented in routine activities from the offender and victims involved to the places where crime occurs. Under this perspective individuals residing in high-risk areas are still subject to the components of routine activities, but are not its primary focus (Forde & Kennedy 1997; Kubrin, & Weitzer 2003). Browning et al. (2004) argued that areas, which are considered to be socially disorganized and lacking in collective efficacy are in truth not disorganized and that the community cohesion in these areas is strong. It is that the controlling social networks in these areas favorably promote deviant and criminal behavior. Kingston, Huizinga, and Elliot (2009) report that areas exhibiting strong social networks and high rates of poverty experience increased rates of violent victimization (p.71). This suggests that these areas have adopted violence as a normative behavior and that offenders in these areas are abiding by the code of violence, which takes precedence over the formal social controls specified by the larger society.

Other theoretical perspectives explain this violent behavior to be an internal mechanism of the offender. For example, based off of Durkheim's concept of anomie, Merton (1969) developed five reactions to strain that an individual would exhibit. Among them is the reaction of retreatism, whereby the individual abandons the social and structured cultural norms of the large society (p. 273-274). However, Merton often used an individual's failure to accomplish pre-prescribed life goals (i.e. money, job, spouse, family, home) to exemplify the various reasons an offender may turn to crime. Agnew and Brezina (2012) explains that reactions to strain can be both positive and negative; that when an individual experiences strain they can better themselves from it or succumb to it. Though Agnew's general strain theory was developed to explain delinquency through adolescence, life-course theory illustrates how behavior can remain

constant throughout an individuals' life. Agnew explains that strain is more directly related to social connections between individuals and the strain is often derived from negative interactions with others. His expansion of strain theory also provides an explanation for why a good person might commit a heinous crime. Under general strain theory, an individual feels a build-up of bad emotions when faced with negative interactions with others, such as feeling bullied at work or feeling reject by certain group. When faced with this strain the individual can attempt or work at turning the bad situation into a good one or react negatively and take that strain out on themselves or others (Agnew, 2001). Cases of mass violence involving family or work can best be explained under Agnew's general strain theory as these individuals are triggered by subjective strain, with which they are unable to positive cope with, and take out their frustrations in a violent fashion on those near to them. Whether it is out of love or hate, the offender is reacting to the stressor or the build-up of strain in an effort to correct what they have deemed the underlying cause of the strain.

Numerous research studies have been conducted exploring the motives and contributing mechanisms which may influence an individual to commit large scale violent crimes (Arneklev, Elis, & Medlicott 2006; Cohen & Felson 1979; Fox and Levin 2003). However, these theoretical explanations for violent crime are centric to the offender and do not expand into the event circumstance, target selection, or resulting victimization. Only a few criminological theories are discussed here but with the development of this measure more statistically valid and reliable theoretical inferences can be made.

Stage 2 of the Current Study

This portion of the study is intended to test the theoretical measure for violent mass victimization. Themes identified in the previous chapter are operationalized and used to identify if statistically significant differences are present between the violent event types of violent mass victimizations and mass murders. Additionally, analyses are conducted to determine if the measure should include a minimum fatality count.

Data

Data used in this analysis were collected from 1,118 news articles, reports, and excerpts regarding incidents of mass violence where there are a minimum of three physically injured or killed, non-offender, victims. Articles included in this study are derived from incidents which occurred between the years of 2009 and 2012 and spanned 42 US states. Within this four-year timeframe a total of 550 cases were derived from the 1,118 news articles and reports. Each case is comprised of one or more articles, averaging two to three articles per case. Both incidents of mass murder and violent mass victimization were collected. Publically available articles were obtained through a variety of online key word searches spanning local, state, and national news coverage outlets. A number of news outlets provide limited access to their archives and require payment either per article or through a subscription. No subscriptions or fees were paid to obtain any of the articles included in the dataset.

Once data collection was complete a number of variables were derived from the selected content for this criteria-based quantitative analysis. As this study looks to identify the similarities and differences between incidents of violent mass victimization and mass murder, as well as the emergent definition of violent mass victimization, variables include victim count per incident,

number of victims killed, number of victims injured, number of male and female victims, number of injured or killed adults and juveniles, victim/offender relationship, injury severity, and key components found throughout the dataset in regard to situational context, incident causation, offender outcome, incident time of day, incident location, and location accessibility. Each case was coded for these variables and run through a battery of statistical tests, including two-sample t-tests, correlations, chi-square, and ordinary least squares (OLS) regressions, in order to address this study's main goals.

A total of 408 cases in the dataset met the criteria for violent mass victimization and 142 cases in the dataset met the criteria for mass murder. This difference in observations between incidents was, to an extent, expected as incidents of mass murder are rare. It also shows that incidents of violent mass victimization occur approximately three times more often than incidents of mass murder within the four year timeframe. Since news reports and articles document facts at varying levels, not all cases are complete. For instance, some do not provide offender data, how severely victims were injured, what set the violent event in motion, and so on. As such the cases were coded in correlation to what information was presented per case and this lack of consistent reporting accounts for the varying observation counts among the variables.

Methods

Each article included in the final content dataset was selected through nonprobability purposive sampling by use of keyword searches of news outlet archives, online news repositories, data files and lists provided by news related sources, and the Google search engine. Non-case specific keyword searches were employed to obtain articles and reports to construct the

dataset. The four most commonly used keywords were; injured, wounded, killed, and dead. For an article to have been selected for inclusion, it had to meet two minimum requirements. The first is that the case had to have a minimum of three documented injured or killed victims. The definition of a mass murder utilized in this analysis is the killing of three or more people during a single event and is the foundation for the definitional measure of violent mass victimizing. The second criteria is that there must be one or more distinguishable motivated offenders.

All aspects relevant to this portion of the study were coded into dichotomous, continuous, or categorical variables as needed for the analyses. Initial coding of themes found throughout the dataset was done through the use of the QDA miner qualitative analysis program discussed in the previous chapter. From there the data were imported into an Excel file where the themes and variables identified in the first stage of this study were operationalized into quantifiable numeric variables suitable for statistical analysis. This involved the beginning of collapsing categories within categorical variables and providing numerical coding for statistical analysis. The data were then imported into the STATA 13.0 statistical software program where the final recoding of variables and statistical analyses were conducted. To insure that all relevant and pertinent data were extracted from the news articles, the dataset was constructed first by case and then by person involved (victim and offender), followed by relevant case categories which were initially identified as themes found within the dataset. Each case was assigned an individualized incident number representing the state, year, and case number as they appear in the dataset.⁷ Variables were developed, in part, during the qualitative content analysis discussed in the previous chapter

and refined in STATA. Some of the coded variables presented here were only utilized in bivariate analyses while others were utilized in regression analyses. This provided the opportunity to analyze variables, which were not a good fit for the regression models. Utilization of bivariate and regression analyses allowed for the most thorough and descriptive analysis and definition for incidents of violent mass victimization as possible. Frequencies of variables and categories as they were reported in the dataset are provided in the variable descriptions in the next two sections.

The dataset from which these variables are derived represent a total of 550 cases of mass violence which occurred within the four- year timeframe of 2009 through 2012. Because there is currently no available dataset or literature specifically focused on incidents of mass violence in this context, outside of genocide studies, this dataset had to be constructed manually. Multiple news outlets were resourced in the construction of this dataset. Only written content was included in the dataset and though news reports were gathered from television affiliated websites, no videos were included. Images, which were occasionally included in the text, were utilized in determining victim sex, where applicable. Classifications for victim sex, victim/offender age, and victim/offender relationship are consistent with prior research in the field of violent crime. Causal factors, location, accessibility, and time of day were generated from the qualitative content analysis independent of prior research models. A total of twenty-nine variables were constructed and coded for this analysis. Observations, which were classified as Unknown were omitted from all analyses, which explains varying observation counts in the analyses. Coding for all variables in this quantitative portion of the content analysis is as follows.

Dependent Variable

The following variables were used as dependent variables in the OLS regressions. As it is one of the purposes of this study to identify similarities and differences among incidents of violent mass victimization and mass murder comparative regression models were calculated. These dependent variables were constructed from the data set to also provide insight into incidents of violent mass victimization where none, one, and two non-offender fatalities were reported. This was done to address the third research question guiding this study, which attempts to identify if a minimum fatality count should be included in the final definition of violent mass victimization.

Violent Mass Victimization- (N=408) This is a continuous variable documenting the total number of injured or killed victims where two or fewer non-offender people were reported as dying during the incident or as a result of the injuries received during the violent event.

Mass Murder- (N=142) This continuous variable documents the total number of reported victims of a mass violent event which resulted in the killing of three or more non-offender victims. Victims killed include those who died during the event and those who died later as a result of their injuries sustained during the violent event.

Number Killed- (N=550) This category is divided into four variables. The first is number killed which accounts for the total number of victims killed during a mass violent event. In cases where no fatalities were reported the case was coded 0. Three other variables were

constructed regarding the number of fatalities reported per case. These three variables were constructed from the 'Victim Count' and 'Violent Mass Victimization' variables. The first, called None Killed (N=142), is a continuous variable documenting all victims per case in incidents where no fatalities were reported. Second, called One Killed (N=175), is a continuous variable documenting all victims in cases with only one recorded victim fatality. Third, called Two Killed (N=91), is a continuous variable documenting all victims with a maximum of two victims being reported as dead or having died of their injuries.

Independent Variables

Variables categorized as independent apply to victim and offender specific data (age and sex) as well as contextual data referring to victim/offender relationship, causal factors, injury severity, location, accessibility of offenders to incident location, time of day in which the event occurred, offender outcome and the weapon used in the event. These components contributed in determining if there are notable causative components, which differentiate these two types of violent events, beyond victim count. Not included here is a variable representing offender sex. Only twenty females were recorded as offenders while all others were either male (N=496) or the sex was unknown. Due to the limited number of identified female offenders, in comparison to the males, all offenders remained in the dataset, but variables were only generated to account for the offender's age. It is also important to note that the categorical variables described in this section are nominal and not ordinal. The coding presented suggests that these categorical variables are ordinal but STATA 13.0 provides the ability to treat the categories of these variables as dichotomous once a reference category is specified.

Victim Count- (N=550) This is a continuous variable documenting the total number of injured and killed victims reported in each of the 550 cases present in the dataset. This variable accounts for all victims who were injured or killed during the event and does not include any offenders regardless of whether the offender(s) were injured or killed during the course of, or as a result of, the violent event.

Violent Mass Event- (N=550) This dichotomous variable differentiates cases of violent mass victimization from those of mass murder. Incidents stating that at least three individuals sustained physical injury during the event were coded as 1 (N=408). This includes cases with three document non-offender(s)-victims, but where no more than two victims were reported as killed or died of their injuries. All cases where a minimum of three victims are reported as being killed or died as a result of their injuries, were classified as a mass murder and coded as 0 (N=142). This acts as the main comparative variable in determining differences and similarities between incidents of violent mass victimization and those equating to mass murder.

Number Injured- (N=550) This is a continuous variable which provides a count for the total number of injured victims per incident. Counts per incident range from 0 to 22 victims injured during a single event. A total of 63 cases report no injuries and fall directly into the mass murder classification.

Victim Sex- These are continuous count variables identifying the total number of male and female victims listed per case. Sex was determined by whether the victims were referred to as men/boys, or women/girls, in the majority of cases. Other cases would provide victim names which gave insight into the sex of the victim. If sex was not immediately

determinable by the given name, then the name was entered into a search to identify sex. If sex was still not determinable the victims' sex was counted as unknown (UK). In cases where the victims were referred to as women and men but no specific count per sex was provided, then only one count was documented for each sex signifying that both sexes were victims even though a true count could not be ascertained.

Victim Age- Two categorical variables were constructed to represent the age of victims killed or injured during a mass violent event. The first is Adult Victims (N=491), which accounts for the total number of victims aged 18 years old or older. The second is Juvenile Victims (N=203), which accounts for the total number of victims believed to be 17 years of age or younger. Victims ranged from still in the womb to those reported to be in their 90s. These frequencies account for the number of cases where the victims' age could be discerned and are not representative of the total count of victims presented in the data.

Offender Age- Two continuous variables, differentiating between Adult Offenders (N=372) and Juvenile Offenders (N=16), were also constructed to account for the total number of identified offenders. For an offender to be counted as an adult their documented or suggested age had to be 18 years of age or older. For an individual to be categorized as a juvenile their documented or suggested age had to be 17 years of age or younger. These frequencies account for the number of cases where the offender age could be discerned and are not representative of the total count of offenders presented in the data.

Since, age is not provided for all victim/offenders other linguistic cues were noted to determine if the individual was an adult or a juvenile. Authors of the news articles and reports would often distinguish adults from juveniles by referring to them as Men or Women and girls or

boys, indicating level of age. In other cases where age was not specifically provided the author would note that (x) adults and (x) juveniles were wounded or killed. The majority of known or partially described offenders were suggested to be adults but in cases such as drive-by shootings the age or total number of offenders could not be determined and were then coded as missing. Some articles provided a victim/offender count and age range but did not specify how many adults or juveniles were involved. When an age range was provided instead of specific ages for the victims involved, only the noted ages were counted. Meaning, if the article stated that “Their ages ranged from 16 years of age to 46” then only one adult and one juvenile were recorded for the case since it was unclear how many victims were adults and how many were juveniles.^{vi} This decreased the count of adult and juvenile victims in comparison to the total victim count. Imputation of victims’ ages was not possible as at least 25% of cases would have had to have imputed values. This was too high, and it was determined that the count should remain as close to the provided information as possible. Circumstances surrounding the violent event would also suggest if those involved were adults or juveniles. The article may have referred to them as teenagers or that the event took place at a local bar or nightclub where the implied clientele was of legal age to drink (18 or 21 depending on the state) and as such were counted as adults.

Victim/Offender Relationship- (N=308) Indicates the relationship between victim(s) and offender(s) for each victim documented in the violent event. In cases where multiple offenders were reported the relationship remained the same for each victim. This means that all offenders were shown to have the same type of relationship with each of the victims making it unnecessary to generate additional variables for victim/offender relationship per offender. Instead, three continuous variables were generated to document

the number of category specific relationships between offender(s) and victims.

Classification parameters and coding for each variable in this category are as follows.

Relationship Variable 1- Family (N=91) This continuous variable accounts for the total number of victims the offender(s) had a familial relationship to. Family included parents, grandparents, (ex) in-laws, (ex) spouses, children (e.g. paternal, step, nieces, and nephews), aunts, uncles, and is extended to include (ex) girlfriends and (ex) boyfriends. The decision to include (ex) girlfriends and (ex) boyfriends was based on the prevalence of domestic disputes and abuse found throughout both traditional and non-traditional familial archetypes within the dataset.

Relationship Variable 2- Acquaintance (N=102) This continuous variable accounts for all victims per case who were known to the offenders but did not share a familial relationship. This classification extends to family friends, neighbors, co-workers, and friends of friends which are suspected or implied to having had some personal interaction prior to the violent event. Rival gangs or gang members may fit into this category if the article indicates that the victims and offender(s) had prior interaction such as an argument, fight, or were at the same social function such as a party or funeral.

Relationship Variable 3- Stranger (N=115) Victims falling under this category have had no prior relationship or known connection to the offender. They may be identified solely as rival gang members who were identified by gang insignia such as wearing gang colors or tattoos. Police officers also fall into this category since it is the badge and uniform that is recognized by the offender and the person themselves. Young children, ranging from unborn children to the age of 12 are automatically entered in as strangers to the offender

since they are commonly referred to as innocent bystanders in these multiple victim events.

An example of Family, Acquaintance, and Stranger is illustrated in a single case out of Brooksville, Florida, where a man killed three people and wounded two others.^{vii} In this particular case the offender opened fire on a residence where two of his family members ran a home-based business. During the initial shooting he killed his sister and an employee of the business, and wounded his pregnant niece and another employee before fleeing the scene. A short time after the shooting police caught up with the offender at a near-by gas station where a gun fight ensued. During this final shootout the offender and a sheriff's deputy were killed. The sister and niece were categorized as Family, the employees were categorized as Acquaintances, and the sheriff's deputy was categorized as a stranger. The familial relation is easy to identify, whereas the employees injured and killed during the event were implied to have had previous interaction with the offender since they would frequent a family members' home for business. The sheriff's deputy was not known or implied to have known the offender in any way prior to the incident but this non-relationship is clearly identified and as such indicates the officer as a stranger.

Injury Severity- (N=550) This category is divided into five continuous variables. Since each case has a minimum of three victims each the variables are continuous count variables accounting for all injury classifications within a case. These counts do not include the dead as their injury is not something that can be recovered from. Development of these categories occurred during the first portion of this content analysis and are derived from definitions provided by the Missouri Association for Healthcare and Public Relations and

Marketing (SHSMD 2002). During the analysis in the previous chapter, five levels of injury were defined. Classification parameters and coding for each variable in this category are as follows.

Injury Variable 1- Minor (N=85), is a continuous variable which documents all victims who received or were reported as receiving minor injuries during the violent event. These injuries are considered minor because they require little to no medical attention and include wounds such as being cut by flying glass, bruising as a result of falling, being beaten, or shot while wearing a bullet proof vest. Bullet grazes also fall under the minor category if no extensive medical treatment is suggested to be required. A Minor injury is considered to be the lowest level of injury severity.

Injury Variable 2- Moderate (N=343), is the continuous variable which ranks second on the injury severity scale. Typically described as an injury that is quickly treated by medical personnel and does not require surgery or an extended hospital stay. Injuries include suggested through and through gunshot wounds to a victim's appendage such as an arm or leg, a broken appendage which requires out-patient attention, and non-specific injuries where the victim is solely described as being "Treated and released," or having a "Non-life threatening injury." Higher levels of injury were typically discussed separately from this type of lower level injury. Again, no extended hospital stay is implied or described within the article.

Injury Variable 3- Serious (N=147), ranking third most severe on the injury severity scale, wounds of this nature require surgery and/or an extended hospital stay. This classification is identified when the victim is described as requiring surgery, is still in the hospital after

more than a day, is plainly stated as serious, or the nature of the wound implies either surgery or an extended hospital stay. Injuries which imply this categorization are gunshot/stab wounds to the stomach, abdomen, head, or, unless otherwise specified, a gunshot wound to the shoulder. All wounds included in this category may also be classified as severe; however, there is little to indicate the stability of the victim in order to differentiate between serious and severe.

Injury Variable 4- Critical (N=111), ranking fourth on the injury severity scale. Victims suffering wounds of this status are stated as being wounded “critically,” “critical but stable,” or the victim is described as being “not out of the woods.” To ensure that miss-categorization between a serious injury and a critical injury did not occur the victim had to be described in one of these ways for them to fall into this category.

Injury Variable 5- Life Threatening (N=29), to fall into this category the victims’ wounds must be described as “life threatening,” “fighting for their life,” or have suffered a head wound which has damaged the brain and the victim, usually reported as unconscious, is in intensive care. The most common wound described under this category is a gunshot to the head. Rare occasions indicate that the victim received multiple gunshot wounds to the torso and their immediate condition is described as “life threatening” or “not expected to survive.” This categorization was only changed if updated information indicated that the victim died of or survived their wounds.

Innocent Bystanders- (N=243) This dichotomous variable indicates cases where some of the injured or killed victims were considered to be innocent bystanders. For a victim to be identified as an innocent bystander they had to have had no known quarrel with the

offender(s) and it was stated or suggested that these individuals were not a part of the cause or the intended target of the resulting violent. In cases where an offender victimized members of their family all victims were considered to be targets and not innocent bystanders. Target selection is key in determining if the victims of the violent event were considered to be innocent bystanders or not. In cases where innocent bystanders were identified among the injured or killed, it was coded as 1 with all others coded as 0.

Causal Factor- (N=335) This is a categorical variable indicating the underlying cause or catalyst of the violent event. A total of 66 underlying causes were identified during the initial content analysis throughout the dataset. These causes were collapsed into eight main causal component categories. Each identified causal category represents the identified or implied reason behind the violent event represented in each case. Classification parameters and coding for each causal category used in this variable are as follows.

Category 1- Domestic Issues (N=78) Underlying causes to the violent events that fit this category refer to incidents where the victim and offender(s) have a known or familial relationship. Cases in this category include jilted lovers, family annihilators, spouses and ex-spouses going through a divorce or custody battle, family members or business partners engaged in ongoing personal disputes regarding business or property, or domestic abuse situations. Cases under this category are coded as 1 within this variable.

The key component in this classification is that there is evidence or mention of long standing conflict between the offender(s) and the victims. These individuals are known to each other and their conflict is rooted in personal or domestic disputes. An example of this can be seen in a case from Louisa, Virginia, where a man killed two and wounded four others in what

authorities described as an “ongoing family dispute over a piece of property”.^{viii} In this incident, the article notes that law enforcement had been called to the location on multiple occasions for at least the last two years.

Category 2- Retaliation (N=31) Causes which fall into this category are related to incidents where the offender(s) appear to be reacting to some form of rejection or slight against them. This category does not include gang-related violence since it is not always clear in those cases as to whether the motivation for the violence is retaliation, turf war, or someone was wearing the wrong color in the wrong neighborhood. Many of the cases referring to gang retaliation present the motive as a maybe or a might. Cases under this category are coded as 2 within this variable.

This category primarily focuses on incidents where the offender was denied access to a club or party, were ejected from a club or party, or believed they had been wronged by an employer or co-workers. One such case involves a man who sought revenge against another for not splitting the profits on an insurance scam^{ix}. Another, involves a man who shot and killed one, wounded six after being ejected, or kicked out, of a bar^x.

Category 3- Argument (N=96) Cases classified into this category indicate that the violent event stemmed from an argument. These altercations are considered spontaneous and lacking in a troubled history between offender(s) and victims. Also included in this category are articles where the altercation is referred to as a fight or confrontation between two people or groups of people. In this instance the altercation is between or among non-gang members or individuals who were not identified as being involved with a gang. This classification was often found in cases occurring at a party, club, or other social gathering

where there were a large number of affected uninvolved people who had no known relationship with the initiating combatants. Cases under this category are coded as 3 within this variable.

Category 4- Gang Related (N=45) For a case to be classified as having a gang related motive the news article had to specify gang involvement. This was most commonly scene when an official was quoted as saying that the incident was “gang-related.” Other articles would tie the violence to gang activity through the victims did not need to be involved in a gang to be listed in this category. For example, a case in Walterboro, South Carolina were the relative of a gang related drive-by shooting is quoted as saying “It was a gang, but the people they shot were not in the gang,”^{xi} Many innocent bystanders found themselves on the wrong side of a gang dispute. As such this category includes all victims (gang and non-gang affiliated) injured or killed due to specified gang violence. Cases under this category are coded as 4 within this variable.

Category 5- Felony (N=42) Incidents of mass violence that fall into this category are those that occurred during the commission of a crime or when police inadvertently approached a felon fleeing from the law. Crimes include robbery, burglary, drug related, hate crimes, theft, rape, and resisting arrest. Cases under this category are coded as 5 within this variable.

Category 6- Mental Illness (N=18) Cases under this category indicate that the offender was suffering from some form of mental illness. This ranged psychotic delusions to Post Traumatic Stress Disorder. Victims of these events were usually family or law enforcement officers. To be included in this case the article(s) had to indicate that the

offender had a history of mental illness related problems. This was done through directly stating mental illness or describing their affliction and how it played into the event. In Cases under this category are coded as 6 within this variable.

Category 7- Police Involvement (N=13) Involvement of law enforcement officers typically occurred after the violent event had ended. Responding to domestic disturbances, calls of shots fired, or partaking in an active investigation is how law enforcement officers and agencies were typically documented throughout the dataset. Cases under this category are coded as 7 within this variable.

In a few select cases, officers were present when the violence started or arrived while it was still in progress. Police involvement is categorized here as a motive or underlying cause of the violent event as it was their presence which often sparked the violent event into action. This does not mean that the officers were acting in an antagonistic manner, but rather they were often fired upon during the course of their official duties. These situations include serving warrants, conducting traffic stops, and partaking in sting operations. In only two cases was an off-duty officer present at the time of a shooting which usually stemmed from an external conflict between individuals not associated with the officer.

Category 8- Other (N=12) These were the cases that did not fit any other classification and include incidents where the underlying causes were financial troubles, religion, a desire to kill, possibly biological, and more. The divergent nature of these particular events made it impossible to place them in any other category but they were clear enough that they did not fall into the category of Unknown. Cases under this category are coded as 8 within this variable.

There were cases in which these categories overlapped. When overlap occurred the primary motive or underlying cause was determined by how it was portrayed in the news article(s). For instance, in Philadelphia, PA a woman opened fire at her place of employment, killing two and wounding one, after being suspended^{xii}. The articles in this case document the woman's frustration with her co-workers and employers as well as her history of mental illness. Overall, it appeared that her increasing paranoia of being doused with chemicals at work, in her car, and at her home were the primary motivating factors in the attack. It was determined that the underlying cause for the mass shooting was rooted in her mental illness and as such the case was classified under Mental Illness as opposed to retaliation where other workplace shootings had been categorized. Retaliation also often overlapped in cases with possible gang connections, but as previously explained the cases were placed into their own category of Gang-related as these cases were not always clear on whether the violence stemmed directly from gang ties or a more personal vendetta. The case which best exemplifies this is one from Washington, DC, whereby three offenders opened fire on a crowd in a drive-by shooting which killed four and wounded five.^{xiii} All three offenders were apprehended and it was determined that the drive-by shooting was initiated over the theft of a gold bracelet. These individuals shot and killed the person they believed responsible for the theft and when they heard a street-side memorial for the presumed thief was taking place one member of the group became angry and decided they would open fire at the memorial. This case had all of the markers of a gang-related retaliation until the true underlying motive was discovered. As such, this case was determined to be one of retaliation and not gang-related. Not all cases have the motives and endings so nicely wrapped up which is why it became necessary to separate incidents of retaliation from those that were gang-related.

Location- (N=540) This categorical variable related to incidents of violent mass victimization events is divided into six categories which identify the location type of the violent event. This variable was designed to provide insight into the relationship between the violent event and where the violent event occurred. A total of 166 locations and environments were identified during the initial content analysis. From these, eighteen location types were categorized which were then collapsed into seven primary location types for this portion of the study. These final seven categories are Business, Residence, Recreational, Street, Safe Havens, Multiple, and Unknown.

These categories are not presumed to be directly related to the motive of the violent event. For instance, incidents were jealous or jilted lovers/significant others who sought out their primary target at the target's place of employment and after shooting their target began shooting others within the establishment did not affect the location classification. That is to say, just because the violent event took place at a place of business does not directly tie the act of violence to a grudge or issue with the business itself. Classification parameters and coding for each category in this variable are as follows.

Category 1- Business (N=133) Locations falling under this category ranged from clubs to manufacturing plants. Any location which had employed workers and provided services or products was considered a business. Medical offices, convenience stores, bars, restaurants, nightclubs, office buildings, grocery stores, strip clubs, and more were among the many businesses included in this category. Cases under this category are coded as 1 within this variable.

Category 2- Residence (N=205) Cases recorded as the violent event occurring at a residence included houses and apartment complexes. If a type of dwelling was not specifically stated this category could be assigned if the environment was described as occurring at a house party, in the front/back yard, or garage. Cases which were the result of a drive-by shooting or where an offender walked up to a place of residence and opened fire were also categorized as a residential location. Though it could be argued that a drive-by shooting was a street location the target of the offenders was clearly the residence or people located at the residence at the time of the violent event. Cases under this category are coded as 2 within this variable.

Category 3- Recreational (N=18) This type of location varied but shared the primary theme of recreation. Locations under this category include campsites, parks, recreational centers, publically held charity events, festivals, and fairs. Some of the events within this classification took place outside of proper businesses but the event taking place had no affiliations with those businesses and such were placed into this category. Cases under this category are coded as 3 within this variable.

Category 4- Street (N=129) Locations documented under this classification also extended to violent events which took place in parking lots which were presumed to have street access. Streets and parking lots are also publically accessible to anyone at any time. These particular events include a variety of drive-by shootings where a residence was not the primary target, but rather individuals standing on street corners, sidewalks, or general parking areas. Cases under this category are coded as 4 within this variable.

Category 5- Safe Haven (N=19) Three location types fall under this category and are commonly thought of as safe zones or safe havens which should be free from violence. They include hospitals, churches, and schools. Incidents taking place at a school included universities, colleges, secondary schools, and primary schools. They did not include off campus housing or fraternity houses as those types of locations fell within the definition of residence. Cases under this category are coded as 5 within this variable.

Category 6- Multiple (N=36) This category documents violent events which spanned more than one location. In some cases the event began at a residence and moved to a place of business. Other events spanned multiple residences or moved from a residence to a street or road location. All of these events transpired within a small timeframe (less than 12 hours) and only two cases crossed county or state lines. Cases under this category are coded as 6 within this variable.

However, the incidents which crossed state or county lines were all still geographically close in that each location within a single incident was within miles from each other. An incident was not included in this category if the offender(s) left the initial crime scene and committed suicide. It was only documented as having multiple locations if non-offenders were wounded or killed at multiple locations since the offender is not counted among the victims.

Accessibility- (N=540) This categorical variable indicates how accessible the location of the violent event was to the offender(s) and how accessible the location is generally perceived. Accessibility of a location is a theme derived from the initial content analysis whereby some locations were, or appeared to be, more guarded than others.

Safe guards included security measures such as locks, bouncers, security guards, and the presence of heightened or diminished social controls. It also takes into account the accessibility of locations where security is presumed but not necessarily backed up, such as residence involved in a home invasion or business which require key cards or pass codes in order to enter. Accessibility was determined by the level of perceived or implemented security a location suggests or was described as having. Classification parameters and coding for each category in this variable are as follows.

Category 1- Public (N=265) locations deemed to have public access are those that are open to the general public with little to no safety measures. This includes businesses that service the public such as restaurants, salons, gas stations, stores, bus stops, streets, and parking lots, to name a few. The one exception to this are clubs and bars. Cases under this category are coded as 1 within this variable.

Clubs and bars typically employ an 18 or 21 years or older requirement to gain entrance. These locations will hire additional security to end altercations before they can escalate and, in some cases, attempt to hinder any weapons from entering the establishments. This perceived increase in capable guardianship provides the perception of security and limited accessibility. However, the actual accessibility of these locations fluctuates and many of the violent events begin within the location and the final violence erupts just outside the doors. Offenders are also noted as returning to the club or bar, from which they had been ejected or had a prior conflict with one or more of the patrons, with a firearm which negated the security in place. Lastly, admittance to these establishments can fluctuate from person to person and from night to night. Allowing a patron entrance one night and denying them the next for one reason or another. Since

accessibility in these locations is not as stern as the safe guards would lead one to believe they are classified as having Public accessibility.

Category 2- Semi-Private (N=123) Locations designated as having semi-private accessibility include residences, businesses, schools, and hospitals. Only residences hosting parties, BBQ's, or other social functions are categorized as semi-private due to diminished levels of social controls. When someone hosts a social gathering at their home, the level of expected privacy is greatly diminished and accessibility to the residence is greatly increased. Cases under this category are coded as 2 within this variable.

Cases where parties were being held at a residence indicated that dozens to hundreds of people were in attendance making it easy for offenders to enter an otherwise private residence. Businesses under this classification are not typically open to the general public and would have to be in possession of some form specified clearance in order to gain admittance. This is most prominently seen, in the dataset, in office buildings or businesses with restricted areas. Schools are generally private during operating hours where non-students or staff members are permitted or expected to be within the school boundaries. These expectations of privacy fluctuate during the start and finish of school hours when they become more transient. At these times accessibility to the school grounds becomes fluid and security capabilities become diminished and void (Forde & Kennedy, 1997). In addition to this, universities and colleges have more perceived security by means of campus police and security but due to the nature of these locations they can be accessed by anyone at any time. School events, such as dances and sporting events also create gaps in security providing higher levels of accessibility to the location. Hospitals have their own security and emergency protocols in place to prevent unauthorized access to various areas

throughout the facility. Cases within the dataset have noted hospitals going on “lock down” following a mass shooting. This precaution is an attempt to hinder the spread of violence beyond the front doors. Though these measures provide a high level of privacy and security, hospitals are still generally open to the public which provides the opportunity for offenders to enter the facility with little hassle.

Category 3- Private (N=152) This category is reserved residences. The home is where we expect the most privacy and can monitor the comings and goings of anyone who attempts access. The perception that the home is a private place is the key component in determining its accessibility status as private. The only other locations designated as private are government buildings or facilities with extensive security and access to the public, beyond the front lobby, is denied. Cases under this category are coded as 3 within this variable.

Time of Day- (N=361) This categorical variable is divided into four categories each accounting for a segment of time within a twenty-four hour time period. Each category indicates the approximate time of day in which the violent event occurred. Articles and news reports would document either the approximate time the event began or the time of day that police or emergency responders received a call for service. This occurred in 66% of cases and has been added to this analysis to determine what or if the time of day is related to incidents of mass violence and if the relationship differs between incidents of violent mass victimization and incidents of mass murder.

The time segments for each category were determined by how they were most commonly referred to in the news articles. Each of the time segments follow colloquial descriptions of time

of day which were substantiated throughout the dataset. Classification parameters and coding for each category in this variable are as follows.

Category 1- Early Morning (N=90) Articles and news reports referenced early morning hours to be between 1:00 AM and 5:59 AM. Cases which began within this timeframe are coded 1 within this variable.

Category 2- Morning (N=53) Incidents which were regarded as occurring in the morning hours took place between 6:00 AM and 11:59 AM. Cases which began within this timeframe are coded 2 within this variable.

Category 3- Afternoon (N=59) These violent events occurred between 12:00 PM and 4:59 PM. Cases which began within this timeframe are coded 3 within this variable.

Category 4- Night (N=159) Incidents taking place during this timeframe transpired between 5:00 PM and 12:59 AM. Cases which began within this timeframe are coded 4 within this variable.

Offender Outcome- (N=481) This categorical variable is divided into four categories, each of which account for a type of outcome motivated offenders are subject to following a mass violent event. These categories were developed during the content analysis discussed in the previous chapter and, in part, coincide with the available literature on mass murder and offender typologies. Classification parameters and coding for each category in this variable are as follows.

Category 1- At Large (N=194) For a case to be categorized as At Large the news articles and reports had to indicate that the offender(s) had not been arrested and were still alive. Most often seen, in the dataset, in drive-by style shootings or shootings in large crowds where

witnesses had a difficult time identifying the offender(s). For example, In Newark, New Jersey one or more unidentified shooters opened fire in a housing complex, injuring five people^{xiv}. Law enforcement reported that they were investigating the event but the people responsible were still at large. Cases where the offenders are unidentified, not under arrest, or plainly stated to be still at large were coded as 1 within this variable.

Category 2- Arrested (N=164) Cases designated in this category report that one or more of the responsible offenders were arrested. This may or may not be followed by a list of charges but it is clear that those believed to be responsible for the violent mass event have been apprehended by law enforcement. This includes offenders who were wounded during the event, either by law enforcement, one of the victims, or they attempted to take their own lives and failed, but were not reported as having died of their injuries. Cases where the offender outcome meets these requirements were coded 2 within this variable.

Category 3- Suicide (N=82) All cases falling under this category state that the offender responsible for the mass violent event took their own lives before they could be apprehended by law enforcement. Included in this category are incidents where law enforcement report that the suspected offender died from a self-inflicted wound or it is stated that they took their own lives. Cases where the offender outcome meets these requirements were coded 3 within this variable.

Category 4- Killed Prior to Arrest (N=41) Cases coded into this category indicate that the offender died before law enforcement was able to arrest them. To be included here the offenders' death could not be self-inflicted. News articles and reports had to state the offender was killed by an intended victim, in a gun fight with law enforcement or as a

result of other injuries obtained during the event. Cases where the offender outcome meets these requirements were coded as 4 within this variable.

Firearm- (N=501) Weapon type was documented for all weapons with ninety-one percent of cases in the dataset involving a firearm. With well over the majority of weapons being used in mass violent events it was determined that a dichotomous variable, indicating firearms in comparison to all other weapons, would be generated. The frequencies of the various types of weapons can be seen in Table 1 in the analysis section of this paper. For the Firearm variable all incidents involving a firearm are coded as 1 with all other weapons coded as 0.

Limitations

As the data analyzed in this study are derived from media news content, it is restricted to the information provided by the press and the accessibility to news sources. Many of the news sources used to obtain case information only provided limited access, while other sources provided no access to news content without paying for the article or a subscription fee. This suggests that the dataset is not as complete as it could be. As discussed in the previous chapter, the dataset is subject to news source selection bias. This also suggests that the dataset is not as complete as it could be since the sources for the data only presented incidents of mass violence they deemed newsworthy.

Analysis

The following analyses are divided into two sections, bivariate and regressions. The bivariate analyses selected for this study were done so to identify the relationships among

variables and their suitability for regression analysis. These combined with the regression analyses provided necessary information required to develop a definition and measure for violent mass victimization, which is statistically valid and suitable for further testing. Both OLS regression models and binary regression models were employed to develop the final definition and measure of violent mass victimization.

Bivariate Analyses

Not all of the variables outlined in the methods section were suitable for the regression analyses. This does not make them any less important. They are explored here through bivariate analyses. Frequencies for the variables and categories were provided in the methods section.

Table 3 Frequencies for types of weapons

N= 550	Frequency	%
Weapon Type*		
Firearm(s)	607	.91
Blade(s)	34	.06
Incendiary	9	.02
Blunt Object	7	.01
Personal Weapon	1	.001
Other	1	.001
Total	659	100

*Counts and percentages are based off of total weapon count among all cases

Table 3 illustrates the frequencies of the various weapons reported as being employed in the mass violent events documented in the dataset. The weapons are displayed here to show the breakdown of what the Firearm variable is comprised of. Only 49 cases did not report a firearm as the weapon used. Firearms ranged from AK-47s to non-descript hand guns. In 67% (N=336)

of cases the victims were reported as being shot but no description of the firearm was presented. Occasionally, multiple firearms were employed in a single event, which explains why there is a higher frequency of firearms than there are cases in the dataset. Incidents where non-firearm weapons were used were more precise in both who they targeted and who was injured or killed as opposed to those where a firearm was employed.

A two-samples t-test was conducted to compare the total number of injured victims of mass violent event where a firearm was and was not employed. The results are shown in Table 4. There was a statistically significant difference in scores for incidents indicating a firearm was used ($M= 3.44, SD= 3.88$) and incidents where a non-firearm was used ($M= 2.29, SD= 1.72$) in incidents resulting in one or more injured victims; $t(548)= -2.07, p= .04$. No statistically

Table 4 Results of t-test and descriptive statistics for the number of victims killed and injured by firearm usage

Outcome	Group						95% CI for Mean		t	df
	Non-Firearm			Firearm			Difference			
	M	SD	n	M	SD	n				
Number Injured	2.29	1.72	49	3.44	3.88	501	3.03, 3.65	-2.07*	548	
Number Killed	2.10	2.40	49	1.69	2.07	501	1.56, 1.90	1.31	548	

* $p < .05$

significant difference was found between firearm and non-firearm usage in the number of killed victims produced during a mass violent event. Two-sample t-tests were also conducted to compare levels of injury severity with incidents of mass violence to determine the significance of injury severity among incidents of violent mass victimization and those of mass murder. These t-test results are presented in Table 5. They indicate that there are some statistically significant differences ($p < .05$) between incidents of violent mass victimization and mass murder resulting in one or more victims being injured during the event. There was a statistically significant

difference in scores for incidents of violent mass victimization ($M= .40, SD= 1.41$) and mass murder ($M=.13, SD= .49$) where one or more victims received minor injuries during the violent event; $t(548)= -2.29, p=.02$.

Table 5 Results of t-tests and descriptive statistics for injury severity by violent event type

Outcome	Violent Event Type						95% CI for Mean Difference		
	Violent Mass Victimization			Mass Murder			SD	n	M
	M	SD	n	M		M			
Minor Injury	.40	1.41	408	.13	.49	142	-.51, -.04	-2.29*	548
Moderate Injury	2.53	2.47	408	1.15	4.21	142	-1.96, -.81	-4.72*	548
Serious Injury	.46	.87	408	.33	1.04	142	-.31, -.04	-1.48	548
Critical Injury	.29	.67	408	.39	1.34	142	-.08, .26	1.01	548
Life Threatening	.29	.67	408	.39	1.34	142	-.14, .32	1.01	548

* $p<.05$

There was also a statistically significant difference in scores for incidents of violent mass victimization ($M= 2.53, SD= 2.47$) and mass murder ($M= 1.15, SD= 4.21$) where one or more victims received an injury classified as moderate; $t(548)= -4.72, p=.001$. Injuries classified as serious, critical, and life threatening showed no statistically significant differences between incidents of violent mass victimization and mass murder. These results suggest that the Level of injury severity decreases in incidents of violent mass victimization. If injury severity is categorized as serious or higher there is no observable difference between the types of mass violent events.

Additionally, two-sample t-tests were calculated to compare the victim characteristics of age and sex, as well as offender age with mass violent event types. Results are shown in Table 6.

Table 6 Results of t-tests and descriptive statistics for offender age and victim age and sex

Outcome	Violent Event Type						95% CI for		<i>t</i>	<i>df</i>
	Victims of Violent Mass			Victims of Mass			Mean Difference			
	Victimization			Murder						
M	SD	n	M	SD	n					
Juvenile Victims	1.83	1.35	133	2.19	2.39	70	-.16, .88		1.37	201
Adult Victims	3.00	2.32	356	3.56	3.29	135	.04, 1.08		2.13*	489
Male Victims	2.86	1.58	325	3.34	4.56	126	-.09, 1.05		1.67	449
Female Victims	1.86	1.15	192	3.12	3.72	117	.69, 1.83		4.37*	307
Juvenile Offenders	.07	.29	230	.02	.13	126	-.11, -.00		-1.99*	354
Adult Offenders	1.34	.75	238	1.15	.65	126	-.33, -.04		-2.46*	289

* $p < .05$, Note: Adult Offenders results calculated without assuming equal variance

Incidents of violent mass victimization ($M=3$, $SD=2.32$) show that adult victims, aged 18 years old or higher, $t(489)= 2.13$, $p= .014$, were reported more than in incidents of mass murder ($M= 3.56$, $SD= 3.29$), when equal variance is not assumed. A statistically significant difference between violent mass victimizing events ($M=1.86$, $SD=1.15$) and incidents of mass murder ($M= 3.12$, $SD= 3.72$) was found for the reported number of female victims, $t(307)= 4.37$, $p < .001$, indicating that there is a higher number of reported female victims in incidents of violent mass victimization than in incidents of mass murder. Results also indicate that juvenile offenders are reported less in incidents of violent mass victimization ($M= .07$, $SD= .29$) than in incidents of mass murder ($M= .02$, $SD= .13$), $t(354)= -.199$, $p= .046$). Adult offenders were also reported less often in cases of violent mass victimization ($M= 1.34$, $SD= .75$) than in incidents of mass murder ($M= 1.15$, $SD= .65$), $t(289)= -2.46$, $p= .09$. However, this decrease in reported offenders is easily

explained in the dataset. Many of the cases could not or did not provide enough information for the age of the offender(s) to be determined, specifically in regards to juvenile offenders.

Correlations were conducted to identify the relationship between variables. Using pairwise correlations, t-test probabilities for the null hypotheses were identified, and determined which correlations were significant at the $p < .05$ level. The results regarding these correlations, between total victim count, number injured, number killed, and types of victims are shown in Table 7. To make sure that a Type 1 error was not made the Šidák method was incorporated into the correlation equation, which adjusted the significance-test probabilities for the number of comparisons being made. Results indicate that there are statistically significant ($p < .05$) positive relationships between victim count, injured, killed, male, female, acquaintance and stranger, but not with victims who shared a familial relationship. Statistically significant correlations were present among total victims and male victims $r(451) = .75, p < .05$, female victims $r(309) = .77, p < .05$, victims injured $r(550) = .87, p < .05$, and victims killed $r(550) = .46, p < .05$, and strangers $r(115) = .69, p < .05$. Total number injured had statistically significant positive correlations with male, $r(451) = .69, p < .05$, and female victims, $r(309) = .56, p < .05$, and victims reported as strangers, $r(115) = .86, p < .05$, or acquaintances $r(100) = .16, P < .05$. Acquaintances only showed a significant relationship with the total number killed in a mass violent event. The only negatively significant relationship was between the number of injured victims and the victims sharing a familial relationship $r(91) = -.25, p < .05$, with the offender. This is not surprising as incidents where the victims and offender(s) shared a familial relationship typically left few wounded.

Table 7 Correlations related to victim counts and victim attributes

	Victim Count	Number Injured	Number Killed	Male	Female	Family	Acquaintance	Stranger
Victim Count	1.00							
Number Injured	.87*	1.00						
Number Killed	.46*	-.04	1.00					
Male	.75*	.69*	.31*	1.00				
Female	.77*	.56*	.61*	.61*	1.00			
Family	.02	-.21*	.34*	-.10	.08	1.00		
Acquaintance	.05	-.04	.16*	.11	.01	-.05	1.00	
Stranger	.69*	.54*	.42*	.56*	.79*	-.04	-.06	1.00

Significant at the * $p < .05$ level. Correlations are rounded.

The total number of victims killed in a violent event was positive and significantly correlated with male, $r(473) = .29, p < .05$, and female victims $r(443) = .59, p < .05$, family, $r(91) = .34, p < .05$, and strangers, $r(115) = .58, p < .05$, but not with victims categorized as strangers to the offender. Male, $r(451) = .56, p < .05$, and female, $r(309) = .79, p < .05$ victims also showed a statistically significant correlation with victims who were identified as strangers to the offender.

To determine if the categorical variables developed for this study are related, a number of chi-square tests were conducted. These tests aided in determining if the variables were suitable for regression analysis and identified their relationships to incidents of violent mass victimization. Chi-square tests were performed to examine the relationship between incidents of violent mass victimization and causal factors, locations, location accessibility, time of day, presence of innocent bystanders among the injured and killed, and the outcomes of the offenders. Results of the violent mass victimization chi-square tests are shown in Table 8. A chi-square test was conducted, in addition (not shown) to the t-tests presented in Table 4, to further explore the

relationship between the use of firearms in a violent event and events which incurred innocent bystanders among the injured and killed. The relation between firearms and bystanders was statistically significant, $\chi^2 (1, N=243) = 6.69, p < .05$. Innocent bystanders were more likely to be injured or killed by a firearm (93%) than in incidents where the offender used a non-firearm type weapon (7%). Results of the chi-square tests regarding the relationship between incidents of violent mass victimization and event characteristics were statistically significant. The relationship between violent mass victimizing events and the identified causal factors were statistically significant $\chi^2 (7, N= 330) = 64.08, p < .01$. Domestic causes were more likely to be associated with a mass murder event (56%) than an incident of mass victimization (44%). Retaliation was more likely the cause of violent mass victimization (65%) than mass murder (35%). Arguments were more likely to be the cause of incidents of violent mass victimization (89%) than those of mass murder (11%). Incidents reported as being gang-related were far more likely to be associated with incidents of violent mass victimization (91%) than with incidents of mass murder (9%). Violent mass victimization (67%) in the course of another type of felony being committed was more likely than the commission of felony resulting in a mass murder (33%). Offenders suffering from mental illness were more likely to be the cause of a mass murder. A significant relationship was found between incidents of mass violence and the location they occurred, with a $\chi^2 (5, N= 540) = 66.72, p < .01$. Violent mass events which took place at a business were reported more likely to result in an incident of violent mass victimization (82%) than a mass murder (18%). Incidents occurring at a place of residence were more likely to result in mass victimization (63%) than a mass murder (37%).

Table 8 Chi-square results of the relationships between mass violent event types and event characteristics

	Victims of Mass Victimization		Victims of Mass Murder		X ²	Total Frq.
	Frequency	%	Frequency	%		
<i>Bystanders</i>					50.39*	
Present	202	83	41	17		243
Not Present	80	50	80	50		160
<i>Cause</i>					64.08*	
Argument	85	89	11	11		96
Domestic Issues	32	44	41	56		73
Retaliation	20	65	11	35		31
Gang-related	41	91	4	9		45
Felony	28	67	14	33		42
Mental Illness	6	33	12	67		18
Police Involvement	11	85	2	15		13
Other	6	50	6	50		12
<i>Location</i>					66.72*	
Business	109	82	24	18		133
Residence	129	63	76	37		205
Recreational	17	94	1	6		18
Street	117	91	12	9		129
Safe Haven	14	74	5	26		19
Multiple	13	36	23	64		36
<i>Accessibility</i>					84.22*	
Private	71	47	81	53		152
Semi-Private	230	87	35	13		265

Significance level $p < .01$ * percentages are calculated across rows, rounded, and all equal 100%.

Table 8. Continued. Chi-square results of the relationships between violent mass victimization events and event characteristics.

	Victims of Mass Victimization		Victims of Mass Murder		X^2	Total Frq.
	Frequency	%	Frequency	%		
Public	99	80	24	20		123
<i>Time of Day</i>					18.21*	
Early Morning	73	81	17	19		90
Morning	27	51	26	49		53
Afternoon	46	78	13	22		59
Night	122	77	37	23		159
<i>Offender Outcome</i>					111.78*	
At Large	177	91	17	9		194
Arrested	120	73	44	27		164
Suicide	24	29	58	71		82
Killed Prior to Arrest	29	71	12	29		41

Significance level $p < .01$ * percentages are calculated across rows, rounded, and all equal 100%.

Mass violent events occurring at place of recreation were more likely to result in mass victimization (94%) than a mass murder (6%). Violent mass events, which occurred on the street or in a parking lot, were more likely to result in an incident of violent mass victimization (91%) than one of mass murder (9%). Safe havens, including churches, hospitals, and schools, were more likely to be the location of a violent mass victimizing event (74%) than one resulting in a mass murder (26%). Mass violent events, which spanned more than one location were more likely to result in an incident of mass murder (64%) than of violent mass victimization (36%).

The chi-square test calculated to identify the relationship between mass violent events and the level of accessibility an offender had to a location was statistically significant, with a χ^2

(2, N= 540) = 84.22, $p < .01$. Mass violent events occurring at locations with perceived or secured privacy were more likely to result in an incident of mass murder (53%) than one of violent mass victimization (47%). Events of mass violence which occurred at locations deemed to have semi-private access, such as a house party, were more likely to result in an incident of violent mass victimization (87%) than one of mass murder (13%). Public locations with open access were more likely to suffer an incident of violent mass victimization (80%) than one of mass murder (20%).

Results of the chi-square test to determine the relationship between mass violent events and the time of day that they occurred was statistically significant with a χ^2 (3, N= 361) = 18.21, $p < .01$. Violent events reported to have occurred in the early morning, between the hours of 1:00am and 5:59am, were more likely to result in an incident of violent mass victimization (81%) than mass murder (19%). Mass violent events occurring in the morning hours, between 6:00am and 11:59am, were only slightly more likely to result in an incident of violent mass victimization (51%) than mass murder (49%). Events of mass violence occurring in the afternoon, between 12:00pm and 4:59pm, were more likely to end as an incident of violent mass victimization (78%) than one of mass murder (22%). Violent mass events taking place during night time hours, between 5:00pm and 12:59am, were also more likely to result in an incident of violent mass victimization (77%) than one of mass murder (23%). The final chi-square test was conducted to determine the relationship between incidents of mass violence and the presence of injured or killed innocent bystanders. This test was statistically significant with a X^2 (1, N= 403) = 6.69, $p < .01$. When innocent bystanders were present during a mass violent event they were more likely to be victims of a violent mass victimization (83%) than a mass murder (17%).

Though this study mainly focuses on the victims and event characteristics of mass violent events, it is necessary to understand some aspects of the offender(s) involved to fully determine the differences and similarities between incidents of violent mass victimization and mass murder. A chi-square test was calculated to compare offender outcomes with incidents of mass violence. This test indicated that there is a statistically significant relationship between incidents of mass violence and offender outcome, with a $\chi^2(3, N=481) = 111.79, p < .01$. Offenders were more likely to be reported as still at large (91%), where no arrest was reported, in incidents of violent mass victimization than an incident equating to a mass murder (9%). Reports of the offender(s) being arrested were more likely to occur in an event of violent mass victimization (73%) than mass murder (27%). Incidents where the offender(s) were reported as committing suicide were more likely to occur following incidents of mass murder (71%) than those of violent mass victimization (29%). Reports of the offender(s) being killed before law enforcement was able to arrest them was more likely to occur in incidents associated with violent mass victimization (67%) than those equating to mass murder (33%).

Regressions

Ordinary Least Squares (OLS) regressions have been conducted to identify similarities and differences between incidents of violent mass victimization and those classified as mass murders. Descriptive statistics for the variables used in the regression analyses are shown in Table 9. When the variables were placed in the regression models they showed a linear distribution. Diagnostics conducted on all of the OLS models indicated normal and linear distribution for all variables and residuals, and that the models were correctly specified. There was an issue of heteroscedasticity in the models presented in Table 10 which was corrected with

the inclusion of the Time of Day variable, as it was an error of omitted variable issue. Variance inflation factors (VIF) and tolerance levels were examined to ensure that multicollinearity was not an issue. Results of these examinations showed VIF levels for all models (VIF= 1.90) were below 4, and tolerance levels were greater than .10 concluding that multicollinearity was not an issue in any of the models presented (Fisher & Mason, 1981).

Although the variables of adult victims, female victims, juvenile offenders, and adult offenders showed to have significant differences between incidents of violent mass victimization and mass murder, they were not included in the regression models. With so much literature already documenting and supporting the influence of age and sex of victims and offenders the regressions employed here were done to identify the influence of other event characteristics to identify differences and similarities which might otherwise go unnoticed. Two OLS regression models were calculated to understand the influence that innocent bystanders being present during an event, cause of the event, the location of the event, accessibility to the location, the time of day in which the event occurred, and the outcome of the offender(s) involved have on incidents of violent mass victimization and mass murder. Since these are mostly categorical variables the model controls for cases where arguments were sighted as the cause of violence, cases where the event took place at a residence, and for cases where the location of the violent event was classified as having private access. The models also control for incidents which were reported as occurring at night, between the hours of 5:00pm and 12:59am. Lastly, the models control for cases where the offender(s) took their own lives before an arrest was possible. These two models are shown in Table 10, which illustrate the results of these regressions.

Table 9 Descriptive statistics of variables used in regression analyses

	N	\bar{X}	SD
Violent Mass Victimization	408	4.70	2.46
Mass Murder	142	6.13	7.08
None Killed	142	4.95	2.38
One Killed	175	4.53	2.23
Two Killed	91	4.65	2.94
Innocent Bystanders	403	.60	.49
Cause	330	3.36	1.88
Location	540	2.64	1.49
Accessibility	540	1.94	.71
Time of Day	361	2.79	1.24
Offender Outcome	481	1.94	.96

This provides a side-by-side comparison of event characteristics for victims of violent mass victimization (Model 1) and victims of mass murder (Model 2). Model 1, in Table 10, provides the results of the OLS regression where the dependent variable is Violent Mass Victimization. This continuous variable documents the number of injured and killed victims per case when the number of fatalities does not exceed two. All cases where the fatality count was three or more were coded 0. A significant regression equation was found ($F(21, 140) = 4.66, p < .001$), with an R^2 of .752. When innocent bystanders were present during the violent event the number of victims of a mass violent victimization increased by .97 (Beta= .15, $p = .067$). For cases documented as being gang-related in some way there was an increase of 2.13 in victims of violent mass victimization (Beta= .22, $p = .007$) in reference to incidents reporting an argument

as the main causal factor. A decrease of -1.51 occurred in the number of victims of violent mass victimization (Beta= -.15, $p = .063$) for every one unit change in type of felony, indicating a reduction in victim count when the cause of the violent event is connected with the commission of an unrelated felony in comparison to incidents reporting an argument as the main causal factor. In cases where the time of day the violent event occurred in the early morning hours, between 1:00am and 5:59am, there was an increase in victims of violent mass victimization by .98 (Beta= .23, $p = .098$) in comparison to mass violent events reported as taking place at night. This variable is significant at the $p = .10$ level but due to its high alpha score it is better classified as approaching significance. All of the categories in the offender outcome variable indicate a strong significant effect on victims of violent mass victimization in comparison to cases where the offender(s) were reported as having committed suicide. For cases where the offenders were not apprehended and reported to be or suggested to be at large the victims of violent mass victimization increased by 2.79 (Beta= .37, $p < .01$). In cases where one or more offenders were reported as having been arrested or apprehended by law enforcement, the number of victims of violent mass victimization increased by 1.89 (Beta= .29, $p < .01$). Victims of violent mass victimization increased by 3.25 (Beta= .35, $p < .01$) in cases where the offender(s) were reported as being killed before an arrest was possible. This includes cases where the offender(s) were either killed by police or a civilian present during the violent event.

Model 2, in Table 10, showed differing results from those in Model 1 indicating that the significant variables displayed note a difference between incidents of violent mass victimization and mass murder events. The significant regression equation in Model 2 was found ($F(21, 140) = 3.18$ $p < .01$), with an R^2 of .885. The number of victims accrued during a mass murder event

increased by 2.82 (Beta= .16, p= .069) in cases where an offender(s) mental illness was sighted as the cause of the violent event. For every one unit change in cases where the cause was reported as 'other' the number of reported victims of mass murder events increased by 9.68 (Beta= .37, p< .01). The number of victims in a mass murder event increased by 3.29 (Beta= .33, p< .01) in cases occurring at some type of business. Cases where the violent events occurred on the street or in a parking lot increased the number victims of mass murder events by 2.42 (Beta= .21, p= .077). Events at locations deemed safe havens, such as churches and hospitals, increased the number of victims of mass murder events by 4.05 (Beta= .15, p= .063). Victims of mass murder events decreased by 2.51 (Beta= -.28, p=.049) for cases which took place in public places when compared to locations categorized as private. A decrease in victims of mass murder events by 2.14 is also observed when the locations were categorized as semi-private, in comparison to private locations. There is an observable decrease of 2.64 (Beta= -.20, p= .032) in the victims of mass murder victims in cases where the offenders are reported as having been killed by police or a civilian present during the violent event. This civilian could be a victim, intended target, or a witness, but through their actions the offender(s) were killed.

To determine if a minimum fatality count should be incorporated into the final measure of violent mass victimization it is necessary to identify the effect that fatalities have on the victim counts in violent mass victimization events. Results are shown in Table 11. To produce a reliable measure the models in Table 11 were run with the same variables employed in the violent mass victimization and mass murder regressions.

Table 10 OLS Regression comparison analysis of violent victimization and mass murder events

	<u>Model 1</u>			<u>Model 2</u>		
	Victims of Violent Mass			Victims of Mass Murder Events		
	<u>b</u>	<u>SE</u>	<u>β</u>	<u>b</u>	<u>SE</u>	<u>β</u>
<i>Innocent Bystanders</i>						
Present	.97*	.53	.15	.34	.78	.04
<i>Cause (R: Argument)</i>						
Domestic Issues	-.59	.76	-.08	.84	1.14	.08
Retaliation	-.78	.83	-.08	1.68	1.24	.12
Gang-related	2.13***	.46	.22	-.52	1.18	-.04
Felony	-1.51*	.80	-.15	.96	1.21	.07
Mental Illness	-1.63	.80	-.15	2.82*	1.54	.16
Police Involvement	-.38	1.22	-.03	.18	1.83	.01
Other	-1.37	1.41	-.07	9.68***	2.11	.37
<i>Location (R: Residence)</i>						
Business	.74	.75	.10	3.29***	1.12	.33
Recreation	-.13	1.75	-.01	2.28	2.63	.07
Street	.66	.91	.08	2.42*	1.36	.21
Safe Haven	-.16	1.44	-.01	4.05*	2.16	.15
Multiple Locations	-.50	.88	-.04	2.02	1.32	.12
<i>Location Accessibility (R: Private)</i>						
Public	.51	.84	.08	-2.51**	1.26	-.28
Semi-Private	.51	.84	.08	-2.14**	1.12	-.19

Significance, p<.10*, p<.05**, p<.01***

Table 10 Continued. OLS regression comparison analysis of violent victimization and mass murder events

	<u>Model 1</u>			<u>Model 2</u>		
	Victims of Violent Mass			Victims of Mass Murder Events		
	Victimization Events					
	b	SE	β	b	SE	β
<i>Time of Day (R: Night)</i>						
Early Morning	.98*	.59	.12	-.92	.89	-.08
Morning	-.13	.66	-.02	.38	.99	.03
Afternoon	.91	.64	.11	-.07	.97	-.01
<i>Offender Outcome (R: Suicide)</i>						
At Large	2.79***	.81	.37	-1.72	1.22	-.16
Arrested	1.89***	.63	.29	-.57	.95	-.06
Killed prior to Arrest	3.25***	.81	.35	-2.64**	1.22	-.20
<i>R</i> ²	.41			.32		
Adj. <i>R</i> ²	.32			.22		
<i>F</i>	4.66***			3.18***		
Constant	.32	1.17	--	1.94	1.34	--

Significance, $p < .10^*$, $p < .05^{**}$, $p < .01^{***}$

A significant regression equation was found ($F(21, 140) = 2.08, p = .006$), with an R^2 of .238 in Model 1 which illustrates the affects the select variables have on the victim counts of violent mass victimization events where there were no reported fatalities . Only two categories indicate having a significant effect on the number of victims of mass violent events where there were no reported fatalities. In cases where the cause of the violence was reported as gang-related (Beta= .31, $p < .01$) the victim count of a violent mass victimizing event where no fatalities were reported increased by 2.37. Victim counts also increased by 1.01 for cases reported as occurring in the afternoon, between the hours of 12:00pm and 4:59pm, (Beta= .15, $p = .089$). A significant regression equation was found ($F(21, 140) = 2.14, p < .004$), with an R^2 of .243) for Model 2.

Table 11 OLS Regression of the number of killed victims in incidents of violent mass victimization

	<u>Model 1</u>			<u>Model 2</u>			<u>Model 3</u>		
	<u>None Killed</u>			<u>One Killed</u>			<u>Two Killed</u>		
	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β
<i>Innocent Bystanders</i>									
Present	.47	.48	.09	.75	.48	.14	-.25	.39	-.06
<i>Cause (R: Argument)</i>									
Domestic Issues	-.43	.69	-.74	-.92	.70	-.15	.76	.58	.16
Retaliation	.11	.75	.01	-.76	.76	-.09	-.13	.62	-.02
Gang-related	2.37***	.72	.31	-1.41**	.72	-.18	1.16**	.59	.19
Felony	.28	.73	.04	-1.62**	.74	-.20	-.16	.59	-.03
Mental Illness	-.65	.94	-.07	-.88	.94	-.09	.81	.92	.08
Police Involvement	-1.11	1.11	-.09	-.08	1.12	-.01	.81	.92	.08
Other	-1.02	1.28	-.07	-.70	1.29	-.05	.36	1.06	.03
<i>Location (R: Residence)</i>									
Business	-.52	.68	-.09	1.21*	.68	.21	.06	.56	.01
Recreation	1.40	1.59	.08	-.28	1.61	-.01	-1.30	1.32	-.08
Street	.37	.83	.06	1.11	.83	.16	-.83	.68	-.15
Safe Haven	-2.00	1.32	-.13	2.94**	1.32	.19	-1.10	1.09	-.09
Multiple Locations	.13	.68	-.08	.135	.80	.01	-.77	.66	-.09
<i>Location Accessibility (R: Private)</i>									
Public	-.05	.77	-.03	-.61	.77	-.12	.24	.63	.06
Semi-Private	-.53	.68	-.08	-.87	.69	-.14	1.93***	.56	.38

Significance, p<.10*, p<.05**, p<.01***

Table 11 Continued. OLS Regression of the number of killed victims in incidents of violent mass victimization

	<u>Model 1</u>			<u>Model 2</u>			<u>Model 3</u>		
	<u>None Killed</u>			<u>One Killed</u>			<u>Two Killed</u>		
	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β	<i>b</i>	<i>SE</i>	β
<i>Time of Day (R: Night)</i>									
Early Morning	.05	.54	-.01	1.41***	.54	.22	-.38	.44	-.07
Morning	.49	.60	.07	-.16	.60	-.14	-.46	.49	-.09
Afternoon	1.01*	.59	.15	-.15	.59	-.02	.06	.48	.01
<i>Offender Outcome (R: Suicide)</i>									
At Large	.80	.74	.13	1.35*	.74	.22	.63	.61	.13
Arrested	.59	.58	.11	.79	.58	.15	.51	.48	.12
Killed prior to Arrest	1.04	.74	.14	.93	.74	.12	1.27**	.61	.21
<i>R</i> ²	.23			.24			.22		
Adj. <i>R</i> ²	.12			.13			.11		
<i>F</i>	2.08***			2.14***			1.90***		
Constant	.27	.81	--	.56	.82	--	.00	.67	--

Significance, p<.10*, p<.05**, p<.01***

More variables indicated significance in Model 2 than in the other models found in Table 11.

Within Model 2 of Table 11, there is a decrease in victims of violent mass victimizing events, where only one fatality is reported, by -1.41 in gang-related cases (Beta= -.18, p= .052) and by -1.62 in cases where the violence was connected to the commission of a felony (Beta= -.20, p= .029). This model also shows an increase of 1.21 in victims of mass violent victimization which occurred at a place of business (Beta= .21, p= .082) and an increase of 2.94 in cases where the location is commonly considered a safe haven, i.e. a church or hospital, (Beta= .19, p= .028).

Victims in cases where there was only one reported fatality increased by 1.41 when the event

was reported to have occurred in the early morning hours (Beta= .22, p= .01) and by 1.35 in cases where the offender(s) were reported to still be at large (Beta= .22, p= .072).

A significant regression equation was found ($F(21, 140) = 1.90, p= .015$), with an R^2 of .221 for Model 3, in Table 11. This table depicts the effect of specified variables on the victims of violent mass victimization where there were two reported fatalities. This model shows an increase in victims of 1.16 in gang-related cases (Beta= .19, p= .050). An increase of 1.93 occurred in the victim counts of this model in semi-private locations (Beta= .38, p< .01) and an increase in victims of 1.27 in cases where the offender(s) were killed prior to being arrested.

Summary of Quantitative Analysis Results

Results of the bivariate analyses indicated that there are statistically significant relationships between the number of victims resulting from mass violent events and the involvement of firearm, injury severity, victim/offender characteristics, and victim/offender relationships. Fewer victims were reported as injured during events where a firearm was used. The two-sample t-tests conducted on injury severity and victim/offender characteristics indicated differences between incidents of violent mass victimization and mass murder. Incidents of violent mass victimization reported significantly lower counts of minor level injuries than incidents of mass murder. One possible explanation for this is related to the frequency of minor injury reports available in the dataset. Minor injuries (as a whole) were only reported or suggested in 15% of cases which equaled to 142 victims. Incidents of violent mass victimization reported significantly lower levels of moderate injuries than mass murder events. As a whole, Moderate injuries were reported in 62% of cases equating to 1,197 moderately injured victims.

Results from these tests also showed adult and female victims were reported at significantly higher levels in incidents of violent mass victimization than in cases of mass murder.

Significantly lower levels of both juvenile and adult offenders were reported in cases of violent mass victimization than in cases of mass murder. Again, this is an expected effect of the number of cases where offender information was not available.

Results of the OLS regression comparative analysis, illustrated in Table 8, indicated that the presence of innocent bystanders at mass violent events increased the number of victims reported in incidents of violent mass victimization. There was no corresponding significant effect regarding the presence of innocent bystanders in cases of mass murder. In fact, cases which reported that the offender(s) were killed before an arrest could be made was the only variable to be reported as significant in both the victims of violent mass victimization and the victims of mass murder models. From this analysis it can be said that the noted offender outcome represents a similarity found between these two types of mass violent events. This claim is made with caution as the direction of the effect differs between these two types of mass violence. The variables showing significance varied between the types of mass violent events, noted in Table 8, which highlight the differences between mass violent victimization and mass murders, supporting the notion that incidents of violent victimization can be studied separately from incidents of mass murder. Significant results indicating an increase in victims of violent mass victimization were related to incidents where the cause of the violence was gang-related, innocent bystanders were present, the event occurred in the early morning hours and offenders who escaped capture, were arrested, or killed before an arrest could be made. The effect of gang-related violence is supported in the literature regarding gang involvement, violence, and has a

direct effect on the number of victims incurred during an incident of violent mass victimization when the victim-offender overlap is considered (Pyrooz, Moule Jr., & Decker, 2014). The only category which indicated a significant decrease in victims of violent mass victimizing events were those connected to the commission of a felony. Event characteristics which had a significant effect on victims of mass murder included offenders suffering from mental illness, and events taking place at businesses, on the street, and at safe havens. Not surprisingly, there were significant decreases in victims of mass murder in public and semi-public locations. Literature discussed in chapter two explained that a large portion of mass murders are family annihilations which, more often than not, occur within the home (Liem, 2013; Websdale, 2010).

Conclusion of Quantitative Analysis

This analysis shows that there are distinct differences between incidents of violent mass victimization and those of mass murder, directly addressing the second research question guiding this study. Consistent event characteristics found in incidents of mass violence affected the number of victims produced in both violent mass victimization and mass murder events suggesting that these types of violent events can be studied independently of each other. Addressing the third research question posited meant having to determine if it was necessary to include a minimum fatality count in the final definition of violent mass victimization. To make this determination, three regression calculations were conducted to observe the effects of varying fatality counts occurring in violent mass victimization incidents. Results from these analyses suggest that a minimum of one fatality should be included in the final definition as more event characteristics showed to have a significant effect on the victims of mass violent victimization

events where one fatality was reported. Results shown in Table 11 indicate no differences between the models for none, one, and two killed in a single incidence of violent mass victimization. This suggests that there are no statistically significant differences between incidents of violent mass victimization based on the number of reported fatalities. Based on these findings it is not necessary to include a minimum fatality count in the finalized measure of violent mass victimization. However, the number of event characteristic coefficients showing to significantly affect victim counts in incidents of violent mass victimization with one non-offender fatality reported warrants further exploration. To address this, a similar analysis is conducted in the next chapter comparing incidents where one and two non-offender fatalities are reported. Since this measure was developed through the analysis of news media content it is subject to certain limitations. As such, further testing is necessary to determine if this preliminary measure is valid. This measure is tested in the Chapter 4 by means of a secondary data analysis utilizing police report-based data obtained from the National Incident-Based Reporting System.

CHAPTER 4: SECONDARY DATA ANALYSIS

Secondary Data Analysis: Testing a measure of Violent Mass Victimization

An empirical measure adequately reflects the meaning of the concept under consideration – (Maxfield & Babbie, 1998)

Introduction

A good theory begins with a concept that is consistent, logical, and clearly defined (Akers & Sellers, 2013, p. 5). In the previous chapters, a theoretical measure for the study of violent mass victimization has been developed. Under the definition of this newly developed measure, an incident of violent mass victimization requires a minimum of three reported non-offender victims, where no more than two victims are reported as having died as a result of the violent event. The event can span multiple locations that are in relatively close proximity to each other and the event must be concluded within a twenty-four hour timeframe. This theoretical measure is based off of the commonly employed definition for the study and discussion of mass murder events (Dietz, 1986; FBI, 2008; Holmes & DeBurger, 1985; Holmes & Holmes, 1992). Situational event characteristics related to causal factors, location type, location accessibility, the time of day the event occurs, and the outcome of the offender are recognized to be common among all incidents of mass violence and can provide insight into areas of future research for which the measure can be applied.

In this chapter, the theoretical measure is tested with the use of police-report data obtained from the National Incident Based Reporting System (NIBRS). This portion of the study has three main objectives. First, to determine if the violent mass victimization measure is

reliable. Second, to begin establishing validity of the measure through reliability testing. Third, to identify statistically significant differences between incidents of violent mass victimization and mass murder. Identification of these differences, by way of police-report data, will support the hypothesis that violent mass victimization events can and should be studied beyond the mass murder discussion. The NIBRS database was selected for this analysis due to the extensive incident and individual level crime data it provides. Unlike the Uniform Crime Reports (UCR) or the National Crime Victimization Survey (NCVS), NIBRS provides detailed incident level police report-based data on incidents of violent crime that is inclusive of victim, offender, and incident specific data (FBI, 2013). Since the previous analyses was derived from news media reports, use of NIBRS data allows for the measure to be tested on less subjective data. Though data derived from the news media is context rich it can lack objectivity and reporting consistency (Duwe, 2000; Lundman, 2003).

To test the theoretical measure and add to its' validity the components of mass violent events have been broken down into individual and situational components that are then tested with bivariate and regression analyses. Bivariate analyses were used to examine the differences between victims of, and incidents, of violent mass victimization and mass murder in regard to victim and offender characteristics, injury severity, and event characteristics. Regression analyses were employed to identify what event characteristics increase the probability that a mass violent event will result in a violent mass victimization, as opposed to a mass murder. Offender outcomes are included in these regression analyses but it should not be assumed that they were included to act as predictors of violent mass victimization. The offender outcomes are included to identify if there is a difference in outcome based on the number of arrests or non-

arrests. Event characteristics indicating non-significance are considered to be similarities shared across both types of mass violent events. Transversely, event characteristics which indicate significance are considered to be differences between these two types of violent events. Should the measure prove to be reliable, and validated through these statistical analyses, it will provide a new path for the study of mass violent events. A comparison of the results presented in this chapter and the last is discussed in the next chapter.

Literature Review

In generating a new measure for any criminological or sociological study there are three main points which need to be considered. The first, relates to the theoretical foundations of which the measure is intended to be applied. The second is how a measure is tested, including the establishment of reliability and validity. Third, is related to the type of data used to develop and test the measure. To address the first point, a review of socio-criminological theory is presented. Some of these theories were touched on in the previous chapters and are discussed in more detail here. This is followed by a brief discussion related to reliability, validity, and two examples of testing measures. The third point is addressed with a brief discussion of NIBRS, as it is the source of data employed to test the theoretical measure of violent mass victimization.

Applied Theoretical Perspectives

Sociological criminology provides a foundation for understanding and explaining criminal behavior, victimization, crime in society, and the cause and effect of criminal activity. In the fields of criminology and sociology the offenders and victims have mainly been studied as separate entities (Schreck, Stewart, & Osgood, 2008). The theoretical approaches discussed here

are geared toward explaining the causes for criminal offending and what increases a persons' risk of victimization. Sampson and Laub (2005), explain that criminal and delinquent behavior is a result of the strength of informal social controls and social bonds present throughout the life course of an individual (Akers & Sellers 2013). From this perspective they look at how previous life experiences and pivotal points in an individuals' life can have a distinct effect on the internal and external control mechanisms associated with the individual and how these mechanisms can negatively influence the path of the individuals' life course (Sampson & Laub, 1993).

This theoretical life-course approach to explaining criminal and delinquent behavior is supported by Sutherland's (1947) differential association theory which stipulates that criminal behavior is learned through personal interactions and an abundance of favorable definitions of law violations, suggesting that if criminal and delinquent behavior is indicated as a positive to the individual, they will, in turn, commit acts of crime and delinquency (pp. 6-7). Age can play a significant role in the offending habits of individuals over time as these offending behaviors may be limited to adolescence or persist over the life-course. Individuals who desist from offending when they reach adulthood may have developed a stake in conformity (Toby, 1957). Essentially, a stake in conformity refers to the individual's compliance to positive formal and informal social controls based on their desire to retain something of value to them. A stake in conformity often coincides with entrance into a social institution such as marriage, family, or employment. As some of these institutions are entered into at different points in the life course, age becomes a reliable predictor of the level of criminality an individual is likely to exhibit over time. The component of age, in the process of becoming and remaining a criminal, changes over time and has a direct relationship to an individual's social bonds, informal social controls, and

development of various coping skills (Cohen & Vila, 1996). Under this theoretical approach, social bonds and social controls act as guidelines and monitors of social behavior. When social bonds are strong and social controls are effective, in favor of societal norms, there is an expected decrease of criminal and delinquent behavior in a given area. Social controls are considered to have failed if the individual partakes in criminal activity (Nye, 1958). The theoretical framework of control theory specifies a lack of inherent control on the part of the individual, suggesting that an individual is naturally prone to criminal and delinquent behavior (Reiss, 1951). However, other theorists disagree with this and propose that the commission of delinquent and criminal acts are not necessarily naturally occurring and that these criminal behaviors can be the result of external social influences as much as internal influences (Akers & Sellers, 2013).

Gottfredson and Hirshi (1990) explain, in their general theory of crime, that the underlying cause of crime and delinquency is directly related to an individuals' level of self-control and the effectiveness of external social controls. The first refers to the internal mechanisms, which will determine the type of action an individual takes, delinquent or non-delinquent, and are based on personality traits related to low self-control, low verbal IQ, impulsivity, risk-seeking behavior, hyperactivity, and irritability (Agnew and Brezina, 2012). Gottfredson and Hirshi (1990) place a particular focus on the importance of low self-control and the influence it has on an individual's actions. To be specific, the individuals' level of internal self-control mechanisms, which they believe remains constant over time regardless of age, inform the individual's decision making process when determining whether or not to commit a crime. This decision making process is also heavily influenced by external stimuli. As noted in differential association theory the definition, or expected outcome, of the criminal action is

perceived as positive, thus influencing the individual to commit the criminal act. External influences on social behavior are referred to as social controls and are both formal and informal but, Gottfredson and Hirshi (1993) posit that informal social controls tend to have more influence over behavior than formal social controls. In regards to violent crime, these types of explanations are most obviously applied to neighborhood and gang violence typically observed in low-income urban areas (Enel & Corsaro, 2013; Vigil, 2003). Within these areas neighborhood gangs are comprised of adolescents and young adults who grew up together. Those who do not join these gangs still have an increased probability to engage in violent criminal activities, or to be victimized during a violent event. The socialization process rooted in these areas provides positive reinforcement of violent behavior. This suggests that an individual who was not born violent becomes violent as a product of their environment.

A social structural approach to explaining crime emphasizes the influence an individual's social environment has on their propensity for criminal behavior. Shaw and McKay (1942) developed the theory of social disorganization that, originally, focused on explaining rates of juvenile delinquency and crime in an urban setting. What they discovered was that, over time, the locations indicating higher frequencies of crime and delinquency did not change, even though the populations occupying these areas did. Crime centric areas of the city were observed to be physically decayed and the residents were more likely to be a part of broken or incomplete families. The theoretical perspective developed from these observations hypothesized that the social structures present within these areas were disjointed and disorganized. They lacked community efficacy which was salient in the more affluent regions of the urban city. These socially disorganized areas were characterized as transitional zones, as the population was

always in transition. The consistent invasion and succession of these areas hindered community members' ability to develop social bonds, which would bind and, ultimately, organize the area (Bernard, Snipes, & Gerould, 2010, pp. 137-139). As these areas are in constant transition the residents do not show as much care in the appearance of the area or in creating social ties between neighbors. The lack of community efficacy provides a breeding ground for criminal activity. Merton and Nesbit (1976) described the prevalence of crime in socially disorganized areas as being the result of a "social dysfunction" within the social system indicating that social disorganization is a byproduct of issues within the larger society (pp. 96). Markowitz, Bellair, Liska, and Liu (2001) analyzed three waves of crime survey data of a sample of neighborhoods to identify the relationships occurring between disorder, neighborhood cohesion, burglary, and fear of crime. They concluded that the presence of social disorganization, i.e. disorder, may have an indirect effect on crime in a given area and that community cohesion has a decreased effect on the presence of disorder. The indirect effect of disorganization on crime found in their study, combined with the decayed description of these areas, also noted by Shaw and McKay, implies that these areas are appealing to criminal elements due to a lack of perceived community cohesion and lack of guardianship.

Possibly due to its' simplicity and ease of use, Cohen and Felson's (1979) development of routine activities perspective has provided criminologists and socio-criminologists a basic framework to explain criminal offending and victimization. It has been argued that this crime event triangle is not so much a theory explaining criminal causation but is closer to a description of victimization (Tittle, 1995). For the purpose of this study routine activities is discussed as a theoretical framework. The three main components necessary for a crime to occur are the

presence of a motivated offender, a suitable target, and lack of capable guardianship. These three components converge in space and time providing the opportunity for the crime to occur. A suitable target is anyone, group, or object the offender believes they can commit a crime against. In the field of violent crime the target can refer to a specific person, group, or institution the offender inflicts harm on. An example of a social institution as a target can be found in acts of terrorism such as the Oklahoma City bombing of the Alfred P. Murrah Federal building where the offender was looking to commit an act of violence against the government. Examples of incidents where an offender targeted a specific group can be located in research related to hate crimes, gang violence, and a number of other fields. The point is that suitability of a target is up to the offender. Mechanisms and safeguards can be implemented to deter violent and non-violent crime from occurring, but it is ultimately up to the offenders' preference and rational choice process (Hayward, 2007). As a motivated offender does not require much description and the concept of a suitable target was discussed in Chapter 2 the rest of this narrative will focus on the concept of the capable guardian.

Since its inception, the concept of capable guardianship has received the most attention. The basic description of a guardian is anything or anyone who stops a crime from taking place. This could be the presence of a security camera, guard dog, or any number of variables which makes a possible target less appealing. This ambiguity of the guardianship definition has been addressed by breaking the concept into three subgroups described as 'handlers', 'managers', and 'guardians' (Felson M. , 1995; Eck & Weisburd, 2015; Sampson, Eck, & Dunham, 2010). Both presence and function are described in these subcategories of the guardian definition. Felson (1995) referred to a guardian as someone who guards a potential target in anticipation of a crime

being committed. In this context, the target does not necessarily have to be a person, it can also relate to an object. Sampson et al. (2010) added that the guardians' purpose is to protect, indicating that the term guardian has a known purpose and their presence is intentional. The term 'handlers' refers to a person the offender has an emotional connection with, a strongly valued social bond which they do not want to jeopardize (Eck & Weisburd, 2015). This description is similar to stake in conformity and informal social controls mentioned earlier in that it refers to the positive, non-delinquent influence of a particular person in the individual's life. When the offender is determining whether or not to commit a crime the thought of the handler stops the offender from going through with the crime and, at that moment, becomes a capable guardian, even though they are not physically present at the time of the criminal opportunity. Lastly, is the destination of the 'manager.' These guardians monitor and protect a place in which a target maybe or may venture into. In other words, they exercise ownership over a particular space (Sampson, Eck, & Dunham, 2010). These three subgroups can be mutually exclusive or work in tandem. Under this theoretical framework they form a guardianship triangle where by the guardians protect the target, the managers monitor and protect the place, and the handler influences the offender. When it is described that a situation lacked capable guardianship it is not referring to the total absence of these guardianship subcategories, but rather that the offender was able to subvert any safeguards present at the scene of the crime. When this happens the guardianship was incapable of preventing the victimization from occurring.

Testing a Measure

Part of research is determining what variables to include and which ones to leave out. Imagine the old game of telephone, where a group of people pass along the same message from

one person to another. The more people involved in the game the more likely that the final person will recite a message that is not the same as the original. Though the method still produces a result the combination of various elements (people) will continually alter the outcome. In developing a new measure, theoretical or applied, issues of reliability must be considered and addressed. If they are not then an inefficient measure can produce inconsistent results. Several criteria are outlined by Akers and Sellers (2013) for evaluating theory and research, which includes logical consistency, scope, parsimony, testability, tautology, empirical validity, and usefulness. Lilly, Cullen and Ball (2011) taper these criteria to criminological theories and their utility in informing laws and policy while also providing a framework for understanding criminal behavior. A theory, or theoretical measure, must be logical to the issue it is trying to explain, suggesting that explanations of criminal behavior that incorporate characteristics with no relation to the focus issue are illogical to include and can lead to skewed or spurious descriptions of criminal behavior and events. Reliability and validity of a measure is generated over time as the measure is used and tested over and over. If the results of multiple applications of the measure are inconsistent then the measure is considered weak or unreliable (Akers & Sellers, 2013). Validity of a measure, or theoretical framework, is interrelated with the process of reliability and the strength of validity increases each time the measure, or definition, is used in research. If a measure, or definition, is taken as fact when it has not been tested or employed in professional research then the validity is considered to be given at face value (Maxfield & Babbie, 1998; Taylor R. , 1994). This type of validity is subjective and can work for some types of measurement as long as it is reasonable to do so. If the measure appears to be

logical and accurately describes what it is intending to measure, then it can be taken at face value (Singleton & Straits, 2009).

Reliability and validity can be obtained through contextual or statistical application depending on the nature of the measure in question. Common practices associated with testing measures and theories often include a comparative measure, or control, and one or more hypotheses regarding the outcome of the test. Anderson and Meier (2004) conducted a study using the criminal events perspective to empirically test juvenile delinquent interactions and the types of settings where criminal events take place to determine if the convergence of two types of interactions (structural and cross-level) and settings increased the likelihood that a particular criminal event would take place. They found that the types of criminal events changed as the interactions changed indicating that crime type was related to physical factors present in the setting. They suggested that researchers looking to explore interactions should take the effects of multiple interactions into consideration since the type of interaction can have a direct effect on the resulting crime in question. In this example the interactions and settings are the measures being used and the criminal events perspective was employed to model the analysis, as is its intended purpose. The analysis of the interaction and criminal event types were accomplished through regressions of the sample data. They quantified social factors into numerical representations which could then be analyzed statistically.

Testing theoretical perspectives typically involves applying a reliable theoretical framework to a social phenomenon to determine if the theory can explain the phenomenon. Stretsky and Pogrebin (2007) conducted a study employing the sociological theoretical frame of socialization, identity, and self to explain gun violence among gangs. In this study they posit that

socialization acts as a mechanism for the normalization of gun violence as a means of conflict resolution and that guns act as tools in the shaping of the gang members identities. Their sample and data consisted of interviews with twenty-two incarcerated gang members who varied in race and gender. They validated their sample by checking the background of the interviewees to determine if they had, in fact, been gang members prior to their incarceration. Within this study they employ measures that could be validated and test their hypotheses using the reliable conceptual framework of socialization, identity, and self as it was defined by Goffman (1959). They were able to support their hypothesis that gang-related gun violence was directly representative of the gang members definition of self and identity which occurs through the socialization process.

Data sources

Data sources providing official crime and crime related data include, but are not limited to, the Bureau of Justice Statistics (BJS), the National Crime Victimization Survey (NCVS), the Uniform Crime Reports (UCR), and the National Incident Based Reporting System (NIBRS). All of these data sources collect and report intelligence on incidents of violent crime and are federally maintained by the U.S. government. These data are used to determine the effectiveness of policies and laws, identify issues of public health and safety, and provide insight into unreported victimizations. Awareness of and preparation for threats of violence are more commonly being thought of as an issue of public health and safety, which makes data collection and dissemination all the more important.

The BJS is a federally maintained branch of the Office of Justice Programs in the U.S. Department of Justice⁸. Data maintained and analyzed by the BJS is collected from the U.S. Bureau of Census and other Federal agencies, including the Executive Office for U.S. Attorneys, the Administrative Office of the U.S. Courts, the U.S. Sentencing Commission, and the Federal Bureau of Prisons. The NCVS is administered by the BJS and employs a random sample survey to approximately 100,000 randomly selected U.S. residents, biannually. Lynch and Addington (2007) suggest that the development of the NCVS was to address a weakness observed in the UCR data. Specifically, regarding the crimes that were not being reported to law enforcement. It is not the purpose of the NCVS to aid in the reporting of crimes, but rather to protect victims' privacy while still collecting valuable crime and victim related data. Survey responses are utilized in generating crime rate estimates and informs victim intervention policy (Lauritsen, 2001). These data sources are limited by the parameters of their data collection. The BJS utilizes aggregated data collected from both police-reports and the NCVS. As such, these data, like the UCR, lack case specific information.

NIBRS is an extension of the UCR. As of 2013, a total of 6,328 law enforcement agencies from thirty-three U.S. states, and the District of Columbia, have been certified to provide detailed police report-based data to National Incident Based Reporting System (NIBRS). However, only fifteen of these states report data from 100% of their law enforcement agencies.⁹ Data is voluntarily provided from these participating law enforcement agencies after receiving

⁸ Information on the Bureau of Justice Statistics was retrieved from <http://www.bjs.gov/index.cfm?ty=abu#stats>

⁹ Information on the National Incident Based Reporting System was retrieved from <https://www.fbi.gov/about-us/cjis/ucr/nibrs/2012/data-tables> and <https://www.fbi.gov/about-us/cjis/ucr/nibrs/2013/resources/nibrs-participation-by-state>

certification through the Federal Bureau of Investigation (FBI). The NIBRS database was created in the 1990's as an extension of the FBI's Uniformed Crime Reports (UCR) in order to collect comprehensive case specific data on 46 crime classifications (Chilton & Jarvis, 1999). Notably, collection of victim data by NIBRS overcame many limitations present in other official data sources as it includes data on all charges/crimes associated with a particular incident. This provided researchers the opportunity to compare victim centric data with offence and offender attributes. The database is complex and can be difficult to navigate. Akiyama and Nolan (1999) explain that analysts may have some difficulty in analyzing and interpreting data provided by NIBRS due to the magnitude and complexity of the database. Use of NIBRS data in crime related research has slowly but steadily grown over the last fifteen years (Loftin & McDowall, 2010). The diversity and extensiveness of this complex database has been used in studies of mass murder, homicide, crimes against juveniles, hate crime, and official crime reports (Faggiani & McLaughlin, 1999; Finkelhor & Ormrod, 2000; Huff-Corzine, et al., 2014; Roberts, 2007). For example, Roberts (2007) employed data obtained from NIBRS to identify homicide offender types that were more likely to be cleared by law enforcement than others. Among these findings Roberts was able to identify that cases involving female and juvenile victims had a higher likelihood of being cleared and that when the models controlled for situational characters, such as offenders who had a previous relationship with the victim(s) or the offender was reported as being under the influence, removed significance from the victim characteristic variables (Roberts, 2007, p. 88).

Loftin and McDowall (2010) explains that the NIBRS database has provided researchers new investigative paths that could not be explored with the other official data resources. They

also note that, though NIBRS only receives data from a portion of the nation's law enforcement agencies, research employing NIBRS data has produced more accurate and reliable results than other research conducted with data from NCVS and the UCR. Thus, NIBRS proves to be both a valid and reliable data resource for crime research.

Stage 3 of the Current Study

This stage of the research study tests the measure of violent mass victimization with police-report data obtained from NIBRS. The review of criminological and socio-criminological theories, provided above and throughout the extent of the paper, provide understanding into offender motivations, internal and external mechanisms of crime, and why victimization occurs even when safeguards are in place. These theoretical approaches provide insight into criminal intent, opportunity, and causes of crime. For the measure of violent mass victimization, these theories and frameworks identify opportune areas for future use and testing; to better understand the structure and nature of these violent events and the situational characteristics involved. The primary purpose of this portion of the study is to test the reliability of the violent mass victimization measure and to determine if it is suitable for future research beyond its media origins. Incidents of mass murder act as the control, or comparative measure, within the analyses providing an applied foundation for the validation of the measure. The analyses presented here are intended to illustrate that the measure adequately represents the intricacies of its baseline concept and acts as a useful tool in the continuing study of mass violent events and utilizes official data from the NIBRS database to test the proposed measure.

Limitations

Not all of the variables presented in the previous chapter could be replicated in this analysis. Distinction between specified targets and innocent bystanders is not defined within the available NIBRS data. Data related to the causal components of retaliation and mental illness are also not presented in the NIBRS dataset. Offender outcome variables were limited to arrested and not arrested because there is no distinction between suicide or killed prior to arrest. Though, NIBRS does provide some offender data related to whether or not the offender was killed prior to arrest, which are documented in the exceptionally cleared section of the incident level segment, only forty-five cases indicated an offender died prior to arrest. As such these cases were absorbed into the Not Arrested variable employed in the analyses. A locations accessibility had to be determined subjectively since situational context is not documented in this dataset. For example, where a residence had previously been categorized as semi-private, due to the presence of a social gathering (i.e. house party or BBQ), these cases were coded as private since it is not possible to determine if the level of social control or guardianship was compromised due to the occurrence of a social gathering at the time of the violent event. This explains the low frequency of locations designated as providing semi-private accessibility to offenders. Injury severity was limited to minor, moderate, and serious since the injury data available does not provide critical or life threatening injury related categories. These limitations may be better explored in other violent crime data sources.

Data

Data were obtained on incidents of violent mass victimization and mass murder from the National Incident-Based Reporting System (NIBRS) for the years of 2009 through 2012. All cases included in this dataset had a minimum of three reported victims with at least one reported fatality. A total of 683 cases were extracted for this timeframe and comprise the total sample size for this analysis. Only cases with three or more victims classified as individuals or law enforcement officers who were connected with the offense codes of murder, assault, robbery, and burglary were retained in the final dataset. Observations not classified as individual or law enforcement officer were omitted to ensure a true, human, victim count. No pertinent data were lost due to these selected omissions. Cases identified as incidents of violent mass victimization (N=584) made up eighty percent of the sample and cases identified as incidents of mass murder (N=135) made up twenty percent of the total sample. These frequencies suggest that incidents of violent mass victimization occur approximately four times more often than cases of mass murder. Cases of violent mass victimization included a minimum of one fatality among the victim count. This was done to further explore the difference between non-offender fatality counts of mass violent victimization events.

Distinction between these two types of mass violent events was required to accurately test the theoretical measure for violent mass victimization generated in the previous chapters. Cases extracted from NIBRS for each of the four years was derived from the Offender, Victim, and Arrestee segments provided. Variables derived from these segments coincide, as much as was possible, with the variables presented in the previous chapter. All variables relevant to this study were identified, recoded, and collapsed as necessary to construct the main dataset

employed in this portion of the study. The processes employed in identifying variables, collapsing data, and final coding of all variables involved is discussed in the methods section below.

Methods

Data were first obtained and merged through use of the Statistical Package for the Social Sciences software (SPSS) as NIBRS data is not available in STATA software format. In SPSS, data extracted from the NIBRS database had to first be pulled from the individual available segments for each of the years represented in this study. Cases selected from these segments were merged by originating agency identifiers and incident identification codes into a single dataset. Once this was complete, the data were imported in to the general purpose statistical software program STATA 13.0. From here, variables in each dataset were recoded as needed in order for these data to be collapsed into case level data. Victim and offender data are originally presented at the individual level, where each victim and offender record is provided its own row of data. For the analyses to be conducted these rows of data had to be collapsed into case level data where each row of data represented a single case, inclusive of all relevant victim, offender, and incident data. Variables related to location, cause, weapon, and type of crime committed were located in the victim segment. Victim data, regarding age, sex, injury, assault/homicide type, and victim/offender relations were also located in the victim segment. All data regarding offenders, including age, and number of offenders, was located in the offender segment of the available NIBRS data. The Arrestee segment data provided information on offender outcomes. Multiple offences are documented between offenders and victims, meaning that one offender can

be assigned multiple offence charges for a single victim (FBI, A Guide to Understanding NIBRS, 2013). Offender information was inadvertently duplicated in the victim/offender relationship variables since the variables describe the relationship between each offender and multiple victims. Duplicate cases and information were omitted during the data cleaning process. Though the NIBRS data provide variables documenting up to ten UCR offence codes per victim/offender/case, it was only necessary to utilize the first three UCR offense codes during data collection and processing. During data extraction from the NIBRS database, cases were initially selected based on the first UCR offense code presented. Preliminary frequencies and crosstab calculations were conducted to identify workable variables and omit variables and observations with no reported data, as the missing data presented in these selected variables and observations did not provide any useful insights in addressing the primary research questions.

Bivariate and logistic regression analyses that were conducted in this portion of the study coincide with those conducted in the quantitative content analysis but, with the use of police-report data. This was determined to be the best way to test the continuity and reliability of the measure without stemming off into a separate project. Two-sample t-tests, correlations, and chi square analyses were employed to identify if the relationships, similarities, and differences among variables remained consistent. Logistic regressions were not possible in the second stage of this analysis, i.e. the quantitative content analyses, but were found to be the most suitable statistical analyses for the NIBRS dataset. Logistic regressions were also conducted to compare incidents of mass violent victimization where only one fatality was reported and incidents where a total of two fatalities were reported. Diagnostics for the logistic regression models indicated no issues of multicollinearity or with the goodness of fit. Testing for multicollinearity resulted in

acceptable VIF (Table 10, VIF= 1.27; Table 11, Model 1, VIF=1.27; Model 2, VIF=1.27) and tolerance scores indicating that issues of multicollinearity were not present in the models.

Discussion of the similarities and differences between these and the qualitative content analyses are presented in Chapter 5. Though the NIBRS data are extensive, not all variables and variable categories produced during the qualitative content analysis could be replicated here. Changes to variables are noted in the variable descriptions below. All relevant variables in this stage of the analysis were coded into dichotomous, continuous, and categorical variables were necessary to provide as close of a match as possible to those presented in the previous analyses.

Cases

Though it is not typical for a paper to include a description of the data cleaning process and case construction, it is necessary to touch on a few of the actions taken in the construction of the cases employed in this analysis due to the complexity of the NIBRS database. This provides a better understanding of what cases and observations were included. During the data cleaning process a number of cases and observations were omitted from the original merged data file as they did not fit the parameters of the study.

Offender and victim segments provide data at an individual level where each offender and victim is provided their own row of information. Examination of the variables provided in these segments revealed inclusion of non-human victims. For example, a case could indicate that there are three victims and provide victim reports for each. However, one or more of these victims could be documented as society/public, business, government, etc. These categories do not relate to a human victim but rather a group. For instance, the classification of society/public is a generalization which is not related to a specific person but rather a crime against the state.

Only cases where a human being is documented as an individual or law enforcement officer, were included. When a case indicated three victims and one was classified as society/public the case as a whole was removed from the dataset since there were only two actual people victimized. Non-human records were omitted from cases reporting four or more human victims. This way the case could remain and the victim count and information would solely represent the human victims involved. Case and victim identification also had to reference the victim/offender relationship variables. NIBRS reports some victims as “victim was offender” (FBI, A Guide to Understanding NIBRS, 2013). Because the preliminary definition of a mass victimization event stipulates that offenders are not counted as victims, cases and observations with this victim/offender classification were omitted from the dataset. Distinction between witness and victim is described in the variable section but omission of cases and observations follow this process.

Variable Identification and Coding

The following identification, collapsing, and coding process was consistent for each of the four years of data extracted from NIBRS. Data were first selected by the number of victim records (≥ 3) recorded in each segment. After narrowing down the dataset to cases with three or more recorded victims the segments were refined by offense type. Using the UCR codes for Murder/Non-negligent Manslaughter and Aggravated Assault the dataset was narrowed down by the first UCR offense code variable presented in the dataset. Once this was completed for each of the selected segments by year the refined segments were merged into one full dataset comprised of cases reporting three or more victims with at least one homicide recorded for the years of 2009 through 2012. Though only one of the UCR offense code variables was utilized in the

construction of the dataset other offense charges remained present, which were used to determine if a case could be classified as one of mass murder or violent mass victimization.

After all relevant data were extracted from the NIBRS database, case data were collapsed so that statistical analyses could be conducted. The incident number provided within the data acts as a unique identifier for each case so that information on any particular case can be found throughout the four available segments. With much of the data being repeated throughout each segment, the data had to first be sorted and checked for duplicate cases. Once the data had been cleaned, recoding of variables could begin. Variables were recoded during this process to create a more manageable dataset and allow for the data to be collapsed into case level data suitable for analysis. A total of twenty-four variables were derived from the NIBRS data for this study.

Variable coding for each of the variables used in this analysis is as follows.

Dependent Variables

To test and add validity to the theoretical measure of violent mass victimization multiple tests were conducted. All of the dependent variables described in this section represent the number of reported victims of mass violent incidents with the addition of a dichotomous variable distinguishing incidents of violent mass victimization and mass murder.

Violent Mass Victimization- (N=683) This dichotomous variable differentiates between

incidents of violent mass victimization and those of mass murder as documented in the NIBRS dataset. Incidents reporting a minimum of one fatality and two injured victims (N=548) were coded as 1 and classified as a violent mass victimization. All incidents reporting a minimum of three fatalities were coded as 0 and classified as a mass murder event.

Victims of Violent Mass Victimization- (N=548) This continuous variable documents the total number of killed or injured victims where two or fewer non-offender people were reported as dying during the incident. Frequencies of this variable showed that ninety-five percent (N=1,902 victims) of violent mass victimization incidents produced three to seven victims.

Victims of Mass Murder- (N=135) Cases in this continuous variable document the total number of killed or injured victims per case equating to a mass murder, with a minimum of three fatalities reported. Frequencies of this variable showed that eighty-seven percent (N=387 victims) of mass murder events produced three or four total victims.

Number Killed- (N=683) This category was divided into three separate variables. The first variable is a continuous variable documenting the total number of victims killed during an incident of mass violence. The other two variables are dichotomous were constructed from the 'Victim Count' and 'Violent Mass Victimization' variables. The first is called One Killed and indicates cases of violent mass victimization where only one fatality was reported. Cases with only one fatality recorded are coded 1 and all other case are coded 0 within this variable. The second variable constructed under this category is called Two Killed and indicates cases of violent mass victimization where only two fatalities were reported. Cases with a total of two fatalities recorded are code 1 and all other cases are coded 0 within this variable.

Independent Variables

All variables in this section apply to victim, offender, and incident related data. Victim and offender demographics are limited to age and sex as a racial component could not be

incorporated in the initial qualitative analysis. Contextual components remain mostly consistent with those documented in the previous chapter. These contextual components include victim/offender relationship, causal factors, injury severity, location, location accessibility, time of day, and offender outcome. Less than ten percent (N=93) of offenders were reported as female out of the 1,121 documented offenders.

Victim Count- (N=683) This is a continuous variable that documents the total number of reported non-offender victims reported per case in the dataset. Within the 683 cases there were a total of 2,698 reported victims who were either injured or killed.

Some data regarding victim injuries is provided in the dataset which was used to determine if a reported victim had been injured during the event. As this data was not always present other indicators were utilized to determine if a victim report should be included in the case or if the case should be omitted altogether. Individuals who were reported as victims would be omitted if the offense code associated with the victim indicated that the crime committed against them was related to property damage, fraud, other forms of larceny, and/or intimidation. These types of codes decreased the probability that the victim was injured during, or present at, the time of the violent event. Cases or individuals with any of these types of indicated criminal activity combined with no reported injury data were omitted from the final dataset. This is because they did not appear to have suffered a physical injury during the course of the crime. As data related to injury was not consistently reported the record of criminal activity was used to determine if an individual was to be included as a victim or excluded as a witness.

Number Injured- (N=683) This continuous variable documents the total number of injured victims per violent mass victimization event. Counts per incident ranged from 0 to 26

injured victims per event. A total of 118 cases reported no injured victims. These cases fell into the mass murder classification. A total of seventy-five percent of cases reported one to four injured victims.

Victim Sex- (N=683) Two continuous variables were constructed from the available NIBRS data to document the total number of male (N=1,950) and female (N=789) victims. The sex of victims is clearly stated within the dataset providing accurate counts for the total of male and female victims. These data provided a true count of recorded victims.

Victim Age- Continuous variables were constructed which documented the total number of adult (N=2,224) and juvenile (N=415) victims injured or killed during a mass violent event. Ages of victims ranged from new born babies to victims in their 90s. Victims categorized as juveniles had a recorded age of 17 years old or younger and victims categorized as adults had a recorded age of 18 years old or older.

Offender Age- Continuous variables were also generated for adult (N=939) and juvenile (N=82) offenders. For an offender to be counted as an adult their recorded age must be 18 years of age or higher and for an individual to be categorized as a juvenile their recorded age had to be 17 years of age or younger.

Victim/Offender Relationship- (N=549) These data provided in the NIBRS database include twenty-five categories for victim/offender classification. Of this, twenty-one classifications are represented in this study. These classifications were collapsed into three main continuous variables of family, acquaintance, and stranger, where the victim/offender relationship was reported.

Family- (N=129) Categories included in the construction of this variable include spouses, ex-spouses, boy/girlfriends, ex-boy/girlfriends, parents, grandparents, stepparents, siblings, stepsiblings, in-laws, other family members, and children. This continuous variable documents the total number of known victims that shared a familial relationship with the offender, per case.

Acquaintance- (N=252) Categories included in the construction of this variable include acquaintance, friend, neighbor, employee, employer, and otherwise known. This continuous variable documents the total number of victims that did not share a familial relationship with the offender but were already known in some way to the offender.

Stranger- (N=168) NIBRS only provides one category to represent a relationship where the victim and offender were not previously known to each other. This category is aptly named stranger and comprises the entirety of the documented stranger victims per case.

Injury- (N=521) This category is divided into three continuous variables representing the total number of victims reported as suffering a minor, moderate, or serious injury during the course of the violent event. NIBRS provides eight classifications for injury type. Of these, six categories are represented in the dataset and were collapsed into these three injury severity variables. Injury type was not consistently reported in all cases. Cases with no injury data reported were coded missing and observations reporting that the victim did not receive an injury were omitted.

Injury Variable 1- Minor (N=133) This continuous variable documents the total number of victims with a 'minor injury' reported in the NIBRS injury type variables. This is the only injury type category to be included in this variable.

Injury Variable 2- Moderate (N=63) This continuous variable documents the total number of victims documented as having suffered 'broken bones', a 'severe laceration', or were reported as 'unconscious' in the injury type variable. The category of severe laceration was included in this variable because the word severe suggests that the wound was more than minor and there is an increased probability that the wound would require extended medical attention. The category of unconscious was included in this category as it suggests a head injury which may require extended medical attention.

Injury Variable 3- Serious (N=325) This continuous variable documents the total number of victims per case who were reported as having suffered a 'major injury' or a 'possible internal injury'. The category of possible internal injury suggests that the victim may need surgery to treat the wound and as such is categorized here as a serious injury.

Cause- (N=458) This is a categorical variable constructed from data extracted from the NIBRS 'Type of Criminal Activity' and 'Aggravated Assault/Homicide Circumstance' variables. There are a total of twenty-six classification types between these two variables. Of these, eight are represented in this variable. The category of mental illness could not be included in this variable as it is not reported within the NIBRS database. Data were not consistently reported in these variables. Cases with no recorded causal component, or the cause was listed as unknown, were coded as missing.

Cause Category 1- Argument (N=115) This category indicates cases that reported the homicide circumstance as an argument and is coded 1 within this variable.

Cause Category 2- Domestic Issues (N=10) This category indicates cases that reported the homicide circumstance as a lover's quarrel and is coded 2 within this variable.

Cause Category 3- Gang-related (N=23) This category indicates cases where juvenile gang and gangland were recorded in the type of criminal activity and homicide circumstance variables. This category is coded 3 within this variable.

Cause Category 4- Felony (N=26) This category indicates cases in which a felony was taking place as reported in the type of criminal activity and homicide circumstance variables. Felonies within these NIBRS variables are listed as 'other felony', 'Theft', and 'Drug Dealing'. These categories were collapsed and recoded into this variable category and coded as 4 within this variable.

Cause Category 5- Police Involvement (N=21) This category indicates cases where a police officer was reported as being assaulted during the violent event. This listing is documented as 'Assault on Law Enforcement Officer(s)' in the homicide circumstance variables and suggests that one or more police officers were present at the time of the event or that they were assaulted during the arrest process. This category is coded as 5 within this variable.

Cause Category 6- Other (N=165) This category indicates that the underlying cause was identified but did not fit the parameters of the other available homicide circumstance categories. This category is listed as 'Other Circumstance' within the NIBRS data and is coded as 6 within this variable.

Location- (N=683) This categorical variable indicates the type of location the event occurred at and is reported in the 'Location Type' variables within the NIBRS database. NIBRS provides fifty-seven classification types under this variable. Of these categories, twenty

are represented in this variable. These categories were collapsed and recoded into five main location categories for this analysis.

There are three location type variables within the database which were used to determine if the event spanned multiple locations. There is no indicator within NIBRS to determine how long the event lasted. It is assumed, at this point, that incidents that extended to multiple locations did not exceed the twenty-four maximum timeframe stipulated by the mass murder or violent mass victimization definitions employed in this study.

Location Category 1- Business (N=79) Classification types included in this category from the NIBRS location type variables are 'Bar/Nightclub', 'Commercial/Office Building', 'Convenience Store', 'Department/Discount Store', 'Government/Public Building', 'Grocery/Supermarket', 'Hotel/Motel', 'Prison/Jail', 'Rental Store', 'Restaurant', 'Service/Gas Station', 'Specialty Store', and 'Shopping Mall.' These categories were recoded into the single indicator category of Business and is coded as 1 within this variable.

Location Category 2- Residence (N=373) The classification type of residence was the only classification category included from the NIBRS database for this category. This category indicates the location of the violent event as a residence and is coded as 2 within this variable.

Location Category 3- Street (N=198) Two categories from the NIBRS location variables were used in the construction of this category. They include 'Highway/Roadway/Alley' and 'Parking Lot/Garage'. This category indicates that the violent event occurred on the street or a place accessible by a motor vehicle and is coded as 3 within this variable.

Location Category 4- Other (N=29) This category is comprised of the ‘Other/Unknown’, ‘Hospital/Dr. Office/Drug Store’, ‘Field/Woods’, and ‘ Park/Playground’ classifications listed in the location type variables of the NIBRS database. The ‘Hospital/Dr. Office/Drug Store’ category represents the Safe Haven variable in the previous study. However, there were only two cases with this location and as such it was added to the category of other. Similarly, the locations of ‘Field/Woods’ and ‘ Park/Playground’ represent the Recreation location category in the previous study but only nine cases indicated these places as the location of the violent event. With such a low frequency it was added to a category of ‘Other’ and these categories were collapsed and coded as 4 within this variable.

Location Category 5- Multiple (N=52) This category indicates cases where the violent event spanned multiple locations. Data were compared across all three available location variables in the NIBRS database in the construction of this category. The indicator of multiple was applied anytime there were two or three different locations listed. All cases indicating more than one event location were coded as 5 within this variable.

Accessibility- (N=683) This categorical variable indicates the level of possible accessibility an offender has to a particular location. This variable is based off of the location variable in this analysis and the parameters described in the previous chapter. Due to the lack of situational context within the NIBRS database the category of semi-private is limited and an additional category of other is introduced to account for the category of other in the location variable above.

Accessibility Category 1- Public (N=247) Classification types included in this category from the NIBRS location type variables are 'Bar/Nightclub', 'Commercial/Office Building', 'Convenience Store', 'Department/Discount Store', 'Field/Woods', 'Grocery/Supermarket', 'Park/Playground', 'Rental Store', 'Restaurant', 'Service/Gas Station', 'Specialty Store', 'Shopping Mall.' 'Highway/Roadway/Alley' and 'Parking Lot/Garage'. Each of these location types offer open accesses to the public with minimal, or easily subverted, guardianship and social controls providing easy access to offenders. These classifications were collapsed and recoded as 1 within this variable.

Accessibility Category 2- Semi-Private (N=15) Classification types included in this category from the NIBRS location type variables are 'Government/Public Building', 'Hotel/Motel', 'Hospital/Dr. Office/Drug Store'. Each of these classifications suggests that there is a moderate level of accessibility. Public government buildings may have some security measures in place but are generally open to the public. The same can be said for hospital's and doctors' offices. Hotels offer temporary residency but due to the transient nature of these locations they are classified as semi-private. These classifications were collapsed and coded as 2 within this variable.

Accessibility Category 3- Private (N=392) Classification types included in this category from the NIBRS location type variables are 'Prison/Jail' and 'Residence/Home.' None of the residence locations could be categorized as semi-private as there is no situational data provided to identify if a social gathering was occurring, which would provide an opportunity for an offender to gain entry to the residence at the time of the violent event. As such this category remains completely private as does the location of jails or prisons

due to their massive amount of security precautions. These classifications were collapsed and coded as 3 within this variable.

Accessibility Category 4- Other (N=29) This category is comprised of the 'Other/Unknown' classification listed in the location type variables of the NIBRS database. Cases assigned this accessibility category coincide with the 'Other' category in the location variable as these areas are ambiguous and cannot be classified in any other category. This classification is coded as 4 within this variable.

Time of day- (N=675) This categorical variable is divided into four categories each accounting for a segment of time within a twenty-four hour time period. Each category indicates the approximate time of day in which the violent event occurred. These times are provided in hourly military time increments within the NIBRS database. Hourly segments were collapsed and coded to remain consistent with the analysis conducted in the previous chapter.

Category 1- Early Morning (N=180) The early morning hours included in this category are listed as 1-5 in military time indicating the time to range from 1:00 AM through 5:59 AM. Cases documented as occurring within this timeframe are coded 1 within this variable.

Category 2- Morning (N=74) Incidents which occurred in the morning hours are listed as 6-11 in military time indicating the time range of 6:00 AM and 11:59 AM. Cases which were documented within this timeframe are coded 2 within this variable.

Category 3- Afternoon (N=136) Violent events documented as taking place in the afternoon are listed as 12-16 in military time indicating the time range of 12:00 PM and 4:59 PM. Cases which occurred within this timeframe are coded 3 within this variable.

Category 4- Night (N=285) Incidents taking place during nighttime hours are listed as 17-0 in military time indicating a timeframe of 5:00 PM and 12:59 AM. Cases which took place within this timeframe are coded 4 within this variable.

Offender Outcome- (N=683) This variable is constructed differently than the offender outcome variable in the previous chapter. The number of cases reporting the offender died prior to arrest were limited. However, arrest records were documented consistently in the arrestee segment of the NIBRS data. Cases indicated that some offenders were arrested while others were not. To include both groups presented in these data, two continuous variables were constructed documenting the number of arrests and non-arrests per case. The categories of suicide and killed prior to arrest could not be constructed from the NIBRS data.

Not Arrested (N=630) This continuous variable documents the total number of known/suspected offenders who had not been arrested per case. Counts for this variable were extracted from the offender segment of the NIBRS data, and were identified through offender records. Cases would indicate an offender record with limited data such as the offender's/suspect's sex but the record would not have an arrestee record. The number of offenders with no arrest record ranged from one to eight offender/suspects per case.

Arrested (N=598) This continuous variable documents the total number of arrested offenders per case. Construction of this count variable utilized data obtained from the offender and arrestee segments of the NIBRS data. It is important to note that an arrest does not equate to the offender having been present at the time of the event. Arrest and offender records do not provide an indicator identifying offenders who aided the primary offender after the

violent event. These ‘after the fact’ offenders receive the same coding as those who conducted the incident of mass violence.

Firearm- (N=683) Weapon type was extracted from three weapons variables available in the NIBRS database. Firearms were documented in seventy-nine percent of cases in the dataset. With well over the majority of weapons being used in mass violent events it was determined that a dichotomous variable, indicating firearms in comparison to all other weapons, would be generated. The frequencies of the various types of weapons can be seen in Table 1 in the analysis section of this chapter. As the focus of this paper is not on weapons all varieties of documented firearms were collapsed and coded into the single category of Firearm (N=538) with all other weapons coded as Non-Firearms (N=145). For the Firearm variable all incidents involving a firearm are coded as 1 with all other weapons coded as 0.

Analysis

Both bivariate and logistic regression analyses were conducted in the testing of the violent mass victimization theoretical measure. The primary components of this theoretical measure are that a minimum of one fatality and two injured non-offender victims are reported within a single violent event. This event cannot last longer than twenty-four hours and can extend to multiple locations. Results of the previous analysis indicate statistically significant differences between incidents of violent mass victimization, under this definition, and incidents of mass murder. These results suggest that mass violent victimizations are incidents which can be studied separately from those of mass murder and provide informative information to the

ongoing discussion related to mass violent events. These analyses are intended to add validity to the violent mass victimization measure and show that it is suitable for further exploration of violent mass victimizing events with official data. Most of the analyses presented here mirror those presented in the previous chapter and were conducted this way to determine if similar results could be produced with the use of official data.

Bivariate Analyses

The types of weapons used in mass violent events rarely vary, with firearms being the most common type of weapon used. This can be clearly seen in Table 12 where six categories of weapon types identified in the dataset are shown. Frequencies displayed in the table are total counts of weapon types presented in the NIBRS. As NIBRS is a culmination of police report data the frequencies represent the total number of weapons an offender was considered to be armed with at the time of arrest (FBI, 2013). This suggests that the weapon types listed may be over-representative as not all weapons may have been utilized in the actual incident. These results support the claim that firearms are the most common type of weapon employed in incidents of mass violence. Only 145 cases out of 683 report the presence of a non-firearm. This is not to say that a firearm was not used in the violent incident, only that a non-firearm was also reported in the case. A bladed weapon (N=97) was reported in eight percent of the cases (a total of fifty-three cases), a blunt object (N=40) was reported in three percent of cases (a total of twenty cases), and incendiary, or fire, weapon (N=19) was reported in two percent of cases (a total of sixteen cases).

Table 12 Frequencies of types of weapons encompassing the Firearm Variable

N= 683	Frequency	%
Weapon Type*		
Firearm(s)	1,009	.79
Blade(s)	97	.08
Incendiary	19	.02
Blunt Object	40	.03
Personal Weapon	48	.05
Other	25	.03
Total	1,238	100

*Counts are based off of total weapon counts among all cases and percentages are based off of frequency of cases reporting each weapon type within the dataset.

These frequencies do not account for the number of offenders documented in each case but do elude to the presence of multiple offenders. For example, the use of a personal weapon (N=48) was documented in five percent of cases (a total of thirty-five cases). This illustrates that multiple offenders had to be present for the number of personal weapons to exceed the number of cases. A crosstab analysis indicated that non-firearm weapons were mainly reported in cases where three victims were reported (N=84) and only eight percent of cases reported four to seven victims killed or injured by a non-firearm. Less than one percent of cases in the dataset reported the use of a non-firearm in cases where eight or more victims were documented as killed or injured.

A two-sample t-test was conducted to identify differences between firearm and non-firearm reports among the total number of victims injured and killed during a mass violent event. Results of these t-tests are shown in Table 13. There were no statistically significant differences found between firearm and non-firearm reports in the number of victims injured or killed during

a mass violent event. Reports of firearms ($M= 2.26, SD= .09$) per case were not significantly different from reports of non-firearms ($M= 2.96, SD= .24$) per case on the number of victims injured during a mass violent event, $t(561)= 1.06, p= .28$. Firearm reports ($M= 1.66, SD= .05$) per case were also not significantly different from reports of non-firearms ($M= 1.63, SD= .08$) per case on the number of victims killed during a mass violent event, $t(681)= -.34, p= .73$. This is somewhat surprising given that the use of a firearm is often associated with higher victim counts than in incidents of mass violence where a non-firearm was employed (Krouse & Richardson, 2015). However, as previously noted, the lack of significance could be directly related to the documentation of weapon types which can include both firearm and non-firearm weapons in a single case.

Table 13 Results of t-test and descriptive statistics for the number of victims killed and injured by firearm usage

Outcome	Group						95% CI for Mean		t	df
	Non-Firearm			Firearm			Difference			
	M	SD	n	M	SD	n				
Number Injured	2.96	.24	145	2.26	.09	537	-.21, .69	1.06	561	
Number Killed	1.63	.08	145	1.66	.05	537	-.23, .16	-.34	681	

Significant at the $p < .05^*$

In this study, distinction between victims and witnesses is a matter of injury. To be considered a victim an individual must have received a physical injury during the course of the violent event. This includes injuries received directly from the offender(s) and injuries received while attempting to evade the offender or violence. The NIBRS dataset provides data classification for six types of injury classification, which were collapsed into three main injury severity variables shown in Table 14. Two-sample t-tests were conducted to identify differences

of injury severity between the total number of victims documented in incidents of violent mass victimization and mass murder events. Incidents of violent mass victimization ($M= 1.58$, $SD= 1.01$) and mass murder events ($M= 1.75$, $SD= .96$) did not significantly differ on victims reported as receiving a minor injury during the violent event $t(131)= .33$, $p= .74$. Victim counts did not differ significantly on reports of moderately injured victims, $t(61)= -.72$, $p= .47$, between incidents of violent mass victimization ($M= 1.66$, $SD= 1.28$) and incidents of mass murder ($M= 1.00$, $SD= .01$). Incidents of violent mass victimization ($M= 1.92$, $SD= 1.26$) and mass murder ($M= 1.80$, $SD= 1.31$) did not significantly differ on victim reported as receiving a serious injury $t(323)= -.29$, $p= .76$. Lack of significance among these tests is most likely due to the vast difference in observation counts between mass victimizing incidents and mass murders. Injury type was only documented in sixteen cases of mass murder. This suggests that cases of mass murder documented in the NIBRS dataset did not result in a high number of surviving victims and may account for the lack of significance in the t-test results.

For cases of mass victimization there are much higher frequencies of reported injuries with 505 cases reporting minor, moderate, and serious injuries among the documented victims. Two-sample t-tests were also conducted to identify differences between incidents of violent mass victimization and mass murder among victim and offender characteristics. These results are shown in Table 15. They indicate statistically significant differences between these types of violent events on the number of reported adult victims, male victims, and adult offenders.

Table 14 Results of t-test and descriptive statistics for injury severity by violent event type

Outcome	Violent Event Type							95% CI for Mean Difference	t	df
	Victims of Violent Mass Victimization			Victims of Mass Murder						
	M	SD	n	M	SD	n				
Minor Injury	1.58	1.01	129	1.75	.96	4	-.84, 1.18	.33	131	
Moderate Injury	1.66	1.28	61	1.00	.01	2	-2.47, 1.16	-.72	61	
Serious Injury	1.92	1.26	315	1.80	1.31	10	-.92, .68	-.29	323	

Significant at the $p < .05$ *

When examining these differences the results show that the mean of violent mass victimizations ($M = 3.45$, $SD = 1.90$) is lower than the mean of mass murder incidents ($M = 2.24$, $SD = 1.16$) among the number of adult victims reported in these mass violent events $t(669) = -3.93$, $p < .05$. A statistically significant difference in means was found between incidents of violent mass victimization ($M = 3.05$, $SD = 1.57$) and mass murder events ($M = 2.24$, $SD = 1.16$) on the number of reported male victims $t(657) = -5.42$, $p < .05$. Cases of violent mass victimization ($M = 1.83$, $SD = 1.34$) reported fewer adult victims than those reported in mass murder events ($M = 1.36$, $SD = .1.12$), $t(537) = -3.36$, $p < .05$. These results show that within the dataset adult and male victims were reported less in incidents of mass violent victimizations than in mass murder events and that adult offenders were reported more in cases of mass murder than in incidents of violent mass victimization.

With the offender outcome variables being continuous, as opposed to being categorical in the previous chapter, a two-sample t-test was conducted to determine if there was a significant

difference between cases of violent mass victimization and mass murder events in regards to the offender outcome variables.

Table 15 Results of t-tests and descriptive statistics for victim sex and victim/offender age by event type

Outcome	Violent Event Type						95% CI for		t	df
	Victims of Violent Mass			Victims of Mass			Mean Difference			
	Victimization			Murder						
M	SD	n	M	SD	n					
Juvenile Victims	1.88	1.71	152	2.00	1.16	62	-.36, .58	.47	212	
Adult Victims	3.45	1.90	540	2.75	1.40	131	-1.04, -.35	-3.93*	669	
Male Victims	3.05	1.57	534	2.24	1.16	125	-1.10, -.51	-5.42*	657	
Female Victims	1.91	1.58	294	1.97	1.09	112	-.26, .38	.36	404	
Juvenile Offenders	1.63	1.07	43	1.50	1.07	8	-.96, .70	-.31	49	
Adult Offenders	1.83	1.34	432	1.36	1.12	107	-.75, -.20	-3.36*	537	

Significant at the $p < .05^*$

Preliminary analysis of these variables indicated that they were both skewed to the right. Re-centering the variables and squaring the variables did little to reduce the skewness present within these variables. Though this indicates that the variables have a non-linear distribution they were still suitable for the logistic regressions. With little effect resulting from the attempts to correct the skewness these variables remained untransformed. The results, shown in Table 16, were conducted with the untransformed offender outcome variables and indicate statistically significant differences between these two violent event types and the number of arrested and not arrested offender(s) documented per case. Records of offender/suspects, who were not arrested, were reported less in cases of violent mass victimization ($M = 1.58, SD = 1.02$) than in cases of mass murder ($M = 1.29, SD = .85$), $t(409) = -2.37, p < .05$.

Table 16 Results of t-tests and descriptive statistics for offender outcome by violent event type

Outcome	Violent Event Type						95% CI for		
	Victims of Violent Mass Victimization			Victims of Mass Murder			Mean Difference		
	M	SD	n	M	SD	n	t	df	
Not Arrested	1.58	1.02	335	1.29	.85	76	-.55, -.05	-2.37*	409
Arrested	1.66	1.19	304	1.37	1.04	67	1.11, 1.63	-2.01*	108

Significant at the $p < .05^*$ Arrested results calculated as unequal variance.

There were also fewer arrest records reported in cases of violent mass victimization ($M = 1.66$, $SD = 1.19$) than in cases of mass murder ($M = 1.37$, $SD = 1.04$), $t(108) = -2.01$, $p = .05$. These results suggest that there are fewer offenders known or arrested in incidents of violent mass victimization than in cases of mass murder. This is not surprising since many offenders of mass murder die or are arrested shortly after the violent event (Holmes & Holmes, 1992; Lester, Stack, Schmidtke, Schaller, & Muller, 2005).

To identify significant relationships between victim attributes and victim counts in mass violent events correlations were calculated. Pairwise correlations to identify which variables were significantly related. This type of correlation calculation identifies t-test probabilities necessary to determine if the p-value of the variables was significant and the null of no relation could be rejected. The Šidák method was employed to ensure that a Type I error was not made during these calculations as it adjusts the level of significance-test probabilities for the total number of comparisons. Results of these calculations are presented in Table 17. These results show statistically significant ($p < .05$) relationships between the total number of victims, the number of injured victims, and the total number of victims killed and victim types.

Table 17 Correlations related to victim counts and victim attributes

	Victim Count	Number Injured	Number Killed	Male	Female	Family	Acquaintance	Stranger
Victim Count	1.00							
Number Injured	.97*	1.00						
Number Killed	.05	-.13*	1.00					
Male	.73*	.74*	.13*	1.00				
Female	.75*	.75*	.13*	.36*	1.00			
Family	.04	-.01	.38*	-.14*	.12*	1.00		
Acquaintance	.05	.03	-.03	.07	.01	-.09*	1.00	
Stranger	.28*	.29*	-.13*	.33*	.08	-.12*	-.07	1.00

Significant at the * $p < .05$ level. Correlations are rounded.

Statistically significant positive correlations were found between the total victim count per case and the total number injured per case, $r(562) = .97, p < .05$, but not with the number of victims killed per case. The total number of victims reported per case also showed strong positive correlations with the number of male victims, $r(656) = .73, p < .05$, the number of female victims per case, $r(404) = .75, p < .05$, and the number of victims categorized as strangers, $r(681) = .28, p < .05$. The number of victims injured per case showed a strong negative correlation with the total number of victims killed per case, $r(681) = -.13, p < .05$. Positive significant correlations were found between the number of injured victims per case and the number of male victims $r(656) = .74, p < .05$, the number of female victims per case, $r(404) = .75, p < .05$, and the number of victims reported as strangers, $r(681) = .28, p < .05$. Strong positive statistically significant correlations were also observed between the total number of victims killed per case and the number of male victims, $r(656) = .73, p < .05$, the number of female victims, $r(404) = .75,$

$p < .05$, and the number of victims identified as having a familial relationship, $r(681) = .38$, $p < .05$, with the offender(s) per case. A strong negative correlation was found between the total number of killed victims and the number of victims classified as strangers to the offender(s), $r(681) = -.13$, $p < .05$. The number of reported male victims had indicated having strong positive correlations with the number of female victims, $r(404) = .36$, $p < .05$, and victims categorized as strangers, $r(682) = .36$, $p < .05$. A statistically significant negative correlation was indicated between the number of male victims and victims identified as having a familial relationship, $r(681) = -.14$, $p < .05$, with the offender(s). There was also a strong positive correlation between the total number of female victims per case and victims identified as sharing a familial relationship $r(681) = .12$, $p < .05$ with the offender(s). The relationship variables of number of identified acquaintances, $r(681) = -.09$, $p < .05$, and strangers, $r(681) = -.12$, $p < .05$, indicated statistically significant negative correlation with the number of victims identified as sharing a familial relationship with the offender(s).

Chi-squared tests were conducted to observe the relationships between the categorical variables related to event characteristics and the two types of mass violent events. Included in these chi-squared calculations are the event characteristics of causal factors, event location, accessibility to location by offenders, and the time of day in which the event occurred. Results of these analyses are displayed in Table 18. Three of the four tested variables showed to have a statistically significant relationship to incidents of mass violence. The variable indicating the type of accessibility an offender potentially had to a particular location did not indicate a significant relationship with the two types of mass violent events. Results of the chi-square analyses indicate a relationship between the specified types of violent event causes and mass

violent events with a χ^2 (5, N= 458) = 11.62, $p < .01$. An argument was more likely to result in an incident of violent mass victimization (84%) than one of mass murder (16%). Though there were only ten cases reporting issues of domestic violence, they were still more likely to end in an incident of violent mass victimization (80%) than a mass murder (20%). Gang-related incidents of mass violence were more likely to result in a violent mass victimization (83%) than a mass murder (17%). Events which involved a felony, such as robbery or burglary, were more likely to result in a mass victimization (90%) than a mass murder (10%). Police involvement could only be measured by offenses related to aggravated assault against an officer which indicated their presence at the time of, or shortly after, the violent event occurred. With this in mind, police involvement was more likely to be associated with a violent mass victimization (95%) than a mass murder (5%). Causal factors categorized as other were more likely to be associated with incidents violent mass victimization (77%) than mass murders (23%). A statistically significant relationship was indicated between the type of locations and mass violent events with a χ^2 (4, N= 683) = 38.41, $p < .01$. Incidents of violent mass victimization were all more likely to occur at the identified location types within the NIBRS data. Incidents of violent mass victimization (87%) occurred more often at businesses than did mass murders (13%). Even residences reported more incidents of violent mass victimization (72%) than mass murders (28%). Street locations, including parking lots, driveways, and garages, were more likely to be the scene of a violent mass victimization (93%) than a mass murder (7%). Locations documented as other within the NIBRS dataset occurred more likely to be associated with incidents of violent mass victimization (83%) than mass murders (17%). Unexpectedly, incidents of violent mass victimization (87%) were also more likely to occur at multiple locations than mass murders (13%).

Table 18 Chi-square results of the relationship between mass violent events and event characteristics

	Mass Victimization		Mass Murder		χ^2	Total Frq.
	Frequency	%	Frequency	%		
<i>Cause</i>					11.62*	
Argument	97	84	18	16		115
Domestic Issues	8	80	2	20		10
Gang-related	19	83	4	17		23
Felony	112	90	12	10		124
Police Involvement	20	95	1	5		21
Other	127	77	38	23		165
<i>Location</i>					38.41*	
Business	61	87	9	13		70
Residence	257	72	102	28		359
Street	161	93	12	7		173
Other	24	83	5	17		29
Multiple	45	87	7	13		52
<i>Accessibility</i>					2.02	
Public	202	82	44	18		246
Semi-Private	9	69	7	31		13
Private	308	79	82	21		390
Other	24	83	5	17		29
<i>Time of Day</i>					11.93*	
Early Morning	152	84	28	16		180
Morning	50	68	24	32		74
Afternoon	105	77	31	23		136
Night	237	83	48	17		285

Significance level $p < .10^*$, $p < .05^{**}$, $p < .01^{***}$ percentages are calculated across rows, rounded, and all equal 100%.

A statistically significant relationship also occurred between mass violent events and the time of day in which they transpired, with a $\chi^2 (3, N = 675) = 11.93, p < .01$. Each segment of time was more likely to be associated with incidents of violent mass victimization than mass murders. Incidents of violent mass victimization occurred more often in the early morning hours (84%), between the hours of 1:00am and 5:59am, than mass murders (16%). Mass violent events

occurring in the morning hours, between 6:00am and 11:59am were more likely to result in an incident of violent mass victimization (68%) than a mass murder (32%). Events of mass violence occurring in the afternoon, between 12:00pm and 4:59pm, were more likely to result in an incident of violent mass victimization (77%) than a mass murder (23%). Violent mass events taking place during night time hours, between 5:00pm and 12:59am, were also more likely to result in an incident of violent mass victimization (83%) than one of mass murder (17%).

Regression Analyses

The logistic regression analyses conducted in this section of the paper indicate statistically significant differences between incidents of violent mass victimization and mass murder events. A preliminary evaluation of the variables in a logistic regression model (not shown here) determined that the logistic regression was the model of best fit for the analysis. Table 19 presents the descriptive statistics for the variables utilized in the regression analyses. Diagnostics of the logistic regression models showed that the skewed variables explained earlier did not affect the models.

In identifying differences between incidents of violent mass victimization and mass murder the logistic regression indicates statistically significant differences in causal factors, location, time of day the event occurred, and the offender outcome. The results are presented in Table 20. The dependent variable in this analysis is 'violent mass victimization' where incidents reporting a minimum of one fatality and two injured non-offender victims in a single event are coded 1 and incidents reporting three or more fatalities are coded 0.

Table 19 Descriptive statistics of regression variables

	N	\bar{X}	SD
Incidents of Violent Mass Victimization	682	.80	.39
Victims of Violent Mass Victimization	547	2.77	2.20
Victims of Mass Murder	135	1.65	1.05
One Killed	682	.63	.48
Two Killed	682	.16	.37
Causal Factors	682	3.17	3.22
Location	682	2.46	.99
Accessibility	677	2.29	1.01
Time of Day	674	2.77	1.25
Not Arrested	682	.92	1.08
Arrested	682	.92	1.07

Significant at the $p < .10^*$, $p < .05^{**}$, $p < .01^{***}$

The model results in this table indicate that some event characteristics have an increased probability of resulting in an incident of violent mass victimization than a mass murder when present during a mass violent event. The overall model is significant at the $p < .01$ level [$df = 18$]. Within the category of causal factors, the ‘odds ratio’ for the Felony coefficient is 2.14, ($\beta = .76$, $p < .10$), with a confidence interval of [.91, 5.01]. This suggests that an incidence of mass violence is two times more likely to result in an incident of violent mass victimization than a mass murder. All of the variables representing a violent event location indicate positive statistically significant relationships with incidents of violent mass victimization. The ‘odds ratio’ for the ‘Business’ coefficient is 2.27, ($\beta = .81$, $p < .05$), with a confidence interval of [1.04, 4.93].

Table 20 Logistic regression of event characteristics of mass violent victimization events

	Violent Mass Victimization		
	β	<i>SE</i> β	e^{β}
<i>Cause</i> (R: Argument)			
Domestic Issues	.31	.87	1.36
Gang-related	-.82	.67	.44
Felony	.76*	.43	2.15
Police Involvement	1.59	1.08	4.94
Other	-.39	.34	.67
<i>Location</i> (R: Residence)			
Business	.81**	.39	2.27
Street	1.73***	.33	5.68
Other	.99*	.57	2.69
Multiple Locations	.91**	.47	2.48
<i>Location Accessibility</i> (R: Private)			
Public	.14	.23	1.15
Semi-Private	-.51	.67	.60
Other	-.29	.55	.74
<i>Time of Day</i> (R: Night)			
Early Morning	.07	.28	1.07
Morning	-.70**	.32	.49
Afternoon	-.38	.28	.67
<i>Offender Outcome</i>			
Not Arrested	.25**	.13	1.28
Arrests	.27**	.13	1.31
<i>df</i>	18		
χ^2	88.68		
<i>p</i>	.001		
Constant	-.06	.29	.91***

Significant at the $p < .10^*$, $p < .05^{**}$, $p < .01^{***}$. e^{β} = exponentiated β .

This result suggests that incidents of mass violence are two times more likely to result in an incident violent mass victimization than a mass murder event. The ‘odds ratio’ for the ‘Street’ coefficient is 5.68, ($\beta=1.73$, $p < .01$), with a confidence interval of [2.94, 10.93]. This suggests that

cases of mass violence are six times more likely to result in an incident of violent mass victimization than a mass murder. The ‘odds ratio’ for the ‘Other’ coefficient in the location category is 2.69, ($\beta = .99$, $p < .10$), with a confidence interval of [.88, 8.19]. Locations included in this variable are unspecified within the NIBRS dataset, suggesting that mass violent events occurring at locations that do not fit the available location option parameters in NIBRS are three times more likely to result in an incident of violent mass victimization than a mass murder. The ‘odds ratio’ for mass violent events that span ‘Multiple Locations’ is 2.48, ($\beta = .91$, $p < .01$), with a confidence interval of [.99, 6.22]. This result suggests that mass violent events, spanning more than one location during a single ongoing event, are two times more likely to result in an incident of violent mass victimization than a mass murder. The ‘odds ratio’ for the ‘Morning’ coefficient, in the category of time of day, is .49, ($\beta = -.70$, $p < .05$), with a confidence interval of [.26, .92]. This suggests that incidents of mass violence, occurring between the hours of 6:00am and 11:59am, are less 50% likely to result in an incident of violent mass victimization than a mass murder. Lastly, the ‘odds ratio’ for the number of reported offenders ‘Arrested’ coefficient is 1.31, ($\beta = .27$, $p < .05$), with a confidence interval of [.26, .92]. This suggests that for each arrest reported per case there is a 31% increase in the odds that the mass violent event resulted in an incident violent mass victimization.

To address the third research question posited, regarding fatality count, in this analysis two logistic regressions were calculated to identify the relationship between event characteristics and the number of non-offender fatalities reported in an incident of violent mass victimization. The results of these regressions determine if a minimum of one fatality, stipulated in the previous

chapter, is retained in the final measure of violent mass victimization or if further research on fatality counts per violent mass victimization is required.

Results shown in Table 21, Model 1, show the statistically significant probabilities of event characteristics on incidents of violent mass victimization where only one non-offender fatality was reported. The model is significant at the $p < .01$ level [$df = 18$]. Results displayed in Model 1 indicate that select event characteristics, regarding causal factors, incident location, and offender outcome, increase the probability that an incident of violent mass victimization resulting in one non-offender fatality reported than an incident of violent mass victimization where more than one non-offender fatality is reported. The ‘odds ratio’ for the ‘Felony’ coefficient is 1.89, ($\beta = .64$, $p < .05$), with a confidence interval of [1.03, 3.46]. This suggests that violent mass victimization events associated with a felony crime are two times more likely to result in the death of one non-offender victim. The ‘odds ratio’ for the ‘Business’ coefficient, in the location category, is 3.23, ($\beta = 1.17$, $p < .01$), with a confidence interval of [1.69, 6.19]. This suggests that an incident of violent mass victimization incurring a single victim fatality is three times more likely than multiple fatalities being reported in a single mass violent event. The ‘odds ratio’ for the ‘Street’ coefficient is 3.19, ($\beta = 1.16$, $p < .01$), with a confidence interval of [2.07, 4.91]. This suggests that an incident of violent mass victimization, occurring on the street, is three times more likely to report a single victim fatality than multiple victim fatalities. The ‘odds ratio’ for the ‘Other’ variable, in the location category, is 3.00, ($\beta = 1.10$, $p < .01$) with a confidence interval of [1.21, 7.41]. Again, this category is ambiguous in the NIBRS dataset suggesting that violent mass victimization events occurring at locations that do not fit the available location option parameters in NIBRS are three times more likely to result in the

reporting of one victim fatality during a violent mass victimization event than multiple victim fatalities. The ‘odds ratio’ for violent mass victimization events spanning ‘Multiple Locations’ coefficient is 3.79, ($\beta= 1.33$, $p< .05$), with a confidence interval of [1.76, 8.18]. This result suggests that incidents of violent mass victimization are four time more likely to report a single victim fatality than multiple victim fatalities. The ‘odds ratio’ for the location accessibility variable of ‘Semi-Private’ coefficient is .35, ($\beta= -1.04$, $p< .10$), with a confidence interval of [.10, 1.20]. This suggests that incidents of violent mass victimization that occur at locations categorized as having semi-private accessibility is less than 50% likely to report a single non-offender fatality than multiple non-offender fatalities. A similar result is scene in the time of day variable of ‘Afternoon’ where the odds ratio for this variable’s coefficient is .59, ($\beta= -.52$, $p< .05$), with a confidence interval of [.37, .93], which suggests that incidents of violent mass victimization reported to have taken place between the hours of 12:00pm and 4:59pm are 50% less likely to report a single victim fatality than multiple victim fatalities. The ‘odds ratio’ for the number of report offenders ‘Arrested’ coefficient is 1.17, ($\beta= .15$, $p< .10$), with a confidence interval of [.97, 1.39]. This suggests that for every offender arrested for participation, or connected, in a violent mass victimization event there is a 17% increase in the odds that a single non-offender fatality will be reported.

Results shown in Model 2 show the statistically significant probabilities of specific mass violent event characteristics and mass violent events reporting two non-offender fatalities. The model is significant at the $p< .05$ level [$df= 18$]. All of the covariates in this model indicating significance resulted in negative coefficients.

Table 21 Logistic regression of the number of killed victims in incidents of violent mass victimization events

	<u>Model 1</u>			<u>Model 2</u>		
	<u>One Killed</u>			<u>Two Killed</u>		
	β	<i>SE</i> β	e^β	β	<i>SE</i> β	e^β
<i>Causal Factors (R: Argument)</i>						
Domestic Issues	-.66	.75	.52	1.04	.74	2.85
Gang-related	.02	.56	1.02	-.89	.80	.41
Felony	.64**	.31	1.89	-.27	.35	.76
Police Involvement	.48	.56	1.62	.27	.58	1.32
Other	.13	.27	1.13	-.57*	.34	.56
<i>Location (R: Residence)</i>						
Business	1.17***	.33	3.23	-1.15**	.49	.32
Street	1.16***	.22	3.19	-.22	.25	.80
Other	1.10***	.46	3.00	-.66	.63	.52
Multiple Locations	1.33***	.39	3.79	-1.33**	.62	.26
<i>Location Accessibility (R: Private)</i>						
Public	.06	.18	1.07	.05	.23	1.05
Semi-Private	-1.04*	.63	.35	.83	.63	2.29
Other	.13	.27	1.25	-.65	.65	.52
<i>Time of Day (R: Night)</i>						
Early Morning	.07	.22	1.07	-.06	.27	.94
Morning	-.42	.29	.66	-.28	.39	.76
Afternoon	-.52**	.23	.59	.33	.27	1.39
<i>Offender Outcome</i>						
No Arrest	.05	.08	1.05	.15	.09	1.16
Arrests	.15*	.09	1.17	-.03	.11	.97
<i>df</i>	18			18		
χ^2	80.13			29.45		
<i>p</i>	.001			.043		
Constant	-.06	.29	.94	.94	.27	- 1.22***

Significant at the $p < .10^*$, $p < .05^{**}$, $p < .01^{***}$. e^β = exponentiated β or ‘Odds Ratio’.

One way this can be interpreted is that the odds of an incident of violent mass victimization only reporting a total of two fatalities is less than 50% likely to occur when a causal component is

unspecified, (O.R.= .56, β = -.57, $p < .10$), when the mass violent event occurs at a place of business, (O.R.= .32, β = -1.15, $p < .05$), or in violent mass victimization events that span multiple locations (O.R.= .26, β = -1.33, $p < .05$). This may indicate that these variables are more representative of cases of mass murder than incidents of violent mass victimization based on fatality count. What can be gained from these results is that the requirement for a minimum fatality count of one in the measure of violent mass victimization is supported.

Summary of Secondary Data Analysis Results

Results of the bivariate analyses indicated statistically significant differences between the types of mass violent events and the types of victims and offenders involved. Specifically, the results showed that adult and male victims were reported less in incidents of violent mass victimization. The results of the two-sample t-tests did not show a significant difference in means between violent event types and victims reported to be female or juveniles. Adult offenders were reported more frequently in incidents of mass murder than in incidents of violent mass victimization which suggests that many adult offenders who commit acts of mass violent victimization do so with the intent to escape apprehension. As noted earlier in Chapter 3, Holmes and Holmes (1992) suggest that mass murderers enact a mass murder with little regard for escaping or attempting to flee. They either commit suicide or surrender to authorities. This notion is supported by the results of the t-tests looking at statistical differences between mass violent events and the number of arrested and non-arrested offenders. There were more arrested and non-arrested reports in cases of mass murder in comparison to incidents of violent mass victimization. If the police did not have a viable description of a suspected offender then there

could be no data entered for the completion of an arrest record or file started on a suspected offender. If the offender committed an act of mass violence with no intention of getting caught or dying, and succeeded in not getting caught, then the lack of arrest report or open offender file makes sense.

Of the more interesting results produced by the correlation calculations is when the number of victims killed increases the number of victims identified as strangers decreases and when the number of victims killed increases there is a corresponding increase in the number of victims identified as being related to the offender(s). This type of linear relationship is common in the literature regarding family annihilation (Meloy, et al., 2004; Websdale, 2010) but it also supports the notion that there are situational differences between incidents of violent mass victimization and those of mass murder. This is of course speaking on a large scale. Many mass murderers target total strangers as their victims where the target selection was based on a type of individual as opposed to a specified individual (Fox & Levin, 2003). However, looking at mass violent events as a whole, these results address the second research question posited in this study by providing empirical evidence of situational differences among incidents of mass violence, in regard to victim offender relationships. The rest of the correlation results support what can be found in the literature. As victim counts, injured and killed increased there were corresponding increases in the number of male and female victims, as well as victims identified as strangers. Male and female victims also followed known homicide trends in relation to family. As the number of victims sharing a familial relationship with the offender went up there was a decrease in the number of reported male victims and an increase in the number of female victims. This

also corresponds with literature pertaining to homicide trends and family annihilations (Cooper & Smith, 2011; Websdale, 2010).

Results of the logistic regression analysis, shown in Table 20, indicated eight of the seventeen variables as statistically significant. Only the measure for mass violent events taking place in the morning hours, between 6:00am and 11:59am, indicated a negative probability that the mass violent event would result in an incident of violent mass victimization. The rest of the significant results indicate that there increased probabilities of a mass violent event resulting an incident of mass victimization when the event involves the commission of another felony, at a place of business, or on the streets. The offender outcome variables were both positively significant. This suggests that offender outcome does not play a large role in understanding incidents of violent mass victimization. Since the variables in this category act as antitheses of each other, the fact that both increase the probability that a mass violent event will result in a violent mass victimization, negates their significance. This is not to say that offender outcomes cannot provide some insight into understanding incidents of mass violence, only that it requires more exploration. Statistically significant results were also shown in Table 10. These results indicate that there is a higher likelihood of an incident of violent mass victimization occurring when one fatality is reported than a mass murder. The model of two killed did show significance but indicated that the significant relationship decreased the likelihood of a mass violent event resulting in a violent mass victimization. This supports the inclusion of a one fatality minimum in the final definition of violent mass victimization.

Conclusion

The fact that not all of the analyses resulted in statistically significant outcomes indicates that incidents of mass murder and violent mass victimization share some commonalities. This was expected since these types of events are similar in nature. The tests and variables that did indicate significance empirically show that differences between these two mass violent events exist. The presence of these differences addresses the second research question guiding this study and adds credibility to the measure of violent mass victimization. Differences between these two mass violent events include victim characteristics, offender characteristics, offender outcomes, and the event characteristics regarding causal factors, location, time of day, and offender outcomes. Of particular interest are the results for location. The importance of place has been discussed at different points throughout this paper. These results support the idea that location matters in incidents of violent mass victimization. This finding coincides with literature on street crime, neighborhood violence, and gang-related violence (Eck & Weisburd, 2015; Enel & Corsaro, 2013; Hayward, 2007; Peterson, Taylor, & Esbensen, 2004). Results, in table 9, for street locations show that a mass violent event is five times more likely to result in an incident of violent mass victimization than a mass murder. Results from the second logistic regression, shown in Table 10 supported the need to include a minimum of one fatality in the final definition of violent mass victimization. Within the one killed model, the variables representing location all indicated significance. Taking these results into consideration, it appears that further exploration of incidents of violent mass victimization and the places they occur warrant further exploration.

CHAPTER 5: DISCUSSION

This study has approached the exploration of mass violent events by separating these incidents into two types; those where three or more victims are reported as killed and those where a minimum of three victims are reported as injured with two or fewer victims reported as killed. At this point it is important to note that an incident of mass violent victimization can be inclusive of both types of events. To clarify, not all violent mass victimizations are mass murders but all mass murders are incidents of violent mass victimization as they both result in multiple physically injured and/or killed non-offender victims through the actions of one or more motivated offenders. Development of the violent mass victimization measure provides a way for researchers to explore and understand these incidents of mass violence in their entirety, inclusive of all known victims in such a way as to not infringe on the established structure and study of mass murder. Parallels between these mass violent event types are evident in the content analysis presented in Chapter 2 and as they share many event, offender, and victim characteristics it would be imprudent to argue that these event types are explicitly divergent.

Cases derived from the manually constructed media dataset were used to identify consistent themes present in mass violent events, regardless of fatality count. These data, along with data obtained from the National Incident Based Reporting System (NIBRS), include incidents of mass violence that occurred between the years of 2009 through 2012. It could be argued that this time frame is no longer relevant given the current climate of mass violence in the U.S. However, previous research in the field of mass murder illustrates that the underlying components that encompass these violent events have not changed over time. Duwe (2004)

examined cases of mass murder that occurred throughout the twentieth century. A full 100 years' worth of cases that were documented in print news and the Supplementary Homicide Reports. In examining and explaining mass murder offender typologies and events Fox and Levin (1998; 2003; 2015) have employed data and case study examples which have spanned decades. In a recent study, Lankford (2015) utilized data on approximately 300 cases of mass murder that took place in the eight year timeframe of 2006 through 2014 to evaluate racial differences among mass murderers. Each of these studies incorporated data from various time frames to explore, explain and understand the phenomenon of mass murder. They illustrate the consistent structure and nature of mass murder events and offender typologies supporting the premise that the components of mass violence remain relatively unchanged over time. As such, the measure and results of this study offer a valid and viable addition to the ongoing discussion regarding mass violence and mass murder. All of the statistical analyses conducted in this study have included both injured and killed victims as they were documented in an effort to mass violent events as a complete sum of its parts, while identifying differences between incidents of violent mass victimization and mass murder.

Comparison of Mass Violence Event Statistical Analyses

To determine reliability and add validity to the violent mass victimization measure statistical analyses were conducted using data obtained from the manually constructed news media dataset and data obtained from NIBRS. A comparison of the results presented in Chapter 3 and Chapter 4 indicate statistically significant differences between event types. Though limitations of these analyses were presented in previous chapters it is necessary to briefly

discuss them as they are intricately related to the comparisons made in this section of the chapter.

Data derived from news media content is subject to selection bias and as such represents the types of violent mass victimization stories the news media has deemed news worthy. Types of selection bias enacted by news sources was discussed in Chapter 2 of this paper and is inclusive the 'ideal victim' and situational sensationalism of the event. Geoski et al. (2012) noted that not all homicides are considered newsworthy and inclusion in the news can depend on the victim/offenders relationships, age, race, gender, religious background, or lifestyle. The frequency of homicide type can also play a role in the determining the stories level of interest to the public (Lundman, 2003). Thus, the data analyzed in the qualitative content analysis was subject to this bias. To reduce the influence of selection bias more than 1,000 news articles were collected that would encompass as many types of mass victimization as possible. This does not eliminate the selection bias or subjectivity of these data but it does provide a range inclusive of various types of violent mass victimization. Limitations in the NIBRS data utilized in this study are inherent to the dataset and as such, are unavoidable. There were two main limitations identified in the NIBRS data. The first relates to the primary source of the NIBRS data. These data are provided by participating law enforcement agencies from thirty-five U.S. states with only fifteen of these states reporting from 100% of their law enforcement agencies. Much of the data provided from these agencies do not represent larger urban cities and cannot be generalized the nation as a whole. In spite of this, this database has been regarded as one of the most dynamic and accurate source of crime related data (Akiyama & Nolan, 1999; Loftin & McDowall, 2010). The second limitation of the NIBRS data relates to the variables employed in the secondary data analysis. Although efforts were made to duplicate the analyses conducted in

the quantitative content analysis several variables could not be constructed. This explains the lack of an innocent bystander variable and the limited injury severity comparisons in the following analysis evaluations. The offender outcome variable also had to be amended to be included in the analysis. Only incidents of violent mass victimization and mass murder are compared in this section. A comparison and discussion of the regression analyses conducted on victim fatality counts is discussed in the next section.

To begin, bivariate analyses were conducted on the victim, offender, and event characteristics. Once the parameters for victim classification had been determined (a victim must suffer some form of physical injury as result of the offender or the mass violent event) it became prudent to explore the relationship of injury severity to mass violence events. Through use of two-sample t-tests, illustrated in Table 5 and Table 14, injuries considered to be minor or moderate were reported less frequently in incidents of violent mass victimization than mass murder, as reported by the news. Similar t-tests conducted with NIBRS data indicated no significant difference in means between violent events by injury severity. Though speculative, this may be due to inconsistent reporting by police officers who may not deem documentation of an injury necessary. This was a noted possibility in a study conducted by Safarik and Jarvis (2005) examining injury type of homicide victims. In their study, it was speculated that documentation of injuries among the dead may not have been a priority since the outcome was death. The results of the t-tests in Table 5 also suggest that the media documents injury type more consistently than can be found in police report information as they note scratches, bruises, minor lacerations. These results can also suggest that the news is more likely to report injuries associated with incidents of mass murder than violent mass victimizations.

Two-sample t-tests were also conducted on victim and offender demographics, shown in Table 6 and Table 15. Both adult victims and adult offenders indicated as having a statistically significant relationship with mass violent events. The news data analysis indicated that adult victims and offenders were reported less frequently in incidents of violent mass victimization than in cases of mass murder. Results of the t-tests conducted with the NIBRS data also indicated fewer reports of adult victims in incidents of violent mass victimization than in mass murders but showed higher frequencies of adult victims being reported in violent mass victimizations than for mass murders. Taking into account that news selection bias may account for these differences the results from both sets of analyses do indicate that adult offenders are less frequently reported in incidents of violent mass victimization. This commonality suggests that adults are more often the perpetrators of mass murder than incidents of violent mass victimization. Literature regarding offender characteristics and mass murder support this support this finding as adult males are often cited as the main offender types (Cooper & Smith, 2011; Duwe, 2000; Holmes & Holmes, 1992). This is not a surprising finding but it does exemplify the reliability of the violent mass victimization measure.

An interesting result of the bivariate analyses conducted in this study can be found in the correlations calculated to observe the relationship between the number of reported victims and victim attributes, shown in Table 7 and Table 17. Though many of the relationships shown in these tables are well documented in the existing literature, the correlations conducted with the NIBRS data show that as the number of reported killed victims decreases there is an increase in the total number of reported injured victims. This suggests that incidents of violent mass victimization incur higher victim counts than those of mass murders. Though the minimum

victim count requirement is set at three these results suggest that incidents of violent mass victimization may be more impactful than incidents of mass murder as they afflict injury on more people. This assertion is speculative but warrants further investigation.

Regression analyses were conducted in the quantitative content analysis and secondary data analysis to identify the effect that event characteristics had on incidents of mass violence and the determine if the presence of these event characteristics indicated differences between incidents of violent mass victimization and mass murder. Due to the nature of the differing data sources OLS regressions were conducted in the qualitative content analysis and a logistic regression was conducted in the secondary data analysis, shown in Table 10 and Table 20. Both of the models in Table 10 are statistically significant indicating that the variables are a good fit. Interestingly, incidents of violent mass victimization indicated a decrease in victim count when associated with the commission of a felony. The variables associated with offender outcome are also noteworthy as they appeared to have a statistically significant relationship to the victim counts event outcomes of mass violent events. Holmes and Holmes (1992, 2009) explain that incidents of mass murder have higher victim counts when the offender dies at the conclusion of the event. However, the results of the OLS regression indicated a decrease in mass murder victim counts when the offender was killed prior to arrest. Transversely, there was a subsequent increase in violent mass victimization victim counts regardless of the offender's outcome. This result was also observed in the logistic regression which indicated that for every offender who remained at large or was apprehended by law enforcement there was increased probability that the mass violent event would result in an incident of violent mass victimization.

Lastly, is the observable conflicting results regarding the location variables between these two regression analyses. None of the locations in the OLS regression indicated a statistically significant effect on the number of victims reported in incidents of violent mass victimization but incidents occurring at a business, on the street, or at locations regarded as safe havens indicated an increase in victim counts in mass murder events. As these locations provide public and semi-public access it stands to reason that there would be more people present at these location for the offender kill or injure. It is important to remember that the dependent variables for victims of violent mass victimizations and victims of mass murders include both injured and killed victims. Thus, the increase in victim count at these locations during mass murder events is not indicative of an increase in fatality count. Mass murder and mass shooting literature have often noted the target availability provided by public locations (Davies, 2008; Dietz, 1986; Duwe, 2000; Fox & Levin, 2015; Hickey E. W., 1987; Krouse & Richardson, 2015; Petee, Padgett, & York, 1997; Vaughn, Delisi, Beaver, & Howard, 2009). What is surprising is that none of the location variables had a statistically significant effect on the number of reported victims in violent mass victimization incidents. The logistic regression conducted with NIBRS data indicated that all of the location variables, e.g. businesses, streets, other, and multiple locations, were statistically significant within the model. However, only incidents of mass violence occurring on the streets increased the likelihood that the event would result in a violent mass victimization. An explanation for this can be connected with the theory of social disorganization and the code of violence, whereby offenders in socially disorganized areas experiencing and adopting the code of violence are quick to react violently when faced with a conflict (Anderson E. , 2000; Copes, Hochstetler, & Forsyth, 2013; Gottfredson & Hirshi, 1990). Under these perspectives the

individual is looking to retaliate against a person or individual they believe have slighted them. As, was noted in Chapter 2, there is little concern exhibited by the offenders for innocent bystanders and they are more likely to shoot wildly into a crowd to hit their target. The lack of aim often associated with these types of mass shootings indicate that individuals present at the time of the event have a higher risk of being injured than killed. Incidents of mass violence occurring at businesses and spanning multiple locations were more likely to result in a mass murder. These findings suggest that, even though incidents of violent mass victimization occur three to four times more often than mass murder, the location of a mass violent event can have direct effect on the victim and fatality counts incurred during a mass murder.

The fact that differences do exist between these two mass violent event types and that many of these differences were similarly observed in the results of both types of data, provides an example of the reliability of the violent mass victimization measure and that there is knowledge to be gained from the continued study of violent mass victimizations that do not equate to a mass murder. Intuitive interpretations of these results and comparisons were not expected to greatly diverge from the mass murder literature but there are incites that warrant further exploration.

Addressing the Research Questions

Each stage of the study was designed to identify, define, and determine the part various characteristics of violent mass victimization events play in an effort to produce a valid measure for violent mass victimization that could be employed in future mass violence related research. To accomplish this, four main research questions were developed to guide the creation of the

violent mass victimization measure. The first of these questions was to determine how a victim was to be identified. Analysis of the news content dataset provided insight into how to make this distinction. Definitions for victim parameters varied among academic and legal sources and it was determined, that to be categorized as a victim of a mass violent event, an individual had to be directly victimized by receiving some level of physical injury as a result of the violent event. Those present at the time of a violent event who were not reported as injured were described as witnesses within the media dataset. This means of separating victims from witnesses is supported by some scholars (*see*. Behrman & Davey, 2001; Fisher, Geiselman, & Amador, 1989; Greer, 2007) while other scholars posit that an individual who witnesses a violent crime, but is not injured in the process, or loses a loved one during a violent crime is in turn victimized themselves (*see*. Berman, Kurtines, Silverman, & Serafini, 1996; Howard, Feigelman, Li, Cross, & Rachuba, 2002). It is not the purpose of this study to offer a definitive distinction between victims and witnesses of violent crime because addressing the emotional trauma that occurs from being present at a violent event, or from having lost a loved one due to violence falls outside the scope of this project. Once this distinction was made it was possible to distinguish incidents of violent mass victimization from incidents of violence that occurred in the presence of multiple people.

The distinction between victims and witnesses in this study also facilitated the emergence of the innocent bystander and target selection themes. Though neither of these could be employed in the secondary data analysis, presented in Chapter 4, they draw attention to an underrepresented concept in academic literature, that of the unintended victim (Sherman et al., 1989). This may be because of the difficulty to distinguish innocent bystanders from targeted

victims in police-report based data. However, inclusion of innocent bystanders in the quantitative content analysis indicated that one or more unintended victims were reported more frequently in cases of violent mass victimizations than mass murders suggesting that the presence of unintended targets is an indicator of a violent mass victimization. Results of the regression analysis, presented in Table 10, supports this as the presence of innocent bystanders showed to have a significant effect on the number of reported victims in violent mass victimization, but a non-significant effect on the number of reported mass murder victims. As mass murders are frequently associated with public mass shootings, where the presence of innocent bystanders is most expected, the relationship between the presence of this victim group and mass violent events warrants further investigation (Fox & Levin, 2015; Krouse & Richardson, 2015). However, the criteria used to distinguish victims from witnesses in this study should be taken into consideration. Much like the conflicting definitions for victim found within the available literature, there are also differing definitions regarding bystanders (Alpert & Dunham, 1989; Wilson-Simmons, Dash, Tehranifar, O'Donnell, & Stueve, 2006). By applying the injury criteria, incidents of mass violence can be distinguished from other violent events that do not injure or kill two or fewer victims while in the presence of witnesses.

The second research question guiding this project was to identify notable differences between incidents of violent mass victimization and mass murder, beyond fatality count. Statistically significant differences between these two event types were observed in both the quantitative content analysis and the secondary data analysis. Though the results differed by variable and category a number of victim, offender, and event characteristics were found to differ between incidents of violent mass victimization and mass murder. The majority of these

differences were discussed in the previous section of this chapter, but a surprising finding was observed in the quantitative content analysis regarding locations categorized as safe havens. Listed among these locations are churches, hospitals, and schools, which are commonly expected to be safe places. Though only nineteen of the 550 cases were reported to have occurred at one of these locations there was a statistically significant effect on the number of reported victims in mass murder events. These locations were not observed to have a statistically significant effect on the victim counts of violent mass victimizations, which suggests that these locations provided offenders access and opportunity to locate specified targets (Cohen & Felson, 1979; Sampson, Eck, & Dunham, 2010). Under the general theory of crime, informal social controls should have a deterring effect on criminal behavior at these locations (Gottfredson & Hirshi, 1990). However, the collective efficacy and social bonds among the communities in which these safe havens are located may be negatively affected if the area suffers from chronic neighborhood violence and crime (Enel & Corsaro, 2013). In such scenarios, the need for retaliation or revenge overrules the sanctity of these types of locations (Vigil, 2003).

To address the third research question posited to guide this study, regression analyses were employed in both the quantitative content analysis and secondary data analysis to determine if a minimum fatality count should be included in the violent mass victimization measure, when studying incidents of mass violence that do not equate to a mass murder. For more than thirty years academics have debated whether the minimum fatality count associated with a mass murder event should be three or four non-offender victims in a single event (Dietz, 1986; Duwe, 2000; Fox & Levin, 1998; Hickey, 1987). This ongoing debate among scholars conveys the notion that the number of victim fatalities matters in the study of mass violence. With this in

mind, OLS and logistic regressions were conducted to identify if notable statistically significant differences exist among incidents of violent mass victimization where no fatalities, one fatality, and two fatalities were reported. Results of the OLS regression analyses presented in the quantitative content analysis showed no statistically significant differences among the models for none, one, or two reported fatalities, presented in Table 11. The logistic regressions presented in Table 21 also showed to have no statistically significant differences between the models for incidents of violent mass victimizations where one and two fatalities were reported. This suggests that a minimum fatality count is not necessary for the study of incidents of violent mass victimization. These results also support the earlier statement that incidents of violent mass victimization do not have to equate to mass murder. However, closer examination of the models suggest a relationship between various event characteristics and incidents of violent mass victimization reporting only a single fatality that was not as pronounced in the other models.

In comparing the models exploring incidents where only one fatality was reported, shown in Table 11, Model 2 and Table 21, Model 1, several event characteristics related to Cause, Location, Time of Day, and Offender Outcome indicated a statistically significant relationship to single-fatality violent mass victimizations. Statistical significance of event characteristics among the other models was not as pronounced. Results of the OLS regression, in Table 11 Model 2, indicated that the victim count increased when the single-fatality violent mass victimization occurred at a business or a safe haven. The logistic regression, in Table 21 Model 1, also indicated a statistically significant relationship between incidents occurring at a business and events reporting a single fatality. Results for the time of day variables indicated that the victim count went up if the event occurred in the early morning hours (between 1am and 5:59am) and

that there was less than a 50% likelihood that a mass violent event would result in single-fatality violent mass victimization in the afternoon hours, ranging from noon through 4:59pm. The Felony variables were significant in both models but was negative in the OLS regression indicating a decrease in the number of reported victims when the incident involved the commission of a felony. Results presented in the logistic regression, Table 21 Model 1, support the OLS results, showing a decreased probability of a mass violent event resulting in a single-fatality violent mass victimization when associated with the commission of a felony. This coincides with findings present by Petee et al. (1997), where thirty-six percent of the offenders sampled in their study committed acts of mass murder during the commission of a felony. Offenders in their study indicated the murders were a means of evading capture through the elimination of witnesses. A comparison of offender outcomes also indicated a significant effect on the victim count of single-fatality violent mass victimizations and the likelihood that a mass violent event would result in a single-fatality violent mass victimization event. Results regarding offender outcome also coincided between models. The OLS regression indicated that there was an increase in total victim counts when the offender(s) remained at large, while the logistic regression showed an increased probability that an event would result in a single-fatality violent mass victimization for every offender documented as being arrested. This suggests that incidents of violent mass victimization resulting in one documented non-offender fatality were perpetrated by multiple offenders that attempted to or successfully evaded apprehension by law enforcement. This diverges from the stereotypical mass shooter described by Holmes and Holmes (2001) or Fox and Levin (2003) who explain that most mass killers die or surrender at the end of a mass murder event. They do, however, fall in line with aspects of 'set and run killers' described by

Dietz (1986, p.482-483) and studies regarding neighborhood and gang violence (Decker, 1996; Sampson & Raudenbush, 2001). In each of these examples the offender(s) commits an act of mass violence with little regard for innocent bystanders and they carry-out the violence with the intention of leaving the scene before they are apprehended or killed. Though, Dietz (1986) does stipulate that ‘set and run killers’ perform their acts of violence and murder in such a way that they are not present at the actual time of the killings, the idea that the offenders want to both survive and escape is evident.

The results regarding incidents of single-fatality violent mass victimization sheds light on a gap in homicide research. There has been a general unspoken discrimination throughout the literature that places the primary focus on the offenders who commit and the victims who are killed in violent events, while research on mass violent events and violent crime, which is inclusive of both injured and killed victims remains rare. Dietz (1986), Jarvis and Scherer (2015), and Krouse and Richardson (2015) are among the few to include the physically injured in their discourse of mass violent events. In studies of single victim homicide, research continues to focus on the fatality with little mention of other victims injured, but not killed, during a violent crime. The Bureau of Justice Statistics (BJS) reported that single victim homicides accounted for ninety-five percent of homicides documented between 2002 and 2011 (Smith & Cooper, 2013). The statistics presented in the Smith and Cooper (2013) illustrate the general divide between survivors and the dead as the survivors are not mentioned but can be found in a separate report, also produced by the BJS, documenting criminal victimization from 1993 through 2012 (Truman, Langton, & Planty, 2013). There is no connection of cases or statistics which present information on violent mass victimizing events where they can be studied as total sum of their

parts. Academic research related to single victim homicide is also apt to neglect inclusion of surviving victims. Though the topics connected to this homicide type are many these discussions ultimately come down to a discourse on situated and victim precipitate homicide where the primary focus is placed on the victim/ offender relationship and/or situational transactions (Salfati, 2003; Wolfgang, 1957). The violent mass victimization measure developed in this study provides academics and policy makers alike, a way to investigate some of these single-victim homicides from a different perspective. This last statement addresses and answers the fourth research question posited in this study. This is only one way that this study and the resulting measure can add to the field and discourse of violent crime, mass murder, and mass violence.

Suggestions for Future Research and Proactive Approaches to Prevention

Among the findings generated from this research study is that incidents of violent mass victimization occur approximately three to four times more often than mass murders. The quantitative content analysis revealed that incidents of violent mass victimization occur approximately three times more often than incidents of mass murder, as document by news media. When the violent mass victimization measure was applied to data obtained from NIBRS the difference in event type frequency increased indicating that incidents of violent mass victimization were reported nearly four times more often than incidents of mass murder. These results suggest that further study of incidents of violent mass victimization should be explored to understand why so many incidents of potential mass murder do not end as a mass murder event. This is most evident in the discussion of incidents of violent mass victimization that report a single non-offender fatality. The comparison of single-victim violent mass victimizations

suggested that incidents of violent mass victimization reporting a single victim fatality warrants further examination as the current body of homicide literature related to these types of events neglect to include all victims. This is not to say that all incidents of single-victim homicide are actually incidents of violent mass victimization but rather that there is a clear gap in the homicide discourse related to single-victim homicide incidents, highlighted by this study.

The concept of target selection could not be fully explored in this study. The study of target selection by academics has more commonly been applied to the identification of potential offenders and a discourse on capable guardianship (Borum, Fein, Vossekuil, & Berglund, 1999; Cohen & Felson, 1979; Lott Jr., 2001; Truman, Langton, & Planty, 2013). However, there has been a steady increase in literature pertaining to target hardening. Schools and universities have gradually been developing threat assessments and active shooter protocols since the Columbine mass shooting in 1999. These efforts increased following the mass shooting at Sandy Hook elementary in 2012 (Crawford & Burns, 2015). Haphuriwat and Bier (2011) note that there are trade-offs to target hardening, in that officials have to determine what potential targets at the highest risk, cost effectiveness, and how many potential targets should be fortified. Their study focused on fortifying locations identified as high risk for terrorist attacks but the underlying concept is sound. If the focus is moved from potential offenders to potential targets, i.e. people or places, then efforts can be made to strengthen the current guardianship associated with the target and make the target less desirable to potential offenders. Though the results in this study indicate that location plays a larger role in mass murders than incidents of violent mass victimization it would be negligent to ignore the importance of location in future research and policy approaches to the proactive prevention of violent mass victimizing events.

Application of this measure to future research on mass violent events can provide policy makers with informed avenues to mass violence proactive preventative measures. Since many incidents of mass violence do not result in mass murder it is only logical to begin understanding the phenomenon of violent mass victimization. In the monograph recently published by the FBI seven approaches are outlined, which were developed to be used by law enforcement to generate proactive preventative practices aimed at reducing the number of victims and incidents of mass violence (Jarvis & Scherer, 2015). Among these approaches is a general encouragement for law enforcement officers and officials to become more informed of potential mass violence risks and to share this education with the surrounding communities (Jarvis & Scherer, 2015, pp. 13-20, 27-31). Throughout this paper various theoretical perspectives have been discussed in connection to incidents of violent crime. Of note to mention here are routine activities theory, code of violence, and social disorganization theory (Anderson E. , 2000; Cohen & Felson, 1979; Copes, Hochstetler, & Forsyth, 2013). Each of these theoretical perspectives embodies characteristics that can be merged with the suggested FBI approaches to produce tactical and strategic methods to reducing the frequency and number of victims of mass violent events. For example, The FBI monograph suggests that the community be educated and active in identifying and diffusing potential risks. In socially disorganized areas plagued by violence and crime, law enforcement has the ability to identify high risk locations with hotspot and problem oriented policing (Braga, 2001). When these locations and areas are identified law enforcement can expand its community presence to the businesses and residences at those locations. This provides the opportunity for law enforcement to develop a positive relationship with the community while informing the public. As there is a direct connection between incidents of mass murder and location, law

enforcement may add to the information provided to the community by training employers and employees working in high risk areas how to react in the presence of an active shooter. In the content analysis, presented in Chapter 2, there were several incidents where the violent event occurred at a bar or night club. These locations were described in the news articles as magnets for violence. Informing and training employees to evacuate or remove potential victims from the line of fire can facilitate the reduction of victims incurred during these events. Ultimately, this involves a collective community effort to actively fortify their neighborhoods while working alongside law enforcement.

Conclusion

This study set out to develop a valid and reliable measure for the study of violent mass victimization that is inclusive of both injured and killed victims in mass violent events reporting two or fewer fatalities. It has also been the purpose of this study to empirically apply this measure in statistical analyses employing police-report and news media data in an effort to add validity and determine reliability of the measure. Results of the statistical analyses indicated that there are differences between incidents of violent mass victimization and mass murders that go beyond body count. The results presented in this study have contributed to the ongoing discourse of mass violence by showing that incidents of violent mass victimization are severely understudied and that through this analysis a new perspective for the study of single-victim homicides has been presented. This measure provides academics, law enforcement, and policy makers a way to study incidents of mass violence as a total sum of its parts, instead of solely focusing on fatalities. It has the potential to facilitate the development of threat assessment perspectives that

step away from attempting to identify a potential offender and instead, look to identify locations and victim types that are at a high risk of victimization. The discussion on incidents of mass violent victimization has only just begun and it is a discussion that needs to happen. The dead have been counted, it is time to see what the living have to tell us.

APPENDIX: A
LIST OF NEWS SOURCES

The following is a listing of news sources utilized in this study. They are separated into two main sections; National and State. Each section provides listings of print, digital, and televised news sources along with the URL address of the sources' homepage. The category of strictly on-line and dedicated archive are websites that either only exist on the internet or they are dedicated internet based hubs for the archives of an areas affiliated news sources.

National

Defensive Carry.com Retrieved from

Television

<http://www.defensivecarry.com>

CNN

examiner.com

ABC News

The Grio division of MSNBC Retrieved from <http://thegrio.com>

Fox news

NBC News

Lexis Nexis Retrieved from <http://www.lexisnexis.com>

MSNBC News

Mother Jones

On-line News Sources and Dedicated

newsones.com

Archives

Associated Press

nl.newsbank.com

Brady Campaign Retrieved from

off2dr.com

<http://www.politicususa.com/wp-content/uploads/2012/12/major-shootings.pdf>

Police One Retrieved from <http://www.praetoriandigital.com>

theroot.com

6ABC.com Retrieved from

<http://6abc.com/archive>

United Press International Retrieved from

<http://www.upi.com>

National Newspaper

USA Today

International Newspaper

(UK) The Daily Mail Retrieved from

<http://www.dailymail.co.uk>

(UK) The Guardian Retrieved from

<http://www.theguardian.com>

State

Television

(AL) WSFA-TV 12, NBC Affiliated,

Retrieved from <http://www.wsfa.com/>

(AR) KFSSM-TV 5 CBS Affiliated from

<http://5newsonline.com>

(CA) CBS SACRAMENTO 13 TV News

Channel

(CA) KFSN-TV ABC Affiliated, Retrieved

from <http://abc30.com>

(CA) KPIX-TV 5 CBS own/operated

<http://sanfrancisco.cbslocal.com>

(CA) KSBW-TV ABC Affiliated, Retrieved

from <http://www.ksbw.com>

(CA) KTLA-TV 5 CW-Affiliated Television
Station

(CA) NBC Los Angeles 4 –TV News
Channel

(CA) NBC Los Angeles 4-TV News
Channel

(CA) WBAK-TV 29 BAKERSFIELD

(CA) WCTV-TV 29 CBS Affiliated
Retrieved from <http://www.wctv.tv>

(CO) KDVR-FOX 31 Affiliate

(DC) NBC 4 Washington Affiliated

Retrieved from

<http://www.nbcwashington.com>

(FL) WCTV-TV CBS affiliated Retrieved
from <http://www.wctv.tv>

(FL) WECP TV 18- CBS Affiliation
Retrieved from <http://www.wjhg.com>

(FL) WJHG-TV-7 NBC Affiliation
Retrieved from <http://www.wjhg.com>

(FL) (WPBF-TV 25), ABC Affiliated
Retrieved from <http://www.wpbf.com>

(FL) News4jax.com Independent
<http://www.news4jax.com>

(FL) WJHG-TV-7 NBC Affiliation
Retrieved from WECP TV 18- CBS
Affiliation

(FL) WSVN-TV 7 Retrieved from
<http://wsvn.com>

(FL) WZVN-HD ABC 7 Retrieved from
<http://www.abc-7.com>

(GA) WALB NEWS-TV 10 ABC/NBC
Affiliation Retrieved from
<http://www.walb.com>

(GA) WCTV-TV CBS Affiliation Retrieved
from <http://www.wctv.tv>

(GA) WSB-TV 2 ABC Affiliation Retrieved
from <http://www.wsbtv.com>

(IL) WBBM-TV2 CBS Retrieved from
<http://chicago.cbslocal.com>

(IL) WLS-TV ABC Affiliation Retrieved
from <http://abc7chicago.com>

(IL) WMAQ-TV NBC Affiliation Retrieved
from <http://www.nbcchicago.com>

(IL) WFLD-32 FOX Retrieved from
<http://www.foxnews.com>

(IL) WGN-TV Chicago CW Affiliation
Retrieved from <http://wgntv.com>

(IN) WTHR-13 NBC Affiliation Retrieved
from <http://www.wthr.com>

(KS) KAKE-TV ABC Affiliation Retrieved
from <http://www.kake.com>

(LA) KTBS 3 ABC Affiliation Retrieved
from <http://www.ktbs.com>

(LA) WDSU-6 NBC Affiliation Retrieved
from <http://www.wdsu.com>

(MASS) NECN Cable NBC owned
Retrieved from <http://www.necn.com>

(MI) WDIV-TV NBC Affiliation Retrieved
from <http://www.clickondetroit.com>

(MN) KARE-TV 11 Minneapolis Retrieved
from <http://www.kare11.com>

(MN) WXOW 19 ABC Affiliation
Retrieved from <http://www.wxow.com>

(MO) KMBC-TV 9 ABC Affiliation
Retrieved from <http://www.gulflive.com>

(MO) KTVI-TV2 FOX Affiliation Retrieved
from <http://fox2now.com>

(MS) WLOX-TV 13 ABC/CBS Affiliate
Retrieved from <http://www.wlox.com>

(NJ) WMGM-TV 40 Retrieved from Brady
Campaign

(NC) WBTV-3 NEWS CBS Affiliation
Retrieved from <http://www.wbtv.com>

(NC) WRAL-TV 5 NBC Affiliation
Retrieved from <http://www.wral.com>

(NC) WXII-12.com NBC Affiliation
Retrieved
from <http://www.wxii12.com>

(NE) WOWTV-6 NBC Affiliated Retrieved
from <http://www.wowt.com>

(OH) KOCO-TV ABC Affiliated Retrieved
from <http://www.koco.com>

(OH) WNWO-TV Toledo NBC Affiliated
Retrieved from <http://nbc24.com>

(PA) KYW-TV 3 CBS owned /operated

(PA) WCAU-10 NBC owned/operated

(PA) WGAL-TV8 NBC Affiliation
Retrieved from <http://www.wgal.com>

(PA) WPVI-TV6 6ABC ACTION NEWS
owned by ABC network.

(SC) WACH 57 NEWS FOX Affiliation
Retrieved from <http://wach.com>

(SC) WMBF-TV NBC Affiliated Retrieved
from <http://www.wmbfnews.com>

(TN) WCRB-TV 3 NBC Affiliate Retrieved from <http://www.wrcbtv.com>

(TN) WMC Action News 5 NBC Affiliated Retrieved from <http://www.wmcactionnews5.com>

(TN) WREG-TV 3 CBS Affiliated Retrieved from <http://wreg.com>

(TX) KPRC-TV2 NBC Affiliated Retrieved from <http://www.click2houston.com>

(TX) KTRK-TV- ABC 13 Owned and Operated by ABC

(TX) KWES-TV 9 NBC Affiliate Retrieved from <http://www.newswest9.com>

(TX) KYTX CBS 19 TV Owned and Operated by CBS <http://www.cbs19.tv>

(TX) KZTV-10 CBS Affiliate Retrieved from <http://www.kztv10.com>

(TX) WFAA-TV8 ABC Affiliated Retrieved from <http://www.wfaa.com>

(UT) KSL-TV 5 NBC Affiliate Retrieved from <http://www.ksl.com>

(WI) WEAU-13 News NBC Retrieved from <http://www.weau.com>

(WI) WKOW-27 TV ABC Retrieved from <http://www.wkow.com>

(WI) WMTV 15 NBC Affiliate Retrieved from <http://www.nbc15.com>

(WI) WQOW-18 TV ABC Affiliation Retrieved from <http://www.wqow.com>

Newspapers

(AL) Birmingham News Retrieved from AL.com

(AL) The Clanton Advertiser Retrieved from <http://www.clantonadvertiser.com>

(AL) Decatur Daily, New York Times regional News Group Affiliated. Retrieved from <http://www.decaturdaily.com>

(AL) Dothan Eagle Retrieved from <http://www.dothaneagle.com>

(AL) Huntsville Times Retrieved from
AL.com

(AL) Lowndes Signal Retrieved from
<http://www.mondotimes.com>

(AL) The News Courier Retrieved from
<http://www.eneWSCourier.com>

(AL) PRESS-REGISTER Retrieved from
AL.com

(AL) Selma Times Journal Retrieved from
<http://www.selmatimesjournal.com>

(AL) The Southeast Sun Retrieved from
<http://www.southeastsun.com>

(AL) Tuscaloosa News Retrieved from
<http://www.tuscaloosaneWS.com>

(AR) Advance Monticellonian Retrieved
from <http://myMonticelloneWS.net>

(AR) Arkansas Democrat Gazette Retrieved
from <http://www.arkansasonline.co>

(AR) Blytheville Courier News Retrieved
from <http://www.blythevillecourier.com>

(AR) El Dorado News Retrieved from
<http://www.eldoradoneWS.com>

(AR) Log Cabin Democrat Retrieved from
<http://thecabin.net>

(AR) Sifting Herald Retrieved from
<http://www.siftingsherald.com>

(AZ) The Daily Courier Retrieved from
<http://www.dcourier.com>

(AZ) The Arizona Republic, USA affiliated,
Retrieved from <http://www.azcentral.com>

(AZ) Casa Grande Dispatch Retrieved from
<http://www.trivalleycentral.com>

AZ) The Daily Courier Retrieved from
<http://www.dcourier.com>

(AZ) Daily Siftings Retrieved from
<http://www.siftingsherald.com>

(AZ) East Valley Tribune Retrieved from
<http://www.eastvalleytribune.com>

(AZ) Glendale Star Retrieved from
<http://www.glendalestar.com>

AZ) Marana News Retrieved from
<http://www.topix.com/city/marana-az>

(AZ) Maricope Monitor Retrieved from
<http://www.copamonitor.com>

(AZ) Mohave Daily News Retrieved from
<http://www.mohavedailynews>

(AZ) Parker Pioneer Retrieved from
<http://www.parkerpioneer.net>

(AZ) West Valley View Retrieved from
<http://www.westvalleyview.com>

(CA) The Acorn Retrieved from
<http://www.theacornonline.com>

(CA) Bakersfield Californian Retrieved
from <http://www.bakersfield.com>

(CA) East Bay Times Retrieved from
<http://www.eastbaytimes.com>

(CA) LA Times Retrieved from
<http://www.latimes.com>

(CA) Mercury News Retrieved from
<http://www.mercurynews.com>

(CA) Napa Valley Register Retrieved from
<http://napavalleyregister.com>

(CA) Salinas Californian USA Affiliated
Retrieved from

<http://www.thecalifornian.com>

(CA) San Bernardino Sun News Retrieved
from <http://www.sbsun.com>

(CA) San Francisco chronicle Retrieved
from <http://www.smdailyjournal.com>

(CA) San Gabriel Valley Tribune Retrieved
from <http://www.sgvtribune.com>

(CA) Elk Grove Citizen Retrieved from
<http://www.egcitizen.com>

(CA) Fresno Bee Retrieved from
<http://www.fresnobee.com>

(CA) The Orange County Register Retrieved
from <http://www.ocregister.com>

(CA) Merced Sun Star Retrieved from
<http://www.mercedsunstar.com>

(CA) San Diego Union Tribune Retrieved from <http://www.sandiegouniontribune.com>

(CA) San Jose Mercury News Retrieved from <http://www.mercurynews.com>

(CA) Ventura County Star Retrieved from <http://www.vcstar.com>

(CA) Whittier Daily News Retrieved from <http://www.whittierdailynews.com>

(CO) Arvada Press Retrieved from <http://arvadapress.com>

(CO) The Aspen Daily News Retrieved from <http://www.aspendailynews.com>

(CO) Aurora Sentinel Retrieved from <http://www.aurorasentinel.com>

(CO) The Daily Sentinel Retrieved from <http://www.gjsentinel.com>

(CO) The Denver Post Retrieved from <http://www.denverpost.com>

(CO) The Gazette Retrieved from <http://gazette.com>

(CT) Journal Inquirer Retrieved from <http://www.journalinquirer.com>

(DE) The Milford Beacon Retrieved from <http://nl.newsbank.com>

(DC) The Washington City Paper Retrieved from <http://www.washingtoncitypaper.com>

(DC) The Washington Post Retrieved from <http://www.washingtonpost.com>

(DC) The Washington Times Retrieved from <http://www.washingtontimes.com>

(FL) The Daily Journal Retrieved from <http://www.smdailyjournal.com>

(FL) The Florida Times Union Retrieved from <http://jacksonville.com>

(FL) Orlando Sentinel Retrieved from <http://articles.orlandosentinel.com>

(FL) The Miami News Times Retrieved from <http://www.miaminewtimes.com>

(FL) Naples Daily News USA Affiliation Retrieved from <http://www.naplesnews.com>

(FL) Sun Sentinel Retrieved from

<http://www.sun-sentinel.com>

(FL) The Tampa Bay Times Retrieved from

<http://www.tampabay.com>

(FL) Valdosta Daily Times Retrieved from

<http://www.valdostadailytimes.com>

(GA) Athens Banner Herald Retrieved from

<http://onlineathens.com>

(GA) Atlanta Journal-Constitution Retrieved

from <http://www.ajc.com>

(GA) Gwinnet Hearld.com Retrieved from

Brady Campaign

(GA) Rome News Tribune Retrieved from

<http://www.northwestgeorgianews.com>

(IL) Chicago Tribune Retrieved from

<http://articles.chicagobreakingnews.com>

(IL) Rockford Register Star Retrieved from

<http://www.rrstar.com>

(IL) The Southern Illinoisan Retrieved from

<http://thesouthern.com>

(IN) Indianapolis Star Retrieved from

<http://www.indystar.com>

(IN) Northwest Indiana Times Retrieved

from <http://www.nwitimes.com>

(KS) Topeka Capital Journal Retrieved from

<http://cjonline.com>

(KS) The Wichita Eagle Retrieved from

<http://www.kansas.com>

(KY) Lexington Herald-Leader Retrieved

from <http://cjonline.com>

(LA) Times Picayune Retrieved from

<http://www.nola.com>

(NC) Charlotte Observer Retrieved from

<http://www.charlotteobserver.com>

(NC) Independent Tribune Retrieved from

<http://www.independenttribune.com>

(NJ) South Jersey Times Retrieved from

<http://www.nj.com>

(NY) Buffalo News Retrieved from

<http://www.buffalonews.com>

(NY) News day Retrieved from

<http://www.newsday.com>

(NY) New York daily News Retrieved from

<http://www.nydailynews.com>

(NY) The New York Times Retrieved from

<http://www.nytimes.com>

(MA) The Boston Globe Retrieved from

<https://www.bostonglobe.com>

(MA) Brockton Enterprise Retrieved from

<http://www.enterprisenews.com>

(MA) The Republican Newsroom Retrieved

from <http://www.masslive.com>

(MA) The Sun Chronicle Retrieved from

<http://www.thesunchronicle.com>

(MD) The Baltimore Sun Retrieved from

<http://www.baltimoresun.com>

(MI) The Detroit Free Press Retrieved from

<http://www.freep.com>

(MI) The Flint Journal Retrieved from

<http://www.mlive.com/flint/#/0>

(MN) Minneapolis Star Tribune Retrieved

from <http://www.startribune.com>

(MN) Southwest Journal Retrieved from

<http://www.swjournal.com>

(MO) Kansas City Star Retrieved from

<http://www.kansascity.com>

(MO) St. Louis Post Dispatch Retrieved

from <http://www.stltoday.com>

(MT) Billings Gazette Retrieved from

<http://billingsgazette.com>

(MS) Jackson Free Press Retrieved from

<http://www.jacksonfreepress.com>

(MS) Natchez Democrat Retrieved from

<http://www.natchezdemocrat.com>

(NE) Las Vegas Sun Retrieved from

<http://lasvegassun.com>

(NJ) Star Ledger Retrieved from

<http://www.nj.com>

(NY) NY Daily News Retrieved from

<http://www.nydailynews.com>

(NY) New York Times Retrieved from

<http://www.nytimes.com>

(NY) Staten Island Advance Retrieved from

<http://www.silive.com>

(NY) Times-union Retrieved from

<http://www.timesunion.com>

(NY) Wall Street Journal Retrieved from

<http://www.wsj.com>

(OH) Akron Beacon Journal Retrieved from

<http://www.ohio.com>

(OH) The Plain Dealer Retrieved from

<http://www.cleveland.com>

(OH) Youngtown Vindicator Retrieved from

<http://www.vindy.com>

(OH) The Morning Journal Retrieved from

<http://www.morningjournal.com>

(OK) The Oklahoman Retrieved from

<http://www.oklahoman.com>

(OK) The Muskogee Phoenix Retrieved

from <http://www.muskogeephoenix.com>

(PA) Philadelphia Inquirer Retrieved from

<http://www.philly.com/inquirer>

(PA) Pittsburgh Post-Gazette Retrieved from

<http://www.post-gazette.com>

(OR) The Oregonian Retrieved from

<http://www.oregonlive.com>

(SC) Anderson Independent-Mail Affiliated
with USA, Retrieved from

<http://www.independentmail.com>

(SC) Charleston Post and Courier Retrieved
from <http://www.postandcourier.com>

(SC) Sumter Item Retrieved from

<http://www.theitem.com>

TN) The Chattanooga Times Free Press
Retrieved from

<http://www.timesfreepress.com>

(TN) The Commercial Appeal Affiliated
with USA Retrieved from

<http://www.commercialappeal.com>

(TN) Memphis Evening Times Retrieved
from <http://www.theeveningtimes.com>

(TX) Corpus Christi Caller Affiliation with
USA <http://www.caller.com>

(TX) Fort Worth Star-Telegram Retrieved
from <http://www.star-telegram.com>

(TX) Grapevine Courier Retrieved from
<http://www.mondotimes.com>

(TX) Houston Chronicle Retrieved from
<http://www.chron.com>

(TX) Port Aransas South Jetty Retrieved
from <http://www.portasouthjetty.com>

(UT) Deseret News Retrieved from
<http://www.deseretnews.com>

(VA) Richmond Times Post-Dispatch
Retrieved from <http://www.richmond.com>

(VA) Virginian Pilot Retrieved from
<http://pilotonline.com>

(WA) Bellingham Herald Retrieved from
<http://www.bellinghamherald.com>

(WA) Kent Reporter Retrieved from
<http://www.kentreporter.com>

(WA) Seattle Post Intelligencer Retrieved
from <http://www.seattlepi.com>

(WA) The Seattle Times Retrieved from
<http://www.seattletimes.com>

(WA) The Sky Valley Chronicle Retrieved
from <http://www.skyvalleychronicle.com>

(WA) The Spokesman Review
<http://www.spokesman.com>

(WA) The Tacoma News Tribune Retrieved
from <http://www.thenewstribune.com>

(WI) Milwaukee Journal Sentinel USA
Affiliate Retrieved from
<http://www.jsonline.com>

(WV) Herald-Dispatch Retrieved from
<http://www.herald-dispatch.com>

On-line News Sources and Dedicated

Archives

(AL) AL.com

(AL) gulfcoastnewstoday.com	(CA) DailyBreeze.com
(AL) mcrecordonline.com	(CA) eastbaytimes.com
(AL) oanow.com	(CA) ebar.com
(AL) ourprattville.com	(CA) insidesocal.com
(AL) tuskegeenews.com	(CA) lbpost.com
(AL) tuscaloosaneews.com	(CA) mercurynews.com
(AR) arkansasonline.com	(CA) patch.com
(AR) guardonline.com	(CA) Policeone.com
(AR) magnoliareporter.com	(CA) theriverbanknews.com
(AR) mymonticellonews.net	(CA) Sbsun.com
(AR) nwadg.com	(CA) SFgate.com
(AR) nwaonline.com	(CA) VCstar.com
(AR) thecabin.net	(CA) sgvtribune.com
(AZ) mohavedailynews.com	(CA) Whittier Daily News.com
(AZ) (Tri Valley Central.com	(CA) CBS news.com
(AZ) tusconnews.com	(CO) examiner.com
(CA) The Acorn on line.com	(CT) newhavenindependent.org
(CA) Bakersfield.com	(DC) dcist.com

(DC) mcclatchyde.com
(DC) myfoxdc.com
(FL) jacksonville.com
(FL) miamiherald.com
(FL) nbc-2.com
(FL) tbo.com
(GA) onlineathens.com
(GA) northwestgeorgianews.com
(GA) onlineathens.com
(IL) arlingtoncardinal.com
(IL) Chicagoist .com
(IL) The Republican.com
(KS) och-c.com
(KS) cjonline.com
(LA) Nola.com
(LA) latimes.com
(MA) Bostonglobe.com
(MA) masslivemedia.com
(MI) mlive.com
(MN) twincities.com
(MS) gulflive.com
(NC) hickoryrecord.com
(NC) starnewsonline.com
(NE) omaha.com
(NJ) nj.com
(NJ) pressofatlanticcity.com
(NV) guardianlv.com
(NY) NY Daily News.com
(NY) nytimes.com
(NY) silive.com
(NY) Syracuse.com
(NY) wsj.com
(OH)
kronbeaconjournal.oh.newsmemory.com
(OH) cantonrep.com
(OH) chroniclenorthcoast.com

(OH) Cleveland.com

(VA) pilotonline.com

(OH) newson6.com

(WA) seattlepi.com

(OH) Ohio.com

RADIO

(OK) news9.com

(WI) WTAQ-FM Retrieved from

(OR) salem-news.com

<http://wtaq.com>

(OR) oregonlive.com

(PA) philly.com

(PA) pennlive.com

(PA) post-gazette.com

(TN) inquisitr.com

(TX) allvoice.com retrieved from Brady

Campaign

(TX)

crimeblog.dallasnews.com/2011/10/eight-shot-and-injured-in-earl.html/

crimeblog.dallasnews.com/2011/10/eight-shot-and-injured-in-earl.html.com

(TX) mysanantonio.com

(TX) Pegasus News.com closed down

APPENDIX: B
INJURY TYPE AND LOCATION TABLES

Frequencies of injury type and injury location for victims who were injured and killed, as reported in the qualitative content analysis. These data were extracted from 550 media news reports, articles, and excerpts. They do not represent any official medical records, nor were medical records employed to inform the data presented in the tables below.

Table indicates the type of injury and injury location for victims who survived a mass violent event

Injured	Type of injury/Wound							
	Shot	Stabbed	BFT	Grazed	Cut	Broken bone	Strangled	Unknown
<i>Location</i>								
Head	37		8	4	3			4
Neck	17			1			1	
Shoulder	12							
Torso	20	2	2					5
Chest	23		1					
Back	20	2		3				
Abdomen	28	2						
Buttocks	11							
Groin	1							
Hip	8							
Arm	43	2		2		1		1
Hand/Wrist	14			1		1		
Thigh	5				1			
Leg	77			1		1		
Foot/ Ankle	14	1		1				
Unknown	1,331	47	22	8	3			12

Table indicates the type of injury and injury locations for victims killed during a mass violent event

Killed	Type of injury/Wound							
	Shot	Stabbed	BFT	Grazed	Cut	Broken bone	Strangled	Unknown
<i>Location</i>								
Head	85	1	2					
Neck	1	3						
Shoulder	1							
Torso	11	3						
Chest	28	1						2
Back	8							
Abdomen	5							
Buttocks	1							
Armpit	1							
Unknown	665	3	3					11

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