A Comparative Analysis of Active and Mass Shooters and Events

by

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ABSTRACT OF THE DISSERTATION

A Comparative Analysis of Active and Mass Shooters and Events

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As fear of mass and rampage shootings spread with each new incident, the American public continues to debate many of the key issues surrounding such events. In both research and popular media, shooters are often classified and examined separately based on the location of the attack with more attention paid to those with the highest victim count. Using the New York Police Department’s Active Shooter Database and the Stanford Geospatial Center’s Mass Shooter Database, this research examines active and mass shooters from 1966 to 2012 and seeks to outline differences in the descriptive statistics about the shooters and the events using multiple thresholds. The data indicate that regardless of thresholds, incidents of mass and active shooting events have been increasing steadily.

This exploratory study then identifies strains and other information about the shooters and their backgrounds, relationships, and development using data gathered from public media sources, books, and academic journal articles. Of the various themes and multilevel factors that emerged among the data, mental illness and failure affected more than half of the shooters, thus justifying their use in the Qualitative Comparative Analysis (QCA).

Using a QCA framework, the dissertation then uses these two factors—failure and mental illness—with radicalization to compare event characteristics and outcomes. This method evaluates the presence or absence of these factors for each shooter and uses the
combinatorial conjunctions to highlight emergent patterns of outcomes. It also examines these patterns and combinations in a temporal context. Such a method highlights the rates of increase in incidents, deaths, and injuries over time, with greater rates of increase post-Columbine, suggesting a shift in cultural scripts for those who experience failure and mental illness. Additionally, these two motivations—both independently and in combination—produce the greatest means per year and rates of increase of incidents, deaths, and injuries warranting further concern and research about their interaction and outcomes.

This study contributes to the body of knowledge by offering methodological insight about the use of thresholds in active shooter research; examining multi-level biographical factors that may have influenced decisions and behavior; relating motivational factors and event characteristics and outcomes; and identifying driving factors behind means and rates of increase of incidents, deaths, and injuries over time. Continued research in this area can inform public policy, correct misconceptions and conflict about rates of increase of active and mass shootings, and identify prevention and intervention methods to increase public safety.
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Chapter 1 - Introduction

Active shootings events have captured the attention of the United States and the world. From Charles Whitman to the more recent shootings committed by James Egan Holmes, Seung Hui Cho, Eric Harris and Dylan Klebold, and Adam Lanza, the outcry, horror, and confusion surrounding the events has left the public with a profound sense of grief, but few explanations. Some believe that active shootings are growing in number every year, and that they are simply becoming a part of the American narrative. However, as researchers and practitioners search for explanations and definitive methods of studying such events, the public seems to absorb and accept the well-packaged media presentations that depict mental illness, violent video games, bullying, or depression as the clear-cut sole causes of active shootings.

Yet, the myriad of reasons and explanations leaves significant gaps in our understanding of what drives an individual to walk into a crowded area and fire a gun seemingly indiscriminately. Though we may know much about the offender, it has proven extremely difficult to apply this knowledge to a proven checklist or strategy for prevention and intervention. Institutions, agencies, and leaders can suggest action plans in the event of an active shooter while politicians can debate mental health and gun policies in response, but the public asks, “Why?” and laments, “When will it stop?” We still know very little about the active and mass shooters that have attacked schools, post offices, places of employment, movie theaters, and malls while symbolically assaulting the American sense of safety.
Moral Panic, the Discourse of Fear, and Public Safety

The reporting of the Columbine shootings resulted in three major themes and peaks in reporting after the incident: identification of the victims; memorial services and descriptions of the victims’ lives; and the memorial to the victims and an anti-NRA protest (Muschert, 2007). The public consumed this information with a somewhat morbid fascination perhaps to make sense of the crime. As people learned more of the crime, the public and the media responded with concern, hostility, disproportionality compared to the actual facts, and a consensus about the event (Burns & Crawford, 1999; Lindgren, 2011)—all makings of a moral panic. With the news of each active shooting, the media had the opportunity to splash headlines and pull in viewers while also linking the event du jour with the most recent or notorious active shooting event. In a search of news articles reporting school violence from 1990-2006, Kupchik and Bracy (2009) found that 40 percent reference the Columbine shootings, perhaps as a way to promote widespread fear, using phrases like “Columbine-like, before Columbine, and worst since Columbine” (148) and allowing that event to become a measuring stick for school violence.

Much of the American public has access to news nearly every moment of the day. Amber Alerts arrive on smartphones, news is readily available on tablets, and 24-hour news programming makes breaking headlines long-lasting stories. The senselessness of the stories combined with the ongoing media coverage allows people to take in the presented facts and form opinions and beliefs based on the information available to them. Their frame of reference is that which has happened before, especially “given that the average citizen has little firsthand knowledge of many social problems...so he or she receives this information from claims makers whose duty it is to inform the public about
these issues—namely political bodies and the news media” (Kupchik & Bracy, 2009, p. 137). As a result, the news media has the power to contribute to social beliefs about major events like active shootings. The public demands the information and creates their opinions and call for action, and in the context of ongoing coverage of shootings, “the violence suggests a breakdown in the social order, as no place seems safe anymore” (Burns & Crawford, 1999, p. 147).

The crimes are not happening to “others” who contribute to their own violence through criminal activity such as drug dealers or gang members; the victims, especially when they are children, are innocent, engaging in activities in which they should be safe. Shootings in schools, places of employment, and movie theaters touch viewers personally, because these are locations in which they easily envision themselves as the settings for their own lives.

In this sense, it becomes an important debate to decide if active shootings are a realistic, national public policy concern in the United States or, in fact, a moral panic constructed by the media and influenced by the innocence of the victims and the apparent senselessness of the acts. In earlier examples of moral panics, “there was widespread public fear that evildoers were trying to harm and/or tear apart the very fabric of our society” (Burns & Crawford, 1999, p. 148). Lindgren (2011) explains,

“The main point of moral panic theory is that conditions, behaviors, persons or groups—which were already there before the reaction exploded, and which continue to exist after the ‘crisis’ has submerged—emerge ‘to become defined as a threat to societal values and interests’” (126).

This notion of a moral panic does not attempt to downplay the violent nature of the problem of active shootings, but rather attempts to frame it within the context of national discourse. Understanding the scope of the problem of active shootings and how
Americans view them becomes the fabric with which stories and narratives are woven. More importantly, it affects public opinion and perceptions, which in turn result in political pandering and policy-making.

One of the best examples of active and mass shootings affecting national discourse is the debate on gun policy. Guns may be acceptable in movies and entertainment media when “shown responsibly on television by depicting the immediate consequences (i.e., pain/harm) as well as extended suffering throughout the plot” (Smith et al., 2004, p. 594). But when an active shooting event in reality is initially reported, and the horror of the crime sinks in, so, too, does the shock of the imagery of a young male shooting at elementary school students or a jilted ex-husband shooting innocent women in a salon. Heide (1997) noted, “Young killers frequently reported that guns were cheap and easy to get in their neighborhoods” (211). While this may refer specifically to typically poor, urban teens in high-risk areas, the notion of ease and accessibility to guns must also be noted in cases of mass shootings.

After major shooting events, the left calls for changes to gun control policies for the purposes of prevention, while the right asserts its Second Amendment rights and makes claims that if more people were armed such an event could have been prevented or neutralized. Domenech (2013) listed a number of bills currently in motion, including the banning of 120 specific firearms, a limit on the number of features a weapon could have, the confiscation of weapons, or a ban on high-capacity magazines. Record and Gostin (2014) echo the sentiment in discussing the “ineffectiveness of our current web of gun regulations: very dangerous people can and do access very powerful weapons, and they always will, so long as those weapons are easily available” (558).
On a more public stage, the White House released a statement (specifically citing the shooting in Newtown, Connecticut) outlining President Obama’s four-fold plan to reduce gun violence: closing background check loopholes, banning specific weapons, making schools safer, and increasing access to mental health services (White House, 2014). While the plan seems comprehensive, the battle is steep and rife with problems and opposition. The larger issue, however, is that this proposal does not answer the question of “How did this happen?” Gun control is not the simple answer, nor is improved mental health treatment alone. There may, in fact, be one or more specific paths by which a person becomes an active shooter, and this process involves a number of factors far beyond these two issues. The laser focus on specific issues leads the public and researchers to lose sight of the larger picture and the problem of the unknown about active shooters.

**Overview and Contributing to the Body of Knowledge**

Though one may quickly become mired in the nuances of an individual offender’s story, the issue remains that we as a society and a community of researchers know relatively little about active and mass shooters. Within the body of knowledge, there is research that highlights few causes or multiple causes and presents their effect on any number of dependent variables that may ultimately produce violence. Other writings, either scholarly or for general interest, offer all of the solutions in a narrative that offers little explanation. Most, however, strictly define active shooters based on a victim count threshold or classify them based on the location of their incident or another singular variable. There still exist gaps in the literature that inhibit our understanding of active and
mass shooters and motivational factors that may influence their development and decisions to commit violent acts, thus limiting prevention and intervention attempts.

The purpose of this study is to examine active shooters and their motives in relation to event characteristics and outcomes. The goal of this study is to disaggregate shooters from ways in which they have typically been classified or categorized. Then, by utilizing inductive reasoning to identify common motivational themes from the available data about the shooters, this study uses these motivations to re-aggregate them based on emergent patterns.

Using this model to identify and classify possible strains as they existed in the shooters’ lives, we can widen the net of knowledge about shooters’ relationships, history, and experiences, and we can enhance our current knowledge of active and mass shooters and integrate the information in a structured, organized way. Using a systematic, qualitative methodology allows for a multi-factorial explanation identifying conjunctural combinations as opposed to the simplistic monocausal explanations often seen when discussing active and mass shooters.

Then, given these new motivational combinations, we can identify and compare the differences between these patterns as they relate to event outcomes and characteristics. The goal then, is to use these motivations to explain the differences and describe multi-factorial motivational patterns.

Further, this study is rare in its elimination of a minimum threshold in order to classify an event as an active shooting. Rather than eliminating cases and shooters based on low victim counts, this study employs a motive-based definition to capture many of the shooters who would have been excluded from prior studies. By using events with a
wide variety of outcomes and potential motivations, the data allow for a more thorough and nuanced explanation of the frequency of events, the rates at which they are occurring (and potentially increasing), and the outcomes of these events, such as deaths and injuries.

The remainder of this study is divided into five additional chapters. Chapter 2 offers a review of the literature about potential causes of active and mass shootings. Next, the researcher offers a theoretical framework upon which this research is derived. Chapter 4 provides the methodology to be employed for this research study. The fifth chapter outlines the descriptive statistics over time using multiple thresholds, while the final chapter highlights the motivational patterns and combinations that arose from the qualitative analysis and how they relate to event characteristics and outcomes.

First, a review of the literature first offers findings from prior research that drives the theoretical framework and methodology for this study. It is crucial to understand what we have learned and where the gaps in the literature lie. From definitional issues to motivational factors and methodology, the research provides a foundation of knowledge about active shooters and the ways in which scholars and the public study them and form opinions.

Next, the most frequently addressed “causes” of active shootings are discussed in order to identify what researchers believe their role to be. Also, they play an important role in understanding how the public shapes their views and beliefs about the shooters. These factors—masculinity (and in effect, bullying), exposure to media violence, and mental illness—are frequently blamed for creating violent predators who terrorize otherwise peaceful communities. However, the research regarding these topics and others
falls short in explaining how and why those who share similar experiences do not commit violent acts. This leads to a discussion of the limitations of the current research and the ways in which our resources, methods, and focus still leave many unanswered questions about the shooters and an inability to predict or prevent active shooting events in the future.

Chapter 3 discusses a general theory of strain, and the ways in which strain and motivation may be invariably connected. By addressing these theoretical explanations of criminality, it offers insight into the ways in which specific strains may affect behaviors, motivations, and outcomes. It also outlines Bronfrenbrenner’s theory of ecological systems, providing explanations and examples of each of the levels. In doing so, it connects the developmental approach from the theory to the active and mass shooter research. By identifying a shooting as an indicator of development that is linked—via the theory—to the direct and indirect effects of the individuals, environment, culture, and society, it offers a nested model of examining factors and influences at a variety of levels.

Chapter 4 provides an overview of this study, a conceptualized and operationalized definition of active shootings, and lists the research questions and analytical strategies for each. Additionally, the section offers a description of the data sources, methodology, and process for verifying information.

Chapter 5 then explains the quantitative findings of this study by highlighting the descriptive statistics at varying thresholds. This section attempts to offer clarity about the definitional issues that plague active and mass shooting research. It provides descriptive statistics about the shooters and their acts, and it offers insight about the frequency of the events at varying thresholds. Further, it describes the patterns that emerge at the varying
thresholds and provides a solid support for the use of the zero-fatality threshold for this study.

Chapter 6 outlines the methodology for the qualitative analysis of the literature about the shooters and the multilevel patterns and themes that emerged from the literature. By highlighting the frequency with which these factors were present in the shooters' lives (as communicated by news reports, journals, and books), this chapter offers further insight in the varying levels of influence, the ways in which they are reported, and how commonly they were experienced by the shooters in the dataset. Though this chapter cannot address issues of causality or the levels of influence on the shooters’ development, it does, however, offer a preliminary overview of influences and isolate factors to be used in later qualitative comparative analyses.

Chapter 7 examines the most common, emergent motivational factors that arose from the qualitative research. It provides the definitions and frequencies of each and provides examples from the data. Additionally, it this chapter creates combinations of three motivations and offers descriptive statistics about how the motivations relate to specific event characteristics and outcomes. These specific findings offer clues to the relationships between biographical and historical events and their influence on events to gain a better understanding of shooters and their impact.

Finally, Chapter 8 offers a comparison of the combinations of motivational factors and uses them to identify changes of mass and active shooting incidents and outcomes over time. By adding a temporal factor, this identifies the ways in which each of the motivational factors and their event outcomes have increased, decreased, or remained the
same. Further, the data allow for Boolean minimization to highlight and isolate the specific influences of each individual factor.

In sum, this study adds to the body of knowledge about active shooters and the ways in which events may be shaped by interactions and the social experience. By disaggregating the shooters from their standard location-based categorization and reaggregating them based on a multi-factorial, motivation-based methodology, this research hopes to understand common motivational factors and their interactions that resulted in lethal outcomes and social discourse that affects how society perceives safety and security because of these events. Creating more theoretically informed combinations of active shooters and identifying corresponding outcomes and patterns for each of the combinations may point the way to better possibilities for prevention, more efficient and effective early identification, intervention, and practical applications for public safety.
Chapter 2 - A Review of the Literature

Introduction to the Literature Review

Compared to a host of other criminal justice topics, there is relatively little research on active shootings in the United States. While drugs, gangs, mass incarceration, and reentry remain ongoing problems in society, the public often may view these issues as those that happen to “others.” However, active shootings as they have occurred in past decades have happened to those whom the public views as innocents—children at a school, employees working their typical shift, students at a university, or people attending movies or shopping at malls. These incidents have sparked debates about a number of issues including gun control, mental illness, bullying, and violent media. Yet, in a review of the literature, we see that despite many types of research studies, both researchers and the public know fairly little about the processes by which people become the active shooters we see in the news. At the most fundamental level, researchers cannot decide on a common definition of a mass shooting.

This literature review begins by outlining the definitional problems that plague active shooting research. It continues by examining prior research and discussing the methodology and findings from each specific type. It then goes on to highlight issues that have been identified as causes or contributing factors in active shootings, including masculinity and gender, mental illness, and exposure to violent media. This chapter closes by discussing the limitations of the prior research and the challenges of studying rare events. The goal of the literature review is to highlight what we, as academics, know and to drive this and other research studies.
Definitional Problems

Like many other types of crime, mass murder, multiple homicides, and active or rampage shootings often create a definitional problem for researchers and practitioners. The term mass shooting is often used in the media, but researchers have debated a common definition that can be used in research studies. Such a definition could be based on the number of deaths, the number of those injured, location type, or motive. Yet, without an accepted standard definition, the results of research studies are unclear at best. While one researcher might choose a location-based definition and simply study school shooters, another may choose a minimum threshold for inclusion in a study and therefore capture school shooters as well as workplace shooters. In this scenario, the findings about the shooters may not be generalizable, as some may be included from one study but excluded in another. In order to better understand shooters, their motives, and their processes, academics need to agree upon a definition for inclusion and exclusion criteria so that findings can be analyzed and applied in a meaningful way for prevention and intervention.

Much of the current debate centers on the number of deaths required for an incident to be defined as “mass murder” or the offender to be classified as a “mass murderer.” Holmes and Holmes (2001) simply define mass murder as “the killing of a number of persons at one time and in one place” (54). The ambiguous use of the term “number” in this definition, however, leaves this definition open to interpretation. Researchers have operationalized the term mass murder to mean at least two (Palermo & Ross, 1999), three (Lankford, 2012; Holmes & Holmes, 2001; Meloy & Felthous, 2004; Meloy et al., 2004), or four deaths (Bjelopera, Bagalman, Caldwell, Finklea, &
McCallion, 2013; Duwe, 2004; Fox & DeLateur, 2013; Fox & Levin, 2003). Dietz (1986) used the following definition for mass murder: “...the willful injuring of five or more persons of whom three or more are killed by a single offender in a single incident” (480).

Some researchers and studies argue the need to consider the number injured as well as the number killed (Levin & Madfis, 2009), while still others simply deem “multiple victims...or at the very least multiple targets” (Newman & Fox, 2009) suitable for inclusion criteria in addition to other factors. Additionally, when the National Research Council (2003) completed an in-depth report on school violence, the committee selected cases “that had experienced incidents of serious school violence in which more than one person was killed or seriously injured in a single attack” (3). Yet, as researchers continue to debate the definitional problem, Wright, Pratt, and DeLisi (2009) note, “It is unclear to us as to why or how [multiple homicide offenders] are defined by various minimum body counts” (194).

To further complicate the definitional problem, other agencies focus on the actions of the offender, classifying an active shooter (preferring this term instead of “mass shooter”) as “an individual actively engaged in killing or attempting to kill people in a confined and populated area, typically through the use of firearms” (Federal Bureau of Investigation, 2013; Department of Homeland Security, 2008). The New York City Police Department’s Active Shooter Database (Kelly, 2012) utilized the same definition, further adding that they “limited this definition to include only those cases that spill beyond an intended victim to others” (1). By this standard, the intention to do harm and injure a number of people in a public place is sufficient for inclusion in a study of mass shooters. Similarly, Busch and Cavanaugh (1986) defined mass murder as “the murder of
a number of people in a relatively short time frame (minutes to hours)” (6) in their review of the literature of multiple murder. Likewise, Newman and Fox (2009) employed a similar definition in their examination of college shootings, while Lankford (2012) utilized the approach in studying suicide terrorists, workplace, and school shooters.

Overall, there appears to be no clear agreement on a definition of a “mass shooting.” Academics continue their research using their own preferred definition, leaving us with findings that are derived from victim-based definitions or intent to do harm in a public place. Thus, it is difficult to generalize these findings, compare studies, draw conclusions, apply them to all shooters, or use the information in a practical way. By choosing to exclude those who did not kill a specific number of people (either by intention or chance), we can potentially lose the insight they might provide and assume, perhaps mistakenly, that they are inherently different than those who kill a greater number of people.

**Prior Research**

Despite the public’s growing fascination with mass murder and active shootings as it continues to make headlines and generate concern among the ordinary citizens, there seems to be limited research studies in the criminal justice field. Practitioners such as social workers, public health officials, and law enforcement agencies have attempted to understand the causes and roots of the problem of such incidents, but Dowden (2005) supported Fox and Levin’s (2003) claim that “mass murder is a topic that has been essentially ignored by academic researchers” (14). However, as the events continue to occur and become seemingly more atrocious, there appears to be more research about a growing problem in the United States.
Just at the definitional debate plagues researchers, so, too, does the issue of methodology. Prior studies employ qualitative and quantitative research methods, but there are clear divides in the literature based on the location of the incident, characteristics of the shooter, and foci of the studies. While some evaluate the media portrayal of the offenders and the events, others attempt to make sense of motive, warning signs, or psychological and behavioral commonalities.

**Descriptive.** Given the definitional problem of active shootings, mass murders, and multiple homicides, there are no agreed upon statistics about such events. Inclusion and exclusion criteria range broadly across studies, with some studies including only one type of shooting, such as school shootings. Bjelopera, Bagalman, Caldwell, Finklea, and McCallion (2013), in their report for the Congressional Research Service, used a variety of available sources to identify 78 public mass shootings between 1983 and 2000, though they note that their list is not exhaustive. Using this information, they provide a brief overview of the settings and perpetrators before offering law enforcement, public health, and educational recommendations.

In a more exhaustive and historically framed study, Duwe (2004) examined 909 mass killings in the United States from 1900-1999 using information from the Supplementary Homicide Reports, the New York Times, and other newspaper articles. His operationalization of mass murder was those homicides that yielded four or more victims, but included cases of collective violence, such as familicide (the modal mass murder) or drug-related mass murders; thus his research includes cases that may not be considered mass murder. Such a study is noteworthy, as it found that “the 1960s mass killings marked the beginning of an unprecedented and ever-growing increase in the
incidence of mass murder” (Duwe, 2004, p. 745). Perhaps even more concerning is the affirmation that there is increasing lethality of more recent mass murders. Duwe (2004) notes, “of the 25 deadliest mass murders in this study, 14 have occurred since 1980” (752). Perhaps most important to note is that the data stop at 1999. In the 14 years since the study, the United States has seen some of the deadliest rampage shootings in history, including those at Sandy Hook, Virginia Tech, and Fort Hood.

Other studies are based on location-specific deaths, such as the American Medical Association report (Anderson et al., 2001) on school-associated violent deaths. Such a study captures the frequency of deaths at school, including those as a result of mass shootings, but this research in particular included targeted violence (as opposed to the apparent randomness nature of active shooter events) and other forms of violence. While such data are essential for informing location specific policies and decisions, “a school-associated violent death was defined as a homicide, suicide, legal intervention (victim killed by police officer in the line of duty), or unintentional firearm-related death” between 1994 and 1999 at the school, on the way to or from school, or attending a school event. Using 220 events, they found that “the average annual rate of school-associated violent death was 0.068 per 100,000 students” (Anderson et al., 2001, p. 2698).

After the publication of Rampage (Newman et al., 2004), Newman and Fox (2009) also examined school shootings, but they specifically focused on high school and college rampage shootings from 2002 to 2009. They used strict inclusion criteria for their study—“the location of the incident is a ‘public stage’ either on the school property or at a school-related function. The shooters must be current or former students of the school. There must be multiple victims… or, at the very least, multiple targets” (Newman & Fox,
2009, p. 1287). After searching the Virginia Tech report submitted to the review panel and media lists, they found nine school and university shootings that fit their criteria. Before evaluating their theory, they compiled descriptive information about the nine shooters, such as sex, race, age, location, victims, and urbanicity. While their obviously small sample size generates questions about generalizability, the finding that four of the five college shooters were of immigrant or ethnic status cannot be ignored, especially in comparison to the all-white high school shooters.

Lastly, the FBI identified 110 active shooter events (ASEs) using a public search strategy based on the aforementioned FBI definition of active shooters and the following criteria:

“The event had to involve one or more persons engaged in killing or attempting to kill multiple people in an area occupied by multiple unrelated individuals—at least one of the victims must be unrelated to the shooter. The primary motive in these incidents appears to be mass murder; that is, the shooting is not a byproduct of an attempt to commit another crime” (para. 5).

Their descriptive analysis noted information including the shooter profile, number shot per event, the frequency of events, police response time, and the conclusion of incidents. Overall, they concluded that “the frequency of active shooter events has increased in recent years” (Blair, Martaindale, & Nichols, 2014, para. 36), specifically since 2008. However, given the limited 12-year time period from which these data were drawn and the nature of public records and access given expanding technological reporting, these findings must be taken in context of the much broader picture of mass shootings.

Quantitative analysis. Lankford (2012) offered the first comparative analysis of suicide terrorists and a variety of active shooters who attempted suicide. As perhaps the
only quantitative study that has compared suicide terrorists and all types of active shooters, including rampage, workplace, and school, he found that “suicide terrorists, rampage shooters, and school shooters seem to share many underlying similarities, beyond the superficial differences in their attacks” (Lankford, 2012, p. 266). Comparing these 81 offenders in the United States from 1990 to 2010, he found that while these types of shooters shared a number of risk factors such as family problems or crises, Lankford (2012) found that workplace shooters typically completed their acts as a result of a “identifiable cause-and-effect…[killing] individuals by whom they felt personally victimized” (267). In contrast, school shooters may have enemies in the school they attack, but “rarely seek them out during attacks” (Lankford, 2012, p. 265-266).

Given the methodological problem of selecting on the dependent variable, few studies have evaluated different outcomes of active shootings. Lankford (2013) compared the characteristics of active shooters based on the status of the offender at the conclusion of the event (lived or died). He examined 185 mass shooters in the United States between 1966 and 2010. Of the variables included in the binomial logistic regression, there were four that were significant: number of weapons, victims killed, factory/warehouse setting, and open commercial location. Of particular interest are the first two variables. Lankford (2013) found that “Holding all other independent variables constant, for each additional victim that was killed, the offenders’ likelihood of dying was 1.20 times higher” (368). Moreover, “For each additional weapon offenders armed themselves with, their likelihood of dying was 1.73 times higher” (368). Such findings indicate that there may be underlying differences between shooters who live and die, including the level of rage and hatred toward both themselves and others. As Lankford (2013) speculated,
“those who feel the most rage and greatest desire to punish others—and who therefore kill more victims—may also feel the most self-loathing about their own murderous desires, and thus be most likely to punish themselves by committing suicide or ‘suicide by cop’” (369).

Such quantitative studies add a new dimension to the literature on active murder and may lead to new questions in both quantitative and qualitative research about motive, behavior, and outcomes.

**Qualitative analyses and comparative case studies.** While there has been relatively limited empirical evaluation of active shootings (as compared to any number of other criminal justice topics), many authors have attempted to compile information about specific shooters and evaluate their meaning in a broader context. Some choose to write solely on one specific incident or shooter(s). Most recently, journalists Lysiak (2013), Cullen (2009), and Vann (2011) wrote the definitive books on the Sandy Hook, Columbine, and NIU shootings, respectively. Their journalistic research gathered information on the towns, the schools, the shooters, and the victims based on a variety of sources including police reports, interviews, and media reports. They are comprehensive and thorough in nature, and they provide a portrait of people and events that can be useful in empirical research. Such writings offer detailed timelines of the murders, provide insight from people close to the event, and capture the response—both local and national—to the shootings. As Lysiak (2013) notes, “In the initial fog of war, almost all media reports got major elements of the story wrong—myself included” (vi). Cullen (2009) similarly acknowledges mass media and individual mistakes, but their work seems to correct their earliest errors and provide in-depth looks at the events as they occurred and the aftermaths.
In a more evaluative manner, other researchers have compiled evidence in much the same way, but used the data in a more empirical manner to compare shooters based on any number of characteristics for comparative and categorical purposes. Newman et al. (2008) interviewed a wide range of people who were affected by a number of school shootings and used a host of information gathered to create a list of necessary, yet insufficient factors that result in school shootings: (1) marginal self-perception within social groups, (2), psychosocial problems/vulnerabilities, (3) cultural scripts of violence and manhood, (4) failure to identify troubled teens before explosion, and (5) access to guns. Similarly Menninger (2007) listed five critical elements of uncontained rage that ultimately results in violence. While the narcissistic injury closely resembles the notion of self-perception that Newman et al. (2008) outlined, both share the access to weapons factor. Additionally, Menninger included: (1) no hope for resolution, (2) necessity to respond with action, and (3) disregard for consequences.

The U.S. Congress charged the National Research Council with the daunting task of evaluating school shooting incidents and examining them using case study analyses. In deciding their approach, the researchers settled upon a four dimension approach that describes school violence as “incidents of lethal violence that took place in or were associated with schools that were committed by students of the school and resulted in multiple victimizations in a single incident” (National Research Council, 2003, p. 12). After deciding to broaden their definition that initially required at least one death, they moved “away from defining the violence in terms of its consequences (measured in terms of victimization) and [focused] instead on the motivations and behavior of the offender” (13). As a result, they simply defined incidents as multiple victimizations in school
shootings, and they set out to identify individual, situational, school, and community factors that preceded and followed the violent events. Using a variety of data collection tools, the research teams created broad, comprehensive pictures of the context in which the school shooters developed and how their actions shaped the community.

Langman (2009) elaborated on Newman et al.’s (2008) data to compare and classify children who kill based on psychological evaluation of the evidence. Such classifications include the schizotypal killers, the psychopath, and the psychotic killers (discussed further in the section on typology). However, this work was based on an extremely small sample size (N=10) and had an extremely narrow focus.

Typology. In attempting to understand and classify mass murder, some researchers have gathered and evaluated information in order to create a typology. Holmes and Holmes (2001; 1994) assessed a variety of factors such as behavioral background, motivation, anticipated gain, and spatial mobility in order to create a typology of mass murderers based on the definitional number of three homicides committed in the same place at one time. Using this information, they generated five types of multiple murderers, based in part on Dietz’s (1986) original typology (which included three of the following five types): (1) the disciple, (2) the family annihilator, (3) the pseudocommando, (4) the disgruntled employee, and (5) the set-and-run killer. Of particular interest are the pseudocommando and the disgruntled employee.

The pseudocommando has a fascination with weaponry, and hopes to call attention to an important ideal and become notorious (Holmes & Homes, 2001; Dietz, 1986). Knoll (2010) describes the pseudocommando as being “driven by strong feelings of anger and resentment, in addition to having a paranoid character” (87). Dietz (1986)
notes time and preparation as factors by claiming that pseudocommandos “commit their raids after long deliberation” (482). Present day active shooters in this category would be Seung-Hui Cho, the Virginia Tech shooter and Jiverly Wong who killed 13 people at the Binghamton, New York American Civic Association (Knoll, 2010b). Demonstrating deep fascination with weaponry, Eric Harris and Dylan Klebold “hoarded bombs, explosives, and guns in their homes for a year while they planned their attack” (Wike & Fraser, 2009, p. 164).

The disgruntled employee commits mass murder in order to quell their “desire to ‘right a wrong’” (Holmes & Holmes, 2001, p. 76). These offenders typically feel as though they have been the victims of some type of personal injustice at the workplace and thus resort to murder by returning to their place of employment. While they may seek out those who have wronged them, they may also shoot indiscriminately at other employees. As Ames (2005) noted, “the perpetrators are attacking the entire company, the workplace as an institution, the corporate culture, at least as much as the individuals whom they shoot” (19). While postal workers may be the first disgruntled active shooters that come to mind, other non-postal employee shooters like Joseph Wesbecker and James Edward Pough fit the description and type as well.

As Fox and Levin (2012) point out, this typology can be problematic due to the overlap among the categories. Instead, they categorized multiple murderers (including serial killers) and created “a unified typology of multiple murder [that] can be constructed using five categories of motivation applicable to both serial and mass killing: power, revenge, loyalty, profit, and terror” (22). Revenge in particular seems to drive many mass murders, as the media often portray the shooters as having suffered some
injustice such as bullying, job difficulties, or relationship problems. As Fox and Levin (2012) note, “many multiple murders, especially mass killings, are motivated by revenge against specific individuals, particular categories or groups of individuals, or society at large” (24). However, in other cases, there is no evidence of such a need for revenge. Andrew Wurst, for example, had a dislike for popular students, but did not appear to be a direct victim of bullying or harassment (Langman, 2009). Though he had no clear motive for revenge, he brought a gun to a school dance and began shooting, killing a teacher and wounding another teacher and two students.

Using a different perspective to create a typology, Langman (2009) classified ten school shooters based on their psychological profiles. He found three emergent categories: (1) psychopathic, (2) psychotic, and (3) traumatized. He describes “psychopathy [as] simply the absence of trauma and psychosis but also the presence of narcissism, callousness, immorality, and other features” (Langman, 2009, p. 130). Langman (2009) further describes psychopathic shooters as being sadistic, thus separating them from non-homicidal psychopaths. He provides case studies of two children who committed mass murder: Andrew Golden and Eric Harris. Interestingly, both of these boys completed their acts with accomplices, who by all accounts were the

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1 It should be noted here that Langman (2009) uses the term “psychopath” to describe those who have a specific set of personality traits including narcissism, disregard for morality, lack of empathy, and problems with anger management. From a diagnostic standpoint, there is still a differentiation between psychopaths and those with antisocial personality disorder, with psychopathy being a higher order construct. Further, there is an ongoing debate about adolescence and the stability of personality traits throughout the development. As Dolan (2004) notes, “Key concerns centre on the reliability and validity of current assessment tools, the developmental appropriateness or those measures, how closely the construct mimics that in adulthood and the potentially negative impact of attaching a label of psychopathy to those who have not yet reached maturity” (467). For the purpose of outlining and applying this typology, it is best to assume that Langman (2009) chose this categorical title to describe those school shooters as those who possess psychopathic tendencies as opposed to labeling them psychopaths. His explanation fell short in highlighting the problematic nature of diagnosing these children as psychopaths, yet his descriptions of the children outline the specific personality traits that they possessed that justify their inclusion in this category.
more malleable in the pairs. In both cases, Langman (2009) outlines their narcissistic, antisocial, sadistic, and paranoid personality traits as well as the combination of psychopathic features and a sadistic personality that existed in the psychopathic school shooters. Animal abuse as sadistic behavior is noted in other studies as well. Arluke and Madfis (2014) found that “Reports alleging animal abuse by school shooters often, but not always, described forms of cruelty that involved coming into direct contact with victims” (12-13). Examples of such behaviors are present in the histories of Eric Harris and Dylan Klebold, Kip Kinkle, and Andrew Golden.

The psychotic killers were those who suffered from “schizophrenia-spectrum disorders, such as schizophrenia and schizotypal personality disorder” (Langman, 2009, p. 130). Such disorders are characterized by a variety of symptoms, including hallucinations, delusions, and disorganized thoughts. As Rocque (2012) describes, “psychotic shooters suffer from a break with reality” (307). While the vast majority of those who suffer from schizophrenia do not commit mass murder, Langman (2009) discusses the violence correlates among schizophrenics, including substance abuse, lack of medication or compliance in taking their medication, and youth. These variables combined with mental illness apparently resulted in a perfect storm of violence. Symptoms of many shooters included hearing voices, paranoia, and social impairment or detachment (Langman, 2009; Newman et al., 2004). Wike and Fraser (2009) assert, “for some high-risk adolescents, experiencing acute rejection may exacerbate an existing problem or contribute to a threshold effect after which normative functioning is compromised” (165). Such detachment or alienation from their peers may aggravate the symptoms of the mental illness and limit any type of positive interactions with others.
Lastly, Langman’s (2009) third type is the traumatized shooter. These children all experienced some type of traumatic experience or strain. Mitchell Johnson was allegedly a victim of physical abuse, and his father had a temper and a criminal record. Likewise, Evan Ramsey had a father in prison for creating a chaotic, violent scene and holding a man hostage eleven years before his son committed a rampage shooting. His unstable home life resulted in a removal of from the home by the state, foster care, and a suicide attempt.

Other means of comparison. In their analysis of 110 active shooter events, Blair, Martaindale, and Nichols (2014) mapped the response of the police and the outcomes that followed.

*Figure 2.1. Event resolutions. (Blair, Martaindale, & Nichols, 2014)*

Working with a chronological model, they mapped the beginning of the event through the end, with pre-police and post-police outcomes. In 51 percent of the cases, “ASEs were still ongoing when law enforcement arrived” (Blair, Martaindale, & Nichols, 2014, para.
Nearly half of the cases ended before police arrived, with the majority of shooters committing suicide. Of the events that continued after police arrived, (53 cases), 32 were either shot or subdued by police while the other 21 committed suicide (15 cases) or surrendered (6 cases).

Such evaluations are of particular interest to law enforcement agencies and those who craft response plans. As Blair, Martaindale, and Nichols (2014) note, “In 8 (7 percent) of the cases the authors examined, the attacker shot the responding officers…[making] an active shooter call among the most dangerous in law enforcement” (para. 21).

Meloy et al. (2004) compared 34 juvenile and 30 adult mass murderers (who used any type of weapon) between 1949 and 1999. They examined a number of individual factors including demographic information, social relations, preoccupations, histories of violence, substance abuse, personalities, and fantasy. Additionally, the researchers noted offense characteristics, such as threats, precipitating events, psychological abstractions, weapons used, mode of violence, morbidity and mortality, relationship of victim to perpetrator, timing, and offender survival rate. In choosing their samples, they gathered information by searching copious sources such as articles, interviews, and videotapes to create “sufficient, credible data to complete a codebook” (Meloy et al., 2004, p. 295).

In their findings are two seemingly significant differences between juvenile and adult offenders: social relations and precipitating effects. Of the adolescent offenders, 70 percent were described as “loners,” while 94 percent of the adult offenders were described as such. Meloy et al. (2004) described loners as “showing a marked tendency not to interact with others and to spend most of this time alone” (296). This seems almost
reminiscent of Durkheim’s (1951) description of those who committed egoistic suicide: “if this individual isolates himself, it is because the ties uniting him with others are slackened or broken” (281).

Additionally, only 59 percent of the adolescent offenders had a precipitating event before the murder compared to 90 percent of the adults. A precipitating event was one that was disturbing or could have served as a trigger for the mass murder, such as “the loss of a real or fantasy relationship with a girl, a family dispute, suspension from school, insults by peers, termination from a job…, bankruptcy, [or] confrontation by an employer” (Meloy et al, 2004, p. 298). Though adolescents and adults had differing types of precipitating events, the vast majority of adult mass murderers were more likely to have experienced some type of traumatic or disturbing event in the hours or days before the murder.

In analyzing offender behavior in yet another way, Meloy, Hoffmann, Guldimann, and James (2012) evaluated warning behaviors in threat assessment and created a typology. They define warning behaviors as “factors that are indicative of increasing or accelerating risk of targeted violence” (Meloy, Hoffman, Guldimann, & James, 2012, p. 265) and categorize them based on patterns of data gathered on targeted violence. The eight warning behaviors are: pathway, fixation, identification, novel aggression, energy burst, leakage, last resort, and directly communicated (Meloy, Hoffman, Guldimann, & James, 2012). Actions can include researching or planning the attack (pathway warning behavior), identification as a pseudocommando or association with weaponry (identification warning behavior), or increasing desperation (last resort warning behavior). This analysis and typology has specific implications and applications for threat
assessment, prevention, and intervention. Acknowledgement and action in response to early warning behaviors may have the power to prevent a mass or active shooting event. One might suggest that everyone from parents and spouses to school personnel, managers, and mental health professionals should have a working understanding of the typology of warning behaviors and the appropriate responses and interventions necessary.

Process. In studies in which the sample size is relatively small, another way to evaluate information is through process tracing. As Strauss and Corbin (1998) describe, “Process…can be described as a series of evolving sequences of action/interaction that occur over time and space, changing or sometimes remaining the same in response to the situation or context” (165). Harding, Fox, and Mehta (2002) note that process tracing addresses the combined causes problem of studying rare events. Moghaddam (2005) offered a process by which individuals become terrorists in his description of a metaphorical staircase to terrorism. His five step (or, using the staircase metaphor, “floor”) process involves perceptions of fairness and relative deprivation, followed by displacement of aggression, moral engagement in the organization (and thus, moral disengagement from mainstream society), legitimacy of the terrorist organization, and finally, the terrorist act. As Moghaddam (2005) describes, “As individuals climb the staircase, they see fewer and fewer choices, until the only possible outcome is the destruction of others, or oneself, or both” (161). Such a process has direct implications for justice, prevention, and democracy. Like the warning behavior typology, this model allows for a better understanding of the process by which a terrorist event may occur and answers not the “Why?” but the “How?” question about offenders.
In the context of mass murder, Levin and Madfis (2009) offered a five-stage model of cumulative strain that ultimately results in a school massacre. While Langman (2009) points to any number of traumatic events such as a family structure, abuse, or poverty, Levin and Madfis (2009) categorized strains and classified them to include the first three stages of the model: chronic, uncontrolled, and acute strains. As a result of these three stages of strains or trauma, “the killer’s mind has been made up to commit a massacre, and he must spend some time first planning the event to go out [stage four], literally and figuratively, with a ‘bang’” (Levin & Madfis, 2009, p. 1237) before ultimately completing his fifth and final stage—the massacre.

Athens (1989) used a sample of veteran and novice violent offenders to create a process of the creation of violent criminals based on social experiences. The process includes four stages “(1) brutalization, (2) belligerency, (3) violent performances, and (4) virulency” (25) to explain how people move from non-violent people to those who commit violent crimes. The brutalization phase can be broken down into three experiences to which the subject is subjected against his will: violent subjugation, personal horrification, and violent coaching (Athens, 1989). Examples can include, abuse by a parent, observation of parental abuse, and encouragement for violence by a coach or role model, respectively. Belligerency involves reflection of stage one and internal conflicts and emotions. During this time of introspection and organization of experiences, the individual asks himself, “‘What can I do to stop undergoing any further violent subjugation and personal horrification at the hands of other people?’” (Athens, 1989, p. 59). As a result, violence becomes the answer to the question. The individual then moves to the third stage and engages in a violent performance that could have any number of
outcomes, although in the case of active shooters, the event is their violent manifestation of their belligerence. If, in the case of an active shooter, he lives after the attack, he is faced with the fourth stage in which he must decide to embrace or reject the violent label that has now been cast upon him as a result of his action. If he feels pride or satisfaction with his actions, he chooses to continue his violence (Athens, 1989).

Though this process is useful in understanding the process from non-violence to violence, its application to active shooters is weak at best. The inclusion of all types of violent criminals may not necessarily be generalizable to the specific active shooter. Also, the first stage and its three elements can be altered by mental illness and paranoid thinking and asserts that there was, without a doubt, violent conditioning inflicted upon an individual in order to make him violent. More importantly, as it applies to active shooters, the virulency stage may be affected by the large-scale, nationwide response to the violent performance as opposed to the microsystemic actors in the individual’s life.

**Potential Causes and Explanations**

None of the research and writings can provide a definitive explanation of indiscriminate shooting events. As the general public expressed horror and sadness about each event, mass media grasped at any variety of reasons to explain why an individual could commit such an act. Researchers have often explored these potential explanations, and this study would be remiss if it were to omit some of the possible explanations and associated research. The use of the term “causes and explanations” should be viewed loosely, as none of these explanations alone are sufficient in explaining why active shootings do and do not happen. For each active shooter who commits a violent, widely publicized act, there may be millions of others who share similar experiences or
combinations of these and do not kill people. The following, then, should be viewed as a part of a larger context in which any number of variables may interact resulting in violence.

**Masculinity and gender.** Exemplars of masculinity are prevalent throughout society, as seen in professional sports, glorified war heroes and leaders who engage in the most dangerous combat, film and television protagonists who thwart bad guys, and political leaders who demonstrate controlled aggression and leadership capabilities. Society values masculinity and the attributes that constitute what men should be.

Thus, in the context of violence, it cannot be ignored that men have committed the vast majority of rampage and active shootings in history. While gender alone does not explain nor cause these events, researchers cannot disregard the issue of masculinity when evaluating how and why people indiscriminately shoot in public places. The notion of hegemonic masculinity shapes the way that culture defines men and their role. As Donaldson (1993) notes,

“it is a personal and a collective project, and is the common sense about breadwinning and manhood. It is exclusive, anxiety-provoking, internally and hierarchically differentiated, brutal, and violent. It is pseudo-natural, tough, contradictory, crisis-prone, rich, and socially sustained” (645).

As a pattern of practice, it dictates the way that men are perceived and expected to act as per society, and as such, how men views themselves as successes or failures in terms of gender. Connell and Messerschmidt (2005) assert that a regional hegemonic masculinity (as created through popular culture) “shapes a society-wide sense of masculine reality and, therefore, operates in the cultural domain as an on-hand material to be actualized” (849). This becomes reality in social contexts in which athleticism, strength, and risk-taking behaviors are valued as strong indicators of masculinity. Those who cannot
achieve hegemonic masculinity are considered less manly and banished to subordinated masculinities. Because they do not or cannot exemplify the qualities valued in men, they are categorized as “boys and men who are identified as ‘faggots,’ ‘geeks,’ ‘nerds,’ ‘brains,’ ‘wimps,’ ‘mama’s boys,’ ‘sissies,’ ‘pushovers,’ ‘fatties,’ or ‘freaks’” (Danner & Carmody, 2001, p. 90). For young boys, teenagers, and adults, males who fail to achieve this elite masculine status may be marginalized in society, communities, the workplace, schools, or even within families. In the case of familicide,

“the [often unemployed] husband-father feels personally responsible as the bread-winner for the well-being of his family members. Depressed and frustrated, he becomes hopeless believing that his wife and children would be better off dead” (Fox & Levin, 2012, p. 164).

When failing to provide for his family, as hegemonic masculinity demands, a man may resort to such an extreme act of violence.

Young boys in particular are known to be rough and troublesome. Some parents and school employees come to expect adolescent boys to resort to throwing punches in the face of conflict or being stereotypically aggressive. Watson (2007) explains, “We teach our sons to be aggressive, competitive and unemotional. We envision young boys as being mischievous, rowdy and rambunctious. We chuckle as we watch them rough house…” (731). Schools in particular tend to foster an environment that “supports and approves subtle and physical expressions of violence” (Kennedy-Kollar & Charles, 2013, p. 65), thus reinforcing and perpetuating the notion of hegemonic masculinity. Especially apparent in the school hierarchy of cliques is the stark divide between popular males and other males who fail to achieve the ultimate male status in school through material possessions or athleticism. When some shooters who were interviewed after harming fellow students “proudly announced their victory over the ‘preps and jocks’ whom they
said had picked on them, they were attempting to claim the dominant masculinity that they seemed to believe was necessary for recognition” (Klein, 2006b, p. 41). In the case of Eric Harris and Dylan Klebold, “The popular male students used bullying to assert their hegemonic masculinity; in response to such challenges, the assailants finally used violence, another tool of masculinity” (Danner & Carmody, 2001, p. 108).

Kalish and Kimmel (2010) examined three American cases involving suicide after a school shooting, and found that Klebold and Harris, Kazmierczak, and Cho2 suffered from a sense of “‘aggrieved entitlement’ – a gendered sense that they were entitled, indeed, even expected – to exact their revenge on all who had hurt them. It wasn’t enough to have been harmed; they also had to believe that they were justified, that their murderous rampage was legitimate” (463). Their anger resulted in a symbolic show of power in a way that represents the American role for men: using violence for revenge.

The role that gender plays in active murder is still unclear, as is its interactive effects with other contributory factors. Broidy & Agnew (1997) suggested that men may commit more crimes than females because they experience strain differently, have less emotional social support than females, and are more likely to respond with outwardly directed anger as compared to females who react with more introverted, self-directed anger and depression. As Kellner (2013) noted of a 2012 string of such shootings, “[the shooters] have in common crises in masculinities in which young men use guns and violence to create ultra-masculine identities…[and to] resolve their crises” (157). Any number of seemingly emasculating events and threats to masculinity and achievement can be seen in the biographies of offenders. In the months before he teamed with Andrew

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Golden to kill five students and wound 10 others, Mitchell Johnson was rejected from the basketball team for carving his initials into his shoulder, was dumped by a girlfriend, and dismissed by his peers when he claimed to be a gang member (Langman, 2009). When Seung-Hui Cho sent his manifesto to NBC, he announced that, “His existence…was a nightmare of victimization in a society that not only rejected and marginalized him but actually tortured him emotionally” (Liebert & Birnes, 2011, p. 7), serving as his own explanation for the Virginia Tech massacre. And Joseph Wesbecker, who killed eight people and injured 12, was known as “Rocky” to his coworkers after a woman he flirted with at a bar “beat the living shit out of [him]” (Ames, 2005, p. 15). These events and others highlight the importance of Madfis’ (2014) assertion that, “By one last catastrophic show of force, entitled but continually emasculated men feel homicidal violence on a massive scale will regain lost feelings of masculinity, superiority, and power” (78).

**Mental illness.** When the media presented the biographical picture of Adam Lanza, they sparked a national debate about the role of mental illness in active shootings (Long, 2012; Park, 2013). Mental illness, however, has long been suspected of affecting many active shooters through the years. More specifically, schizophrenia, psychotic thinking, depression, and narcissism have been named as potential causes in a number of shooting events. Like bullying and video games, though, millions of Americans may experience it, but only a small few commit violent acts. The U.S. Department of Health and Human Services (2013) estimated that 43.7 million adults currently suffer or did suffer from a diagnosable mental, behavioral or emotional disorder. In adolescents, about 20 percent suffer from a diagnosable mental health disorder (Schwarz, 2009).
Though some shooters present signs of mental illness (either formally or informally diagnosed) before they commit a violent act, this alone cannot be a sole cause of active shootings. Rather, O’Toole (2000) notes, “Signs of serious mental illness and/or substance abuse disorders can significantly elevate the risk for violence and should be evaluated by a mental health professional” (15-16, emphasis added). The increased likelihood of violence is of importance here, as compared to the implied causality that is often assume. Mental illness on a large-scale must be considered as a factor in school shootings; however, in practical application, there are serious issues pertaining to individual privacy and prevention/intervention to maintain public safety (Richards, 2009). And while the importance of early identification and intervention by mental health professionals is a key part of this process, Swanson (2008) reminds the public that “Psychiatrists are not psychics, and they are not the police” (191), indicating a need for interagency collaboration and communication.

Also important to note is the differentiation between various mental health disorders. “Mental illness” is a large umbrella under which many specific disorders fall, and the varying symptoms and manifestations of the disorder may provide more insight into each individual shooter. Researchers, media, and practitioners would be irresponsible if they were to simply assume that mental illness and its effects are the same across all shooters. Even those shooters who were undiagnosed at the time of the attack still require a more thorough examination of symptoms and presentations as opposed to simply receiving the label, “psychotic,” “disturbed,” or “crazy.” Bartol (1980) wrote, “The problem here is the popular tendency to view deviant, seeming irrational behavior as psychologically abnormal behavior” (157).
Dutton, White, and Fogarty (2013), in an evaluation of school shooters, found evidence of a mix between paranoid personality disorder and malignant narcissism. He describes paranoid individuals as being:

“obsessed with revenge and justifies the revenge as ‘payback’ (for a perceived injustice) and is thin-skinned or hypersensitive to perceived slights…[They] have closed information processing systems, literally paranoia, meaning against knowledge—which precludes any corrective information, which is inconsistent with their world view, from being received” (551).

O’Toole (2000) also noted school shooters as suffering from narcissism (and displaying signs of paranoia) while being “self-centered, [lacking] insight into others’ needs and/or feelings, and [blaming] others for failures and disappointments” (18). The combination of both paranoid thinking and narcissism conjures images of Seung Hui Cho in his video, when he claimed himself a victim when he declared in his video sent to the media, “You just loved crucifying me…Thanks to you I die like Jesus Christ to inspire generations of the weak and the defenseless people” (Cho, 2007). In his explanation, not only does he blame others for their actions against him, but also the invocation of Jesus Christ may be the grandest of all narcissistic claims.

Though paranoid personality disorder and narcissistic personality disorders are both diagnosable on Axis II, evidence suggests that other school shooters have been psychotic or suffered from psychotic symptoms. While the public tends to assume the more colloquial of the term psychotic, the psychological application of the term often refers to a break from reality, typically manifested through hallucinations and delusions. Langman (2009) classified five school shooters on the schizophrenia-spectrum, and described that as involving “a range of psychotic symptoms, from bizarre thoughts and odd preoccupations to hallucinations and delusions” (50). Evidence suggests that Dylan
Klebold may have exhibited avoidant and schizotypal personality traits, including severe feelings of inadequacy, struggles with social relationships, and odd thought processes (Langman, 2009). However, the more severe and debilitating of the two schizophrenic disorders, schizophrenia appeared to have afflicted Michael Carneal, Andrew Wurst, Kip Kinkel, and Seung Hui Cho (Langman, 2009). Both Carneal and Wurst reportedly believed monsters were in their bedrooms, and Kip Kinkel wrote about the voices in his head after killing his parents (Langman, 2009).

Other theories of mental illness in active shooters point to psychopathic tendencies, more specifically, antisocial personality disorder. A common belief is that violence toward animals is an early sign of this disorder. Hare (1993) writes, “Early cruelty to animals is usually a sign of serious emotional or behavioral problems…Adult psychopaths usual describe their childhood cruelty to animals as ordinary events, matter-of-fact, even enjoyable” (66). In teens, animal abuse can be a symptom of conduct disorder, a childhood precursor of antisocial personality disorder3. When they examined the history of 23 school shooters, Arlukse and Madfis (2014) found 10 (43 percent) of incidents of prior animal cruelty, proportional to prior studies of extreme killing including serial murder. This may appear to be an important finding, but other school shooters demonstrated kindness toward animals; thus, like many other potential indicators of violence, animal cruelty is not inherently predictive of violence against others. Of the 10 shooters Langman (2009) diagnosed and classified, he found only Eric

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3 Here again, another psychological debate arises. As Richter & Cicchetti (1993) asserted, “…identifiable internal causes of antisocial behavior by themselves are an inadequate basis for the attribution of an underlying disorder” (19). Essentially, it is precarious to create a behavioral classification based on behaviors and then attributing them to the disorder. However, as it stands in the DSM-IV-TR, one of the criteria for antisocial personality disorder is “Evidence of Conduct disorder with onset before age 15 years” (292).
Harris to exhibit signs of psychopathy marked by antisocial personality traits and narcissistic personality traits. Cullen (2009) noted Eric’s primitive emotions, disregard for others, indignation, and failure to empathize or feel.

In the wake of the Virginia Tech shooting, the issue of mental illness was raised again. Seung Hui Cho had a relatively long history of mental health issues and odd behavior. Pages of the Virginia Tech Review Panel’s investigation are dedicated to understanding the breakdown of communication and lack of action to prevent Cho from harming himself or others. He had a nearly lifelong history of problematic behavior that was addressed by clinicians and psychiatrists since elementary school. Liebert and Birnes (2011) suggest that his duration of untreated psychosis (DUP) affected the trajectory of his mental illness. While at Virginia Tech, he was without a support system and the safety net his family provided. He began demonstrating withdrawn behavior, creating incidents with professors, harassing a female student, and initiating contact with the Cook Counseling Center (Liebert and Bines, 2011). Cho was, at one point, involuntarily committed and discharged with a recommendation for outpatient counseling. While many pointed fingers at the mental health professionals who “missed” the signs, the Virginia Tech Review Panel (2009) concluded, “Notwithstanding the system failures and errors in judgment that contributed to Cho’s worsening depression, Cho himself was the biggest impediment to stabilizing his mental health” (53).

**Exposure to violence in media.** The debate about violence in video games seems to be reignited in the media in the immediate aftermath of an active shooting, whether the shooter is an adult or an adolescent (See Jaccarino, 2013; Pollack, 1999; Sneed, 2013). While some critics point to the lifelike simulations of mass murder in video games as a
definitive cause of active shootings, others blame the media for immortalizing active shooters with hours of coverage and endless news stories about their background, their motives, and their heinous crimes. The issue of exposure to media, both fictional violence for entertainment and journalistic coverage of active shooters, cannot be ignored as “The typical youngster spends, on average, more than 38 hours weekly—almost 5½ hours on a daily basis—watching TV, playing video games, listening to music, and surfing the Internet” (Fox & Levin, 2012, p. 149). In this context, it becomes necessary to examine the role of media and the role it plays in the active shooter narrative.

**Fictitious violence for entertainment.** As technology evolves and entertainment becomes increasingly more accessible, so, too, does mass media and violence. Videos, movies, video games, and television shows are at our finger tips, and as Huesmann and Taylor (2006) note, “[they] have assumed central roles in our daily lives…[and] the mass media are having an enormous impact on our values, beliefs, and behaviors” (393). McHale, Dotterer, and Kim (2009) highlight the effect of media on four aspects of development, including development of abilities, identity development, building social ties, and connecting youth to social institutions and systems. With increasing accessibility and availability, media may have an even greater effect on development in these areas. Not only are the majority of Americans able to access entertainment at the touch of a button, but they can also access it at any given time, make it mobile and transportable, and search for specific interests, no matter how dark. Children can play first person shooter games while sitting in a classroom with an unknowing teacher, and adults can search for or watch YouTube videos about other active shooters while sitting in a crowded Starbucks.
As such, it seems natural that the exposure and saturation of violence in mass media could be blamed for violence in reality manifested through active shootings. To many, the enjoyment derived from immersion in a violent non-reality may appear deviant. Researchers, politicians, parents, teachers, and the general public have been hotly debating the topic of violence in video games and other forms of mass media. Yet, the notion of observation of aggression and social learning has been at the forefront of aggression research for decades. Bandura (1973) asserted that

“Some of the elementary forms of physical aggression can be perfected with minimal guidance, but most aggressive activities—dueling with switchblade knives, sparring with opponents, engaging in military combat, or indulging in vengeful ridicule—entail intricate skills that require extensive social learning” (61).

A decade later, Phillips (1983) conducted a study observing homicide rates after a highly-publicized prize fight and found that “The data presented…indicate that mass media violence does provoke aggression in the real world as well as in the laboratory” (567).

More recently, Boxer, Huesmann, Bushman, O’Brien, & Moceri (2009) measured cumulative developmental risk and violent media preferences through interviews and a variety of surveys to measure aggression and delinquent behavior. They found that “including violent media preference scores…added significantly to the prediction of both violence and general aggression. Furthermore, even for those lowest in other risk factors, a preference for violent media was predictive of violent behavior and general aggression” (425).

In an extensive review of the literature, Anderson et al. (2003) outlined the influence of media violence on youth. They found that across various types of media, including television, music videos, and video games, the research has shown a
“statistically significant association with aggression and violence among youth” 
(Anderson et al., 2003, p. 93-94). The research also suggests smaller effect sizes at the 
late adolescence and early adulthood stage, but nevertheless, violent media has an effect 
at later stages of life as well.

First-person shooter games in particular have been named as potential causes for 
aggression in more recent active shooters. Such games allow the player to view his 
landscape from a personal perspective, essentially looking down the virtual barrel of a 
gun or with a weapon in hand.

Figure 2.2. First-person shooter example. Retrieved from: http://gamerate.net/pc/fear-2-
project-origin/

Games such as Call of Duty and Doom 3 have received heavy scrutiny for the 
levels of violence necessary to complete and succeed at the game. More recent studies 
have looked specifically at such games. Bartlett, Harris, & Baldassaro (2007) found that 
increased play of a violent first person shooter game can significantly increase 
aggression, supporting other video game literature.
In terms of skills acquisition and abilities, Strasburger and Grossman (2001) pointed out that Michael Carneal, despite never having fired a gun, had eight direct hits from eight shots, “all head and upper torso, resulting in three adolescents being killed and one being paralyzed” (91). Likewise, between Andrew Golden and Mitchell Johnson, only one had experience with guns, but their 27 shots from over 100 yards away hit 15 people. One must wonder how much accuracy they learned from their video games and if they would have been as successful had they never played.

While research seems to suggest that violent media leads to increased aggression, other studies highlight potential benefits for gamers. Interestingly, while public figures often decry such games as leading to violent behavior and encouraging violence, Hall (2006) argues that shooter video games require players to “curb their aggressive impulses and obey the orders of the game (para. 12). Frostling-Hennigsson (2009) noted the communication and cooperation between players that may not otherwise be possible for shyer, more introverted players. Others in the study enjoyed the escape from reality that gaming allowed them. However, this escape from reality may also be accompanied by a moral disengagement and emotional desensitization. As Eric Harris was planning his attack on Columbine High School, he wrote, “I will force myself to believe that everyone is just another monster from Doom…I have to turn off my feelings” (Cullen, 2009, p. 276). In their review of the literature, Anderson et al. (2003) note that research shows repeated exposure to violence can reduce physiological reactions to the sight of real world violence and decreased arousal to violence. Gabbiadini, Riva, Andrighetto, Volpato, and Bushman (2014) hypothesized that “individuals high in moral disengagement might view reprehensible behaviors in a video game as acceptable or
justifiable and that this might leak over to the real world” (452). Indeed, they found that violent video games decreased self-control and increased negative attributes (cheating and aggression), especially for those high in moral disengagement.

However, Huesmann and Taylor (2006) are quick to caution readers that violence is the result of a variety of factors, including development. While it is extremely unlikely that violent entertainment media is the sole cause for violence, researchers must understand the influence it has in affecting aggression and behavior, especially in relation to active shooters.

*Journalistic violence and coverage of active shooter events.* Cramer (1994) explained the fascination with active shooter media coverage by asserting, “The human need to celebrate human nobility, and to denounce human depravity, has caused us to devote tremendous attention, both scholarly and popular, to portraying the polar opposites of good and evil” (29). In doing so, the media has created something of a spectacle as they scramble to first report whatever breaking information they may have about an active murder. Reporters and journalists flock to the site of an active murder scene, interviewing anyone who will talk and flooding the town with attention in the midst of a tragedy. Lysiak (2013) described the chaos in Newtown, Connecticut as being so overwhelming that the local paper, the Newtown Bee, pleaded with fellow journalists via Facebook,

> “On behalf of the entire staff of The Bee—we are imploring ALL our colleagues and journalists to PLEASE STAY AWAY FROM THE VICTIMS. We acknowledge it is your right to try and make contact, but we beg you to do what is right and let them grieve and ready their funeral plans in peace” (177).

As horrified and saddened as the general public may be as a result of active shootings, the media still pander to the audience and shape national discussions about
development, mental illness, gun control, and bullying. However, the potential effects of such grandiose coverage may have dire effects, although there has been relatively little research on this topic. On a large scale, Altheide (2009) described how the media framed the Columbine shootings in such a way that they “[shaped] a cultural narrative about school, youth, and popular culture” (1365) such that it was approached and viewed in much the same way that terrorism was. It created what Altheide (2009) calls a “discourse of fear” (1365) that affected how the public viewed active shootings and safety in America. This fear led to a number of public policy discussions and applications, including school safety initiatives such as lockdown procedures, research funding, and increased surveillance.

When evaluating the impact of media reporting of violence on crime, many researchers cite the Berkowitz and Macaulay (1971) article that found spikes in violent crime (but not non-violent crime) after highly-publicized violent events such as the Kennedy assassination, the Charles Whitman tower shooting in Texas, and the Richard Speck murders of eight women. Years later, Stack (1989) analyzed the effect of mass murder coverage on homicide and suicide. While increased mass murder-suicide reporting had a positive effect on the suicide rate, there was no significant effect on homicide rate, calling into question the true role of reporting mass murder events in producing a copycat effect. Of importance is the evolution of media and technology since the publication of these studies. News is more quickly accessible and consumers of information have constant access via smartphones, tablets, and the Internet. More recently, Huesmann and Taylor (2006) claim, “Television news violence also contributes
to increased violence, principally in the form of imitative suicides and acts of aggression” (409).

It seems that mass media and reporting agencies are in an ethical dilemma. Cramer (1994) notes that the news media cannot ignore mass murder for fear of destroying their credibility and losing ratings, but they simultaneously face the ethical dilemma of possibly unintentionally promoting active shootings. He offers the examples of Patrick Purdy and Joseph Wesbecker. After Purdy firebombed his car and killed five children, wounded 29 others and a teacher, he shot himself in the head. His crime was national news, but as the act continued to gain momentum in the public arena, “Articles referencing Purdy or his crime continued to appear in both Newsweek and Time for many months” (Cramer, 1994. p. 27). When police searched workplace shooter Joseph Wesbecker’s house, they found a clipped article from Time magazine about Purdy as well as another article about other recent mass murders.

More recent examples include Kellner’s (2008) examples of school shooters who had used other shooters as role models to create copycat events of their own. In a somewhat obsessive manner, Adam Lanza had created a database of mass murderers and their crimes (Kleinfeld, Rivera, & Kovaleski, 2013; Lysiak, 2013). Sullivan and Guerette (2003) suggest that in an already depressive and suicidal state, “the events at Columbine High School made an enormous impression on [T.J. Solomon]” (50). In his own writings after the incident, he openly admitted,

“I felt the next thing left to release anger would be through violence. I had just gotten the idea from the shooting at Columbine High School on April 20. So the Monday of the May 20 shooting, I decided to open fire May 20, one month after the Colorado shooting” (Sullivan & Guerette, 2003, p. 51).
Perhaps even more disturbing is the way in which Seung-Hui Cho utilized the media as a tool to send his message and spread his manifesto to make a notorious name for himself. Rather than simply gain the satisfaction that his act alone would receive national attention, he felt compelled to use the media as a weapon in addition to his guns. Cho sent his manifesto and a video to NBC, and, “In the end, the network said, they chose to air the piece because, the sorrow notwithstanding, it was, nevertheless, newsworthy as an after account of America’s most infamous mass murder” (Liebert & Birnes, 2011, p. 7). As it stands, a quick Internet search will yield the video he sent to NBC as well as photos and excerpts from his manifesto. The ease of accessibility to this information, while informative and convenient for research and public interest alike, has the potential to serve as guidance and support for an individual in crisis searching for a hero. Listening to the Cho’s (2007) words, “When the time came, I did it. I had to,” one could easily hear how this could be a supportive, almost taunting message to those who may be considering a rampage shooting of their own. One uploaded version of Cho’s confession video on YouTube had over two million views.

Limitations of Prior Research

While the prior research provides snapshots of shooters in a variety of contexts, the disjointed nature of the overall literature leaves researchers with limited conclusions about active shootings as a whole. After each shooting event, regardless of location, the general public is left asking “Why?” Scholars, agencies, media outlets, and practitioners have researched a number of answers to this question and blamed violent media, bullying, masculinity, and mental illness to name a few; yet, it appears that collectively, no one is answering the same question or focusing on the questions that have the most
practical implications and applications: “Who” and “How?” and “In what context?”

Individually, after each shooting, the public morbidly grasps for information to explain the event, yet looking at the collective research, we still know little about the processes and mechanisms by which individuals become active shooters. There are no current studies that examine the interactive effects of contributory factors and their interactive effects. Definitional debates, current classification systems, the challenge of studying rare events, and the questionable reliability of media coverage limit the scope of knowledge from which we can create effective policies to prevent active shootings. Though later sections will discuss limitations in methodology and prior research, this section serves as an introduction to the issues.

**Definition.** As previously noted, the definitional issue debate plagues academics who study active shootings and mass murder. By creating a threshold of number of deaths required to constitute “mass shooting,” researchers are excluding offenders and events that could provide crucial insight and add to the literature. There also exists the possibility that there is an innate selection bias in this as well. By focusing on a relatively high minimum fatality count in a single event, researchers are basing conclusions on offenders who were more likely to have planned their events more carefully, allowing for a more lethal and increasingly effective plan.

In two of the most notorious shootings (namely due to their high victim counts)—at Columbine and Virginia Tech—there is a vast array of evidence that the three shooters meticulously planned their attacks. Eric Harris and Dylan Klebold spent significant amounts of time making bombs and logging each batch (Cullen 2009), and Seung Hui Cho amassed weapons for months and had the foresight to prepare writings and video
accounts to send to news media (Liebert & Birnes, 2011). If we believe that detailed planning increases the likelihood of higher casualties, what do we know about those who did not reach the threshold? They may have been interrupted, lost their willpower, or not planned as meticulously. It may not necessarily make them fundamentally different from those who plan, but research based on minimum fatality definitions prevents us from comparing them and understanding their motivation.

**Current classification system.** The current paradigm of classification and research based on location of shootings also seems to leave a gap in the literature. Most literature, including media reporting, books, and empirical studies, focuses on comparison of shooters within these specific groups (See Agnich, 2014; Fast, 2008; Langman, 2009; Newman, Fox, Harding, Mehta, & Roth, 2004), while other researchers write about mass murder framing it in the comparison to serial or spree killing (See Bartol, 1980; Dietz, 1986; Fox & Levin, 2012).

As a result of the limitations due to classification, the findings and conclusions lead us to view specific types of active shooters through a relatively narrow lens compared to the broader spectrum of other shooters; or, when viewing active shootings in reference to other types of mass murder, we may only see the stark differences between mass, serial, and spree killers. Might it be wrong to speculate that there may be core similarities between the disgruntled employee who shoots his coworkers, the armed man who shoots strangers at a movie theater, and the bullied student who shoots his tormentors? At the very least, it begs the possibility of comparing and contrasting these and other offenders to better frame the notion of active shootings, just as Harris and
Harris (2012) “would like to see more and broader research [in addition to Newman’s school shootings] directed to the causes and prevention of rampage violence” (1056).

As a result, the gap in the extant literature created through classification of active shooters can be resolved by comparing all offenders, regardless of where they commit their crime, who seek to harm multiple people at once through the use of indiscriminate shooting with firearms.

The challenge of studying rare events. Relatively speaking, active shootings can be considered rare events. Because they are not as commonplace as other crimes such as single-victim homicide, drug dealing, or robbery, research in the area is particularly difficult, as scholars and practitioners face quantitative issues with degrees of freedom, regression modeling, and sample sizes. While quantitatively difficult, Harding, Fox, and Mehta (2002) propose a variety of qualitative solutions based in research methodology, including the suggestion of process tracing (which also address the issue of combined causes).

Likewise, Sullivan and Fullilove (2003) note that “the same extremity of deviance that make such cases rare demands a multilevel conceptualization of the problem to be investigated” (352), and suggests a hierarchical nested framework such as Bronfenbrenner’s theory of ecological systems. They specifically note the benefits of such a method due to “solving problems by gathering appropriate data in an efficient manner, acknowledging the challenge of the unknown, refusing to accept inappropriate limits of possibly important information, and setting problems in their real-world contexts” (Sullivan & Fullilove, 2003, p. 359-364).
Media accounts and questionable reliability. When gathering information about each event and shooter, the vast majority of readily available data comes from news media. Some social science studies have examined the effect of these articles and how they shape the national discourse of these shootings, gun control, and mental illness (Altheide, 2009; Cramer, 1994; Duwe, 2000; McGinty, Webster, Jarlenski, & Barry, 2014; Schildkraut & Muschert, 2014). There have been numerous qualitative and quantitative studies on these topics, as researchers have operationalized these concepts into variables and measured their effect on aggression, anger, and violence.

Specifically, Kelly (2012) used media sources to create the New York Police Department (NYPD) Active Shooter Report, and others have used this data for additional studies (Lankford, 2013). However, regarding inclusion of events since 1966, the NYPD reported that that there may be sampling bias toward more recent incidents, because “For attacks that occurred prior to 2000, the Compendium may not be comprehensive because the attacks pre-date widespread Internet reporting” (10). Higher victim counts and injuries may have attracted more news reports and omitted other smaller events.

Journalists have also acknowledged that news reports, especially those that occur immediately as the event unfolds, may be inaccurate. As Cullen (2009) admits regarding Columbine, “In the great media blunders during the initial coverage of this story, where nearly everyone got the central factors wrong, I was among the guilty parties” (xiv). In the rush to present the newest information, news outlets may grab and present anything that seems informative, regardless of reliability and truth. Yet, a number of largely newsworthy events have shown that as time passes after the event, more details of the story unfold and often correct errors made earlier (Kelly, 2013).
Overall, though, the difficulty in obtaining other information about active shooting leaves many researchers with news media as their main sources of data. Short of interviews, police reports, or access to evidence, scholars have little else from which to base their studies. As such, it becomes the responsibility of the researcher to verify information through multiple sources, use more recent articles as opposed to ones that were published immediately after the event, and use the data with a balanced sense of trust and skepticism.

**Conclusion**

The literature and research on active and mass shootings point to a number of causes and influences. Academics have taken multiple approaches to explaining the events, understanding the shooters, and creating ways to organizing the available information. The challenge of studying rare events limits the methodological options, but qualitative and quantitative research in the area creates a foundation that drives new research, including this dissertation. The current research, however, often has a laser focus on one potential issue. Whether it examines a singular cause or only examines one type of location-based shootings (for example, those that occur at schools), it may fail to capture the complex nature of the individual and the environment in which he develops. Further, the current classification systems, particularly typologies and processes, are limited to location-specific shooters or may suffer from issues of overlapping.

The primary goal of this research is to address some of these shortcomings and create a broad, thorough evaluation of the complexities of development and environments and the ways in which they may affect event outcomes. By comparing and contrasting all active shooters and analyzing them using inductive, grounded theory to generate
motivational factors to be used for comparison in later chapters, the goal then, is to identify how individual characteristics may act alone or independently.

The following chapter will offer a theoretical framework to evaluate this information based on Bronfenbrenner’s (1989, 1977) theory of ecological systems and Agnew’s (2006) strain theory. These theories combined offer a new method of evaluating information about both the individual and the environment that researchers have been testing for decades and applying it to the increasingly alarming problem of active shootings in the United States.
Active shooters typically do not simply “snap.” Rather, research suggests that they carefully plan their attacks in response to any number of perceived injustices (Declercq & Audenaert, 2011; Dutton, White, & Fogarty, 2013; Kalish & Kimmel, 2010; Kleck, 2009). Mullen (2004) created the term “autogenic massacre” to in order to “[attempt] to capture the essential feature of being generated primarily out of the killer’s own problems and personal attitudes” (312). This research suggests that there is a process by which people choose to act violently and publicly. In that sense, the actions of the offenders should be evaluated not simply as isolated incidents that occur at a moment in time, but rather as events that occur as a result of interactions between any numbers of multilevel factors. Busch and Cavanaugh (1986) note the epistemological problem of “unevaluated case reports without rigorous evaluation of other contributory factors” (8).

The myriad of such contributory factors and information available about shooters—especially high profile offenders—necessitates a specific method to organize and classify the details in such a way that they can be categorized and used for evaluation and comparison. Any or all of the factors may be considered a type of strain that might have directly or indirectly affected the shooters and contributed to their planning and executing their events. As such, one must assess each biography using the framework of general strain theory and an ecological system of human development.

This theoretical framework provides the groundwork for understanding how life events, relationships, and experiences affect development and behavior. Utilizing Agnew’s (2006) general theory of strain, this study attempts to evaluate how negative life
events affect an individual and lead to criminal activity. However, it goes without saying that often, millions of people experience similar strains without resorting to crime. Thus, it becomes necessary to examine the strains within a developmental context of a number of variables, both positive and negative, to parse out similarities and differences that create unique events that seem to necessitate serious violence. After a discussion of strain and its interactive effects, this framework moves to an overview of a multi-level ecological systems model to explain behaviors as an indicator of development. Lastly, this chapter closes by highlighting the strengths of a combined strain-ecological systems theory and the ways in which a multi-level evaluation drives this study.

A General Theory of Strain

Agnew (2006) defined strains simply as being “events or conditions that are disliked by the individual” (190). Such strains can be objective or subjective, and experienced, vicarious, or anticipated, and the “range of difficulties…lead to anger, frustration, disappointment, depression, fear, and ultimately, crime” (Levin & Madfis, 2009, p. 1230). However, while many individuals experience any variety or number of strains, most will refrain from committing crimes. In the case of this study, millions of children and adults experienced strains similar to those of the shooters and the vast majority did not react with a violent explosion with the intention to kill. In this sense, it is important to note that the quality of the strain often affects the likelihood of crime. As Agnew (2006) describes, “Strains are most likely to cause crime when they: 1) are seen as high in magnitude, 2) are seen as unjust, 3) are associated with low social control, and 4) create some pressure or incentive to engage in criminal coping” (192). In the case of active shootings, it is clear that the shooters have resorted to public, abhorrent violence to
engage in their coping through criminal means. The aforementioned affronts to masculinity in the case of Mitchell Johnson, Seung-Hui Cho, and Joseph Wesbecker would be considered strains in that they threatened the core of each individual and their personal identity as a male, especially if they were seeking to achieve a masculine status within their social groups. Other strains can result from a work environment, interpersonal relationships, familial conflict, or the failure to achieve goals. As Kubrin, Stucky, and Krohn discuss,

“Anger [as a result of strain] is expected to lead to crime because it is based on external attributions of blame, creates desire for redress/retaliation, and empowers the person. Other emotions such as depression are internally focused and tend to deempower the person” (123).

One way in particular that strain leads to criminal behavior is through its effect on negative emotion. Specifically, “anger has been given particular attention as a mediating mechanism because it tends to create the desire for corrective action and lower constraints against criminal coping strategies” (Rebellon, Manasse, Van Gundy, & Cohn, 2012, p. 231). This study found that perceived injustice in particular promotes delinquency and is enhanced by anger, thus promoting criminal activity. In a sample of male undergraduates, Piquero (1997) also found that increased exposure to strain increases anger, and the presence of anger increases the likelihood to respond to a scenario with violence.

**Classification and examples of strain.** More specifically, according to Agnew (1992) strains can be classified in three ways, and specific examples can be seen throughout the biographies of the offenders. The first type of strain is the inability to achieve a goal, as in the case of Dr. Amy Bishop, a biology professor at the University of Alabama in Huntsville, who killed three colleagues and injured three others after she was
denied tenure (Stanford Geospatial Center, 2014). The second type is the removal of a positive stimulus. Bradford Baumet, opened fire in a beauty salon where he killed three people and wounded one before he committed suicide. The location was likely chosen due to his estranged girlfriend’s employment at the salon. Scott Dekraai shot and killed eight people and wounding a ninth, perhaps driven by a divorce from his wife and the potential to lose his daughter as a result of a custody battle (Santa Cruz & Sahagun, 2011). Finally, the third is “the presentation of a negative stimulus” (Kubrin, Stucky, & Krohn, 2009, p. 120). A prime example of such a negative stimulus would be Aaron Kyle Huff, who went to a rave afterparty where he shot and killed six people and injured two more before committing suicide. He had apparently previously attended raves and been mocked by other attendees for his age, shyness, and conventional clothing (Stanford Geospatial Center, 2014).

**Strain and interactions with other variables.** While all of these incidents clearly outline the three types of strain, they do not outline a causal relationship between the events or strains and the shootings, nor do they explain why people who experience the similar strain do not commit such violent crimes. Moreover, these strains can be the result of multilevel variables that interact in order to produce direct strains that affect the individual in a unique way compared to the millions of others who may have experienced the same or similar strains. Agnew (1992) noted a number of variables that may condition the effect of anger and strain such as individual coping resources or conventional social support.

*Macrosystemic strain.* Agnew (1992) also noted the importance of macrosystemic variables and the larger social environment, as they affect “the individual’s sensitivity to
particular strains by influencing the individual’s beliefs regarding what is and is not adverse...[and] by making it difficult to engage in behavioral coping of a nondelinquent nature” (72). These explanations, however, best serve to explain crime in urban, low income areas while falling short to describe the process by which these larger social variables affect individuals.

*Microsystemic strain and interaction.* In a quantitative study, Slocum (2010) found that chronic strains and the proliferation of stress explained “a small portion of the relationship between adolescent and past year substance abuse” (1106), supporting the notion of ongoing strain and its effect on criminal behavior. Agnew, Brezina, Wright, and Cullen (2002) found an interaction effect between strain and negative emotionality/low constraint” (61) when regressing delinquency on a number of strain variables. Similarly, Agnew and White (1992) found that “strain interacts with certain variables in its effect on delinquency and drug use” (494), especially the interaction involving delinquent friends.

When strains interact with mediating factors, such as problem solving abilities and positive relationships with parents, each had marginal effects on general deviance and violent deviance, respectively (Moon, Hays, & Blurton, 2009). Jang and Rhodes (2012) also suggested that other forms of mediating variables and their effect on anger and strain should be studied. For example, certain key elements of other theories such as control theories or social learning could also be considered conditioning factors in understanding general strain. They found that “the criminogenic influence of strain is explained not only by the GST’s key concept, negative emotions, but also non-emotive mediators, like low self-control, social control, and social learning of crime” (Jang & Rhodes, 2012, p. 184).
Bronfenbrenner’s Developmental Theory of Ecological Systems

As Bronfenbrenner (1977) asserted, human development occurs within the context of other environmental stimuli at various levels. They affect the individual through their interactions, and “the understanding of human development demands going beyond the direct observation of behavior…; it requires examination of multiperson systems of interaction…and must take into account aspects of the environment beyond the immediate situation containing the subject” (Bronfenbrenner, 1977, p. 514). His systematic approach to understanding the ecological systems that affect development—the chronosystem, the macrosystem, the exosystem, the mesosystem, and the microsystem—allows for a multilevel study of offenders and the variables that affect their development, decision making, and their behavior. These levels of information are described by Sullivan (2002) as necessary for understanding an event as “an individual in a family in a situation in a school in a community in a national culture” (emphasis in original) (271). Further, these interactions between the individual and the environment are referred to as proximal processes: “the transfer of energy between the developing being and the persons, objects, and symbols in the immediate environment” (Bronfenbrenner & Evans, 2000, p. 118). Such processes result in competence or dysfunction, which are a direct result of exposure.

By using Bronfenbrenner’s ecological theory of development to examine and explain shooters and their behavior (the ultimate behavioral manifestation of dysfunction), this research has the potential to identify combinations of shooters based on any number of available multilevel factors, outline specific processes by which this behavior occurs, and pinpoint the most opportune times for intervention and prevention.
Additionally, as Hong, Cho, and Lee (2010) note in reference to school shooters, the ecological systems theory “eschews the tendency to focus exclusively on youth’s individual characteristics; rather it depicts school violence as a result of interactions among multitudes of factors directly and indirectly affecting the individual” (563).

*Figure 3.1 Hierarchically nested systems.*

**Incidents as indicators of development.** Bronfenbrenner (1989) defined development as a “joint function of person and environment” (190) as a transformation of the Lewinian (1935) formula of behavior as a function of person and environment. The added dimension of time indicates that development is a process occurs throughout life, suggesting that an individual is in constant interaction with any number of variables and factors during the life course. In this sense, however, Bronfenbrenner (1989) describes development not as a phenomenon in and of itself; rather, he conceptualizes development as measurable by “its outcome at a particular point in time” (190). If development is a
process, the end result is an incident or an outcome, such as a school or workplace shooting.

Most importantly, however, the ecological systems model emphasizes not the additive effects of variables but the interactive effects. Rather than simply identifying variables that are present or absent in the biographical accounts of shooters, this model highlights the interactions among variables in the offenders’ lives and uses this information to outline processes and effects.

**Individual.** In his later writings, Bronfenbrenner (2005, 2001, 1994, 1989) focused on individual factors that a person possesses that affect the development of the person and the way he interacts with his environment. Such traits may include personality, demeanor, or temperament, and they may be developed and nurtured throughout development. These individual level characteristics, though, are qualities that an individual brings to his relationships and interactions that ultimately affect his development.

He described various types of individual traits: demand, resource, and force. Demand characteristics are outward, external, and obvious stimuli, such as age, weight, or race. Resource characteristics are those that mental and emotional resources such as intelligence or skills, and force characteristics are issues of temperament, motivation, and persistence. These characteristics are developmentally-instigative, and thus affect the ways in which development occurs in the context of his environment.

**Microsystem.** The microsystem is that which comprises people, places, and things that have direct effects on an individual’s development. These individualized characteristics and experiences are the most proximal processes of the ecological
systems, and they are typically the most readily available when evaluating rampage shooters. These variables typically include biographical information such family life, peer groups, mental illness, and workplace details. Such variables provide a basic understanding of the day-to-day experiences and how they shape development. As McHale, Dotterer, and Kim (2009) note, “daily activities are important influences on development in a range of domains, including youth’s skills and abilities, their social relationships and behavior, and their identity development” (2).

According to Bronfenbrenner (1977), however, these daily activities are not the sole causes or influences of human development. The microsystem is actually a setting containing the developing person, and the “setting is defined as a place with particular physical features in which the participants engage in particular activities in particular roles” (514). These settings, in turn, are affected by a number of factors that make up the other ecological systems.

Another important note about the microsystem is the bidirectional flow of influence. Rather than the developing individual being the constant recipient of influence from his setting, he is instead engaging with the environment around him. In the same way that he is affected by his surroundings, he too is affecting his environment which is shaping the development of others. Bronfenbrenner (1989) specifically affirmed the notion that “the developing person is viewed as an active agent who inevitably plays some part in any developmental process taking place in the microsystem” (238). Thus, the individual plays an active role in his own development while simultaneously affecting those around him, highlighting the process-person-context model.
One of the most common examples of the microsystem at work with rampage shooters is the notion of bullying. Particularly with school shooters, bullying and strained peer relationships have become one of the leading suspected causes in explaining why students may turn guns on their peers. As Langman (2009) describes Eric Harris (one of the Columbine shooters):

“But he was teased, wasn’t he? Yes, he was. But so were many other kids at Columbine, not to mention everywhere else. And bullying? Having read thousands of pages of interview reports from nearly every student at Columbine High School, I found only one report of an incident in which Eric was physically harassed, and this consisted of being pushed into lockers” (29-30).

Langman (2009) clearly highlights the problem of identifying one cause for rampage shootings. While microsystemic element may have been present in Eric Harris’ development, the contrapositive does not hold true across all cases. In a study of more than 20,000 high school students in MetroWest Massachusetts, 25.9% of students reported school bullying (Kessel Schneider, O’Donnell, Sueve, & Coulter, 2012). And yet, despite this statistic, there have been no incidents of school shootings in this area to date. Such examples highlight the need for further explanations in other facets of development.

**Mesosystem.** The mesosystem focuses on relationships and interactions between elements of the microsystem. While microsystem-level variables affect the individual and his development directly, they also interact with each other in ways that may have indirect effects. In mesosystemic research, “microsystemic proximal processes are examined in isolation from each other” (Ungar, Gazinour, & Richter, 2013, p. 354). In the same way that collaboration between microsystem variables may have a positive

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1 Despite this instance, it is widely accepted that Eric Harris was, in fact, a confirmed psychopath (Cullen, 2009).
effect on development (such as a parent interacting with her child’s educators), the
absence of this or a negative interaction may in turn have a dysfunctional manifestation in
development.

In the case of Seung Hui Cho, the Virginia Tech shooter, there are clear
breakdowns in communication between microsystemic variables. Due to federal privacy
laws, Cho’s parents and school were not required to inform Virginia Tech about his
mental illness and treatment. Further, at the time of his commitment, his psychiatric team
should have had access to his psychiatric history, as “permitted exceptions are
information necessary for the care of a patient and information concerning a patient who
may present a serious threat to public health or safety” (Virginia Tech Review Panel,
2009, p. 57). Moreover, his family, roommates, the local police, and university
administration were given no information about any of the commitment hearings or
proceedings and omitted from the process, demonstrating a breakdown in mesosystemic
relationships. Ultimately, combined with a number of other factors, Cho went on to carry
out one of the deadliest mass shootings in American history.

**Exosystem.** The exosystem refers to interactions that, like the macrosystem,
affect the subject indirectly; however, this system directly affects those who play a
significant role in the child’s development by “[shaping] the quality of meso- and
microsystemic interactions” (Ungar, Gazinour, & Richter, 2013, p. 354). Bronfenbrenner
(1977) describes exosystems as being

“both formal and informal: the nature and requirements of the parents’ work,
characteristics of the neighborhood, health and welfare services, government
agencies, the relationships between school and community, informal social
networks,…means of communications, patterns of recreation and social life, and a
host of other ecological circumstances and events that determine with whom and
how people spend their time” (526).

The exosystem refers to the relationship between someone in the developing person’s microsystem and an outside influence. An interesting example of exosystemic variables at work is the case of Evan Ramsey’s father. Evan’s mother had left his father, taking their three children; however, during their separation, Don Ramsey “entered [a] newspaper building and chained the doors shut behind him. He set off smoke grenades and firecrackers, then fired into the ceiling and made his way to the publisher’s office, where he held the man hostage” (Langman, 2009, p. 112). Though Evan was not present for the attack, his father’s actions and subsequent incarceration would have had a direct impact on Evan. Eleven years after Don Ramsey’s attack on the Anchorage Times headquarters, Evan Ramsey shot and killed a student and the principal of his school and injured two others.

Similar to the macrosystem, exosystemic variables are not strong enough to serve as a standalone explanation for rampage shooting and large-scale violence is insufficient and must be evaluated as part of a multilevel analysis. In the case of Evan Ramsey, many children have parents who commit violent acts and are incarcerated; however, the vast majority does not, in fact, enter a school years later and shoot at their peers and school administrators. Thus, it becomes necessary to examine variables on larger levels.

Macrosystem. The macrosystem serves as a cultural stage upon which human development occurs. Arnold, Lu, and Armstrong (2012) describe the macrosystem as “comprising ideology, culture, and major social institutions such as government, religion, and the economy” (16). It encompasses values and beliefs which form “economic, social, educational, legal, and political systems, of which micro-, meso-, and exosystems are the
concrete manifestations” (Bronfenbrenner, 1977, p. 515). While these systems may not
directly affect the lives of the shooters, they shape relationships, activities, and
development by influencing the variables in each of the other systems. Bronfenbrenner
(1989) lamented that the influence of the macrosystem is often ignored, but states that
“once evidence for the existence of a macrosystem is found, it becomes possible to
investigate the nature of various aspects of that system as they affect developmental
processes at more proximal levels” (230).

A strong example of the macrosystem at work can be seen in Ames’ (2005)
evaluation of rage murders in the school and workplace as a result of post-industrial
economics and Reaganomics. Economic policies at the national level in turn affected
smaller workplaces and their employees, thus resulting in a violent rebellion at the
individual level, as evidenced by post office and other workplace shootings.

In the case of rampage shooters, an important example of a macro-level variable
is media exposure to violence. Newman et al. (2004) listed “cultural scripts” that
normalize violence as a necessary, but insufficient factor in explaining school violence.
Numerous studies have suggested that exposure to violence as means of national
communication in television and film—as well as journalistic accounts of rampage
shooting events—provide potential shooters with the justification necessary to commit
their acts (Browne & Hamilton-Giachritsis, 2005; Anderson et al., 2003).

Other research has pointed to a variety of macrosystem level variables as potential
influences for rampage shooting, including the issue of the media construction of active
murder as a new crime problem (Duwe, 2005; Duwe, 2004); the use of corporal
punishment in schools (Arcus, 2002); and the shortcomings of emergency medicine and
mental health resources in the United States (Liebert & Birnes, 2011). These explanations alone, however, cannot explain rampage shootings. At the national level, millions of individuals are indirectly exposed to any of these factors at any given time. During the course of their lives, the vast majority of them will not commit or attempt to commit a rampage shooting. Instead, researchers must look to other explanations and levels of variables.

**Chronosystem.** As Hong, Cho, and Lee (2010) describe, “The chrono-system level is characterized as change and consistency over time in the characteristics of the individual and the environment in which the individual is embedded” (568). Such changes can be personal or environmental and can affect the individual directly or indirectly. While variables at other levels may be more based on singular people or relationships, the chronosystem focuses more on specific events that may trigger reactions, such as a divorce or a death in the family. Specifically for this study, it is important to include other widely publicized shootings as events in time, may have affected the individual in question.

The chronosystem is also essentially the element of time in development. It emphasizes the movement through development and is the Process and Time element that Bronfenbrenner (1989) described as the Process-Person-Context-Time model. The chronosystem is both the insertion of historical and major life events that occur outside of the nested levels of development.

While some accounts of shooters describe them specifically referencing other active shooters in writings or conversations, others can only speculate. Mitchell Johnson and his friend Andrew Golden, who shot at classmates and teachers after pulling the fire
alarm, may have been affected by reports of another student in the same state shooting
students at his school. As Langman (2009) notes,

“Although there is no proof that Drew knew of the shooting, there are several
reasons to think that this events would have influenced the boy’s plan. It occurred
in the same state and would have been covered in television news and in
newspapers. Drew first mentioned his idea for the attack to Mitchell shortly after
[Joseph] Todd’s shooting. And all three boys carried out their shootings from
hidden protected areas” (24).

As such, it becomes important to remember that while each subject is a player that is
affected and affects the world and people around him, he is also an individual that is
shaped by events that occur in time.

**Ecological Systems in Research**

Sullivan (2002) saw the need for multilevel analysis among school shooters. In
this context of rare events, Sullivan described how an ecological systems theory allows
researchers “to study the problem of extraordinary school violence and the ways in which
it may be continuous or discontinuous with more ordinary forms of school violence”
(Sullivan, 2002, p. 263). In his case study of a copycat school shooting, he was able to
unpack “the nested levels relevant to understanding this event” (Sullivan, 2002, p. 271)
and determine that the case of T.J. Solomon “clearly demonstrates the existence of
copycat behavior. T.J. Solomon was stimulated to do what he did by the sensational
media coverage of the events at Columbine High School” (Sullivan, 2002, p. 67) in
combination with a number of other factors such as the role of firearms and mental
illness.

Unger, Ghazinour, and Richter (2013) used the bio-social-ecological systems
model to understand resilience in the context of “social and physical ecologies…that
predict successful development under adversity” (348) as measured by resilience. By evaluating resilience and positive outcomes using a multilevel analysis, they were able to identify key elements of the processes that contribute to healthy development. In the same vein, a similar approach to understanding active shootings might produce a more thorough understanding of the processes and necessary factors that result in deadly outcomes.

While other research has examined biographical histories of specific types of shooters and typically classified them based on location of the incident, there appears to be a gap in the literature comparing a variety of shooters and using the information to outline common processes by which these shooters come to complete their acts. The ecological systems theory to explain human development can allow for organization and categorization of a plethora of information to understand how they affect each shooter. Further, it creates a template for which each case can be initially evaluated in an in-depth way and then later used for comparative purposes in order to create combinations of factors for comparison and evaluation in relation to event characteristics and outcomes.

A Combined Theory

Pairing Bronfenbrenner’s (1989, 1977) ecological systems model of human development with Agnew’s (2006) general strain theory, a strong qualitative analysis of secondary data allows for the classification of strains in order to examine the interactive effects of negative stimuli, failed achievements, and loss of positive stimuli. As Athens (1989) noted, “The key to the discovery of the creation of dangerous violent criminals lies in developing theories from the careful study of their social experiences” (17).
Additionally, synthesizing the theories enables researchers to understand how multilevel strain variables interact and affect the individual in question.

As an example, the post-industrial shift in the United States economy and labor market which weakened the power of unions against larger corporate entities serves as a macro-level variable when examining workplace shootings. While the changes may not have had a direct, individual effect on employees (and thus would not necessarily be considered a unique, personal strain), they did affect the way that corporations addressed the needs of employees and therefore the workplace culture and environment (an exo-level variable). Strains at this level would then affect individuals within the organization, their relationship with peers on the job, and their direct experiences, creating micro-level strains such as discontent with pay, hours, or treatment. Even more specifically, such strain could affect morale and interactions between management and workers (mesosystemic variables), which, again, influences the individual and therefore, can be measured as an incident (such as a workplace shooting) as an indicator of development. Understanding the root causes of strain and how they interact would allow researchers to better understand the effect of strain on an individual, creating a scenario that somehow necessitates violence in the mind of a shooter.
Chapter 4 - Research Design and Methodology

This study seeks to identify emergent motivational factors; to define conjunctural combinations of these factors; and to relate these factors and their combinations to event characteristics and outcomes over time. Additionally, it attempts to describe the scope and prevalence of active shootings since 1966. Using a variety of data sources, descriptive statistics about the shooters and the events are presented using a non-threshold definition of active shootings. By using this approach that other agencies (such as the FBI, Department of Homeland Security, and the NYPD have utilized), this research avoids the use of a minimum number of fatalities and classifies shootings as “active shooting events” based on the motive and intention to harm multiple people in a specific location.

Further, this study identifies multilevel factors that may have had direct, indirect, or interactive effects. Using a variety of sources, including books, journal articles, and news sources, data was classified and categorized according to Bronfenbrenner’s ecological systems theory of human development.

This study utilizes both a deductive and inductive framework. First, Bronfenbrenner’s and Agnew’s theories are used in a deductive manner to classify information in order to understand and organize data. Assuming that Bronfenbrenner’s ecological systems theory is sound and explains the interconnectedness of the multilevel, hierarchical systems, this study utilizes it to examine the multilevel factors that may affect the development of the shooters. Further, Agnew’s strain theory presents and potentially explains criminogenic conditions and criminality. Therefore, the examination of strains and their effect on development leads to the natural combination of the two
theories for deductive reasoning. The research uses deductive theory to identify important strains, relationships, and events that affected the individuals, and then utilizes inductively generated theory to identify patterns from the multilevel framework of strains.

However, this study is inductive in that it uses the information gained through the deductive reasoning to use comparative methods and generate new conclusions about active and mass shooters based on the information available. Just as Sullivan and Fullilove (2003) explain the importance of multilevel analysis for case studies to explain lethal school violence, so, too, does this study aim to draw conclusions based on systematically and analytically evaluated information. By identifying the emergent patterns and themes that arose from the data, the conclusions outlined in the chapters that follow attempt to explain the influences in the development of active shooters and to compare the shooters and identify relationships to event characteristics and outcomes.

**Definition**

This study utilizes the framework of the definition of an active shooter used by many federal agencies and the NYPD’s Active Shooter Report: “an individual actively engaged in killing or attempting to kill people in a confined and populated area, typically through the use of firearms” (FBI, 2013; Kelly, 2012). By using a broad definition of an active shooter (as compared to definitions based on minimum fatalities), this allows for a more in-depth evaluation of a greater number of individuals while not excluding incidents based on a victim count. Additionally, this permits the inclusion of cases that would not be studied based on such a count. While much of the research utilizes counts (as discussed in Chapter 1), the total amount of victims could be affected by any number of situational factors, including police response time and reaction, effectiveness of the
weapons chosen, the shooters’ movements throughout the target location, or the presence or absence of a lockdown procedure at the location.

For the purposes of this study, an event and its offender(s) are included based on the following definition: “an individual in the United States actively engaged in killing or attempting to kill or injure people in a confined and populated area with the use of firearms.” Thus, both mass murderers and attempted mass murderers (active shooters) are included in this study. Such a definition aims to examine the seemingly random nature of the shootings. If, for example, an individual were to indiscriminately fire a loaded weapon multiple times in a crowded or populated area, one can assume that the intention or the motivation is to harm any number of people in that location, creating an active shooting event. Though Mullen (2004) uses the term “massacre” to describe such an event, he notes that these incidents “[involve] relatively indiscriminate killings where just killing people is the prime aim and the victims are all, or nearly all, chosen by chance, albeit from some broad social groupings” (313). He further clarifies massacres as being of two broad types; one of which, the autogenic massacre, is “the result of the actions of an individual, or small group, driven by highly personal agendas arising from the perpetrator’s own specific social situation and psychopathologies” (Mullen, 2004, p. 313). For this reason, it is imperative to note the motivation and driving forces behind the decision to carry out such a deed regardless of the number injured or dead. As a result, this study captures and evaluates many individuals that would not otherwise be included in such as study.

**Inclusion and exclusion criteria.** Primarily, this study seeks to understand and explain the process by which individuals choose to harm others in an active shooting
event. Because of the multilevel nature of the framework, many macrosystemic variables are included in the analysis and evaluated and compared. Such macro-level variables often fall on the national level, such as economics, healthcare, and education or labor mandates. For this reason, only cases that occurred in the United States are included in this study.

Also, it becomes necessary to differentiate mass murders or active shooters from serial or spree killings. While the three types all may constitute multiple murder, the offenders often differ in terms of process and ideology, time frame, and goals. In serial murders, “most pursue their victims for the thrill…to rid the world of filth and evil” (Fox & Levin, 2012, p. 45). Most specifically, though, time is an important factor when differentiating between serial and spree killers. As Fox and Levin (2012) describe:

“Operationally, the spree killer launches a swath of destruction, usually over a period of several days, wherein most of his activity surrounds planning or executing his crimes and evading the police. By contrast, the serial killer, who may continue to kill over a period of months or years, often has long time lapses between homicides, during which he maintains a more or less ordinary life…” (19).

As such, the notion of time and location become important factors when considering inclusion and exclusion criteria. In order to separate active shootings from spree and serial killings, events included in this study have taken place in a single location on one day.

While many cases of active shootings that have been included in the NYPD Active shooter database or the Stanford Geospatial Mass Shooter database have included a specific target, such as a former romantic partner or a boss at a workplace, other victims have been injured or killed. As discussed in the NYPD report (Kelly, 2012), though a shooter may have an intended target, violence may “spill beyond an intended victim to
others” (1). Hence, the notion of indiscriminate shooting becomes necessary for inclusion criteria. The shooter may seek to injure or kill a specific person, but also fires seemingly at random at others in the same location. In the same vein, this study uses data that specifically excludes gang related shootings and familicide in order to focus on the indiscriminate nature of mass shootings. As noted in the NYPD Active Shooter Database: (Kelly, 2012), “The NYPD…[excluded]: gang-related shootings, shootings that solely occurred in domestic settings, robberies, drive-by shootings, attacks that did not involve a firearm, and attacks categorized primarily as hostage-taking incidents” (10).

Database Sources

The events and shooters included in this study are drawn from the NYPD Active Shooter Database (2012) and the Stanford Geospatial Center Mass Shooter Database (hereafter, the Stanford Database) (2014). The NYPD Active Shooter database included incidents between 1966 and December 21, 2012 compiled from Internet news sources using an online search. All cases were gathered from public sources. Cases from the NYPD Active Shooter database were reviewed and evaluated based on inclusion and exclusion criteria.

The NYPD Active Shooter database included 40 plots that were foiled in the planning stages. These cases were omitted from the current study for a number of reasons. Primarily, fantasy and intent cannot reasonably predict that an individual would carry out an attack. The possession of weapons or planning does not imply that a person does not provide enough evidence that a person would have undoubtedly committed the crime if it had not been foiled. Further, many shooters in the database lack significant media coverage due to a low victim count. In the case of a foiled attack, there may be even less coverage providing little to no insight that may be of value to this study.
Of the 324 cases included in their report, 102 cases were excluded for this study. 52 did not occur in the United States, 40 were foiled before the individual had the chance to carry out his attack, three had an unknown attacker, six did not meet the single day or location criteria, and one had a targeted victim with no other injuries or deaths.

This section would be remiss if it did not discuss the limitations of the current dataset. The NYPD database searched for cases using open source records available on the Internet. As such, older cases may have been missed due to lesser reporting, especially before the advent and prevalence of technology-based media. Moreover, there may have been less information or attention paid to incidents that resulted in fewer fatalities, and the researchers may have missed these cases in an Internet search.

Once the events and offenders were listed, the Stanford Database was consulted. Like the NYPD Active Shooter database, the Stanford Geospatial Center (2014) “collected data from many different public sources, with a focus on events that have occurred in the United States between 1966 and 2013” (About section, para. 7). Cases that were not included in the NYPD database were included, however cases from 2013 were not included, as the Active Shooter database ceased cases at 2012. In total, 24 cases and 26 shooters were included that ranged in dates from 1966 through 2006.

In total, there are a total of 246 incidents and 251 offenders, with a total of 947 victims injured and 777 dead.

**Initial Data Collection**

The databases used to gather cases provided skeletal information about the events and the shooters, such as age, location, number of weapons, victims, and outcomes. This basic information was entered into a new database using Stata 13.1. Each database
provided sources from which they gathered their information. This provided the basis for the research study and the shooters for which biographical information were collected.

As the study design was in the early stages, it was impossible to discern which characteristics of shooters needed to be quantified. As such, the researcher utilized grounded theory and inductive reasoning to draw on emergent themes and patterns from the data. Aside from the basic information about the events and shooters that are already provided by the databases, additional information was gathered from a variety of sources included news articles, books, journals, and magazines. For quantitative data, as patterns emerged, variables were decided upon, clearly defined, and then quantified for entry into the database given a thorough, well-established content dictionary. For the qualitative piece of the research, these variables were organized based on the theoretical constructs provided in Chapter 2 and evaluated for emergent themes and processes.

For guidance regarding methodology and gathering of data, it seemed wise to look to prior research studies that have been published in academic journals or by government agencies. Many of the most prominent studies published in recent years relied on news articles as opposed to primary source information such as police reports or interviews with shooters. First and foremost, the NYPD Active Shooter Database (Kelly, 2012), one of the most reliable and comprehensive databases of such information, used Internet news sources using an online search. They specifically chose to not use special access government sources. As in this study, they chose more recent stories in order to emphasize accuracy of information and reporting.

Arluke and Madfis (2014) and Kalish and Kimmel (2010) used comprehensive searches to gather information and compare biographical information. While Meloy et al.
(2004) cited newspaper articles as well as interviews, Meloy et al. (2012) used newspaper articles alone to create biographical sketches to create a typology of warning behaviors.

Of the articles published, Lankford (2012) provided the strongest method for gathering data from newspaper sources. He notes,

“If the presence of one of these types of personal problems [whether the offender struggled with social marginalization, work or school problems, family problems, or recent crises events] was reported by the offenders themselves, family members, witnesses with close knowledge of offenders, law enforcement investigators, or previous scholars, it was included in the data set. In cases where a journalist offered his or her own analysis of the offender’s motives or behavior, these opinions were almost always ignored, given the journalist’s lack of firsthand knowledge of the offender and professional expertise in this area” (Lankford, 2012, p. 260).

This provides a strong case for inclusion of information from newspaper articles and also highlights the realization that the research can differentiate between facts that are presented and the opinions of journalists, strengthening the quality and reliability of the information included in the study.

For biographical and event-related information, books about mass murder and homicide in general provide more in-depth data about many of the shooters. For example, Newman, Fox, Harding, Mehta, and Roth (2008) gathered information about three specific school shooters, using a variety of resources, including participant observation and in-depth unstructured interviews. Similarly, journalistic accounts in books such as those by Lysiak (2013) and Cullen (2009) gathered information from interviews, thousands of pages of police reports and files, and observation, providing valuable details for this study.

For these cases and other less notorious events that are included in this study, news articles from major sources are included. Such outlets include The New York
As can be expected with the “if it bleeds, it leads” mantra of journalism, events with fewer victims or no fatalities may not necessarily have made national news. In the event that information was not available from these leading national outlets, local news sources were consulted for information.

In order to ensure the legitimacy of the data available, a number of measures were taken to verify information from the data sources. Primarily, when using news articles to gather information about shooters when books or academic articles were not available, information was verified in at least two different sources. More specifically, the most recent articles were used, as information tends to become more reliable as time passes after the event. As Kelly (2013) notes, “Generally, when the NYPD identified discrepancies between sources, the NYPD included the information presented in the more recent source; this is particularly relevant for the counts of dead and wounded, where later sources tend to be more accurate” (10).

One of the more difficult feats of this method of data collection was the notion of availability of data, especially for cases that occurred decades ago. The inclusion of local sources in the absence of national has the potential to provide even more information. However, another challenge arises, as Duwe (2000) notes, “it is likely that there is some degree of error in measuring newspaper coverage due to the limitations of resources used” (375), which are quite similar to those used in this study. However, using quantitative analysis, he found that the measurement error decreased after 1981,
suggesting that the data become more reliable in 1982 (Duwe, 2000). Of the cases included in this study, only nine occurred before 1982.

Issues of inter-rater reliability also arose regarding an issue in which judgment is necessary as to which value or category a theoretical value of interest should be assigned. After the inductive research to decide what the categories of interest are, the researcher outlined the theoretic constructs and then recruited a second, qualified rater who reviewed a sample of the cases and coded any ambiguous material blind to the other characteristics of the incident that are not germane to that coding operation. The second rater used the previously mentioned codebook and definitions to ensure reliability and reconciled issues in which there were differences of opinion.

Another issue that arose was the possibility of too much information regarding high profile cases. While there is a myriad of published information about such cases, there are a limited number of these, making the data collection more manageable. The most notable and highly covered cases include those in Columbine, Sandy Hook, Virginia Tech, Fort Hood, and the Aurora movie theater. In order to effectively manage the large quantity of information, only the most recent information was used (especially given the inaccuracy of reports published immediately after the incidents). Additionally, priority inclusion was given to those reporters and authors who were closest to the situation and thus have the most thorough knowledge of each case (such as Dave Cullen who wrote *Columbine*).

Lastly, the issue of missing data could have potentially created a problem when quantifying data or evaluating shooters or events. Prior research by the United States Secret Service provides methodological guidance for such an issue. In their study of
school shooters, “researchers declined to drawn a conclusion if information directly responsive to particular area of inquiry was available for fewer than half of the incidents reviewed” (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002, p. 10). Further, they chose to “not draw a conclusion in a particular area of inquiry if that conclusion was supported by fewer than the majority of the responses to the subject question” (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2002, p. 10). As this is an emerging field, few studies published in academic journals or compiled and disseminated by respected government agencies, it seems as though it is best research practice to adopt their standards of inclusion and exclusion when identifying patterns and drawing conclusions.

Research Questions

The aim of this study is to understand the scope of active shootings and the factors that affect the individuals and their decisions to attempt to commit these violent acts. Further, given this dearth of information, the researcher identified important motivational factors and created conjunctural combinations in order to evaluate their relationships to event characteristics and outcomes. This differs from prior research and typologies in that it uses a broad definition of an active shooter, thus including many cases that would otherwise have been excluded with a stricter definition. Additionally, the combinations are based on the emergent themes and strains as opposed to basic demographic or biographical information and relate them to outcomes, providing a more in-depth look at the shooters and their acts.

Research question 1. When broadening the definition of incidents, how do the descriptive statistics about active shooting events change?

This study attempts to change the landscape of current research about active shooting events. The elimination of the minimum fatality criteria may give researchers
and practitioners a better understanding of the scope of shootings and attempted active shootings as well as the people who commit them. The use of this broader definition to engage in practical research and evaluation brings together many cases and offenders that have been included in a number of studies with victim count requirements of three, four, and five deaths as well as many cases that have not been included in many studies except those that have utilized the databases that are used in this study. As Bowers, Holmes, and Rhom (2010) assert, “The cases used to typify mass murder are more likely to involve high profile massacres” (64-65), and thus disqualify many shooters from inclusion in research.

Additionally, comparing the features of the events and offenders at this level can shed light on the similarities and differences that have typically been used to classify shooters for single-type analyses (such as workplace shooters or school shooters). Many studies have been done that compare within group shooters, but rarely do researchers consider that there may be similarities and differences across-groups that have useful and practical applications in prevention and intervention practices, with Lankford (2013, 2012) being an important exception.

The descriptive, quantitative nature of the research put forth from this information allows for a better understanding of the scope and range of incidents of active shootings and attempts in the United States and identify frequency, themes, and similarities or differences between several events and shooters. While the information does not imply causality, explanations, or complex analysis, it may suggest a starting point in a new method of classification of shooters rather than simply based on location or motive as in prior research.
**Research question 1: Analytic strategy.** Data were gathered from the aforementioned databases: the NYPD Active Shooter Report and the Stanford Database. Initially, cases from the United States were input into a new database with their available variables, such as name, age, and gender of shooter, location, location type, number of weapons, and number of injuries and deaths.

The researcher then evaluated each case based on the definition of an active shooting as presented in this study and excluded those that did not fit the definition. Those cases were then compared with the Stanford Database. Cases that were included in the Stanford Database but omitted from the NYPD Active Shooter Report were then quantified and added to the database. The Stanford Database provides more information on each shooter than does the NYPD Active Shooter Report. Additional variables were then coded and included in the quantitative variables for this study, including history of mental illness, day of week, and possible motive.

Lastly, news media, journal articles, and books about the topic were consulted to provide more information about each case and shooter that were of interest for this and future studies. Examples include weapon legality, violent media history, attack start and end times, police response time, etc.

**Research question 2.** When using Bronfenbrenner’s theory of ecological systems, which factors emerge as the most important individual, relational, and environmental influences in development?

The wealth of information available about each shooter and event lends itself to qualitative analysis. Because of the richness of the data and the complexity of all the potential factors that affected outcomes, it becomes necessary to organize the information
in a logical way. By nature, Bronfenbrenner’s (1989, 1977) theory of ecological systems allows researchers to examine development—and thus, incidents as indicators of development—in the context of a variety of multilevel factors. Rather than simply testing the effects of one or two variables or comparing those variables across shooters, this theoretical framework allows for a deeper understanding of ways in which multiple multilevel variables interact with each other and therefore affect the individual and his development, behavior, and decision to commit a crime.

Perhaps most unique about this approach is the qualitative nature of the interaction of multiple factors. While studies have often quantitatively measured interaction effects between strains, this model specifically observes how microsystemic variables interact with each other to directly and indirectly affect the individual.

Such an in-depth, broad evaluation and investigation of each shooter allows the researcher to explain differences and similarities between multiple types of offenders and highlight unique patterns. While some shooters may share common factors on multiple systems, any changes between systems may affect their individual development and highlight within- and between-group differences. News media have often been accused of omitting ways in which “victims and defendants [are] community members intimately woven into its social fabric” (Fullerton & Patterson, 2006, p. 306). By including a number of multilevel factors, including community and social variables from multiple sources (in addition to news media), this framework can add to the existing literature.

In sum, this method and theoretical framework aims to paint a broad, multilevel, comprehensive picture of each shooter, as he existed in the context of his home, school, workplace, community, and country at a given time in history. Evaluating each shooter
within a specific context (as opposed to simply at the time of his attack) allows us to understand the ways he may have been affected by the world around him, both directly and indirectly. This type of conceptual ordering allowed for multilevel comparison and evaluation to answer the third research question to identify different pathways based on different types of shooters.

**Research question 2: Analytic strategy.** Each individual case and shooter was searched using Google News searches, and academic journal searches. (See Initial Data Collection for further information on article selection and inclusion.) Additionally, books with individual cases about mass or active shooters were consulted to gather information about the subject in question. Relevant information about the subject’s life were included and charted on a multilevel chart for analysis. While strains were more likely to appear in news articles and journalistic accounts of offenders’ lives, positive influences and non-strain variables were included as well to construct a more complete evaluation of each offender.

*Figure 4.1. Bronfenbrenner’s Ecological Systems model for organizing data.*
Because these shootings took place in the United States, each of the shooters experienced many of the same macrosystemic variables. Relevant macrosystemic variables that were of note to active shootings were discussed and evaluated based on emergent themes and patterns. Additionally, macrosystemic changes that occurred (often because of technology or policy, such as the internet and access to guns, respectively) were also be evaluated and included.

Mesosystemic relationships that are apparent in the literature were included and described in as much detail as possible, as the notion of interaction plays a key role in the theoretical foundation of this research and is often omitted from prior research.

Lastly, to measure chronosystemic events, major milestones were included, such as divorce, breakups with a significant other, or marriage. Also, while cultural scripts (as described by Newman, Fox, Harding, Mehta, and Roth (2004)) may be a macrosystemic variable in setting the stage for large-scale violence, actual active shooting events may influence other shooters. Thus, any active shootings that occurred two years before the
event in question were included in the chronosystem. Though we cannot be sure that the individual was directly affected by another incident (or even knew about it), we cannot ignore the possibility that it served as a model, example, or motivation for another.

**Research question 3. Using a Qualitative Comparative Analysis (QCA) framework, what combinations of motivational factors emerge, and how do they connect with shooter and event characteristics and outcomes?**

Chapter 7 offers a discussion of the three motivational factors that were used for the basis of comparison. By evaluating the shooters individually to highlight similarities and differences, these factors became the foundation for understanding the shooters in relation to these three characteristics: failure, mental illness, and radicalization. This chapter compared the presence or absence of these factors in the data and identified how these factors might work alone or in combination to create pathways to violence and affect outcomes.

While Qualitative Comparative Analysis and Boolean logic is certainly not new, it is, however, a new approach to analyzing active and mass shooters. It addresses many of the challenges that arise when studying rare incidents, and it offers a multi-faceted, combinatorial analysis of the data.

**Research question 3: Analytic strategy.** Upon completion of the ecological classification for each offender, qualitative comparative analysis began. From the ecological template, the two most overwhelmingly common factors—failure and mental illness—were selected. Further, given prior research and the current political environment, radicalization was chosen to add another dimension of comparison and analysis. Rather than using regression models, this QCA methods using a binary
A classification system of present or absent factors to identify conjunctural pathways. Using these three factors, the researcher created a truth table that included each of the shooters, using an upper-case letter to represent a “truth” or presence, while a lower-case letter represented an absence of information or evidence in the literature. Given the three factors, there were eight possible outcomes of combinations. Of the eight combinations, the shooters in the dataset represented seven of the possible combinations which were then used to present an overview of the dataset, outline the frequency of each, offer descriptive statistics, and relate these seven combinations to the event outcomes and characteristics.

**Research question 4.** *What is the relationship between the motivations and rates of incidents, deaths, and injuries? How do these rates change over time?*

Chapter 8 examines the relationships between the combinations noted in Chapter 7 and the rates of change of specific event characteristics. By adding a temporal component to the study, it allows for a more thorough understanding of the patterns and themes that are emerging and changing over time. These incidents are occurring in a temporal context and may be affected by chronological and chronosystemic influences. While Chapter 7 uses the available data to discuss descriptive statistics about each event and combination, Chapter 8 identifies rates of change of incidents and how they have increased or decreased. Thus, it allows for comparison between the motivations and factors and how they affect incidents over time.

**Research question 4: Analytic strategy.** For each of the seven combinations, the researcher organized the data to calculate the number of incidents, deaths, and injuries per year. She also calculated the means for each per year to identify trends over time.
from 1966-2012. By calculating these and laying trendlines over the data, she identified the rates of change over time for each of the event characteristics and outcomes.

Also, for additional comparison, the researcher created two sets of time frames. First, she used an evenly divided time-period by splitting the dataset in half (1966-1989 and 1990-2012). This process allowed for a more even comparison, as it used to nearly equal lengths of time to compare rates of change. For each both time periods and outcomes (incidents, deaths, and injuries), Chapter 8 offers a comparison of the incidents per year for each as well as the rates of change over time.

Further, to acknowledge the importance of the attack at Columbine as a symbolic turning point, Chapter 8 also divides the dataset into two periods: pre-Columbine and post-Columbine. Again, it reviews mean incidents, deaths, and injuries per year for each of the combinations while also presenting the rates of change over time for each period.

The chapter discusses the patterns and trends that are seen in both time analyses, but also uses comparative analysis and Boolean logic to understand the temporal component and evaluate the influence of the factors. For each of the six outcomes and characteristics (means and rates of change for incidents, deaths, and injuries), the two combinations with the greatest means and rates were selected for Boolean minimization to reduce the expressions and identify which factors were irrelevant in affecting the increase. In doing so, it allows for comparison of the combinations and the factors to identify their influence and relevance in each of the event characteristics over time.

**Summary**

By using both qualitative and quantitative methods, the events, and the context in which they occur, this study provides a comprehensive and in-depth overview of active
shooters and the crimes they committed. While the information available about each shooting and the offender seems overwhelming, chaotic, and of questionable reliability, this approach allowed for organization and classification that is based on the foundation of a theory of human development. The deductive and inductive nature of this study is comprehensive in nature and attempts to provide the most organized, thorough evaluation of data to come to methodologically sound conclusions that explain the vast majority of the cases in the dataset.

Moreover, the nature of the qualitative analysis permitted the researcher to understand the precipitating events and facts not only as they only affected the world through the shooting, but more importantly, how they may have interacted to influenced the development of an individual and the relationship between these factors and the outcomes of their events.

Chapter 5 now looks to describe the overall dataset, identify patterns and trends, and examine the importance of definitions and operationalization in active and mass shooting research using multiple thresholds. This chapter will provide an overview of the dataset and introduce the scope and frequency of the problem.
Chapter 5 – Research Question #1

When broadening the definition of incidents, how do the descriptive statistics about active shooting events change?

The issue of thresholds and definitions of mass murder and active shooting events has certainly played a role in the recent past in terms of research and policy. In the midst of the research and public discourse, the discussion about what classifies an offender as a mass murderer as opposed to an active shooter has received relatively little attention as compared to debates about causes, prevention, and intervention tactics. More than simply an issue of semantics, it affects the way that researchers make decisions to include and exclude shooters or incidents and thus influences the way that conclusions can be drawn from such studies. Particularly, if incidents with very few or no fatalities are excluded, the presentation and understanding of trends over time may be confusing or misleading.

The purpose of this chapter is to examine the way in which definitions and thresholds affect what we currently know about active shooter events and the offenders. By comparing the descriptive statistics, the aim is to understand how the information changes when raising or lowering the minimum fatality count and to reduce confusion in future studies. Moreover, the comparison of the definitions and thresholds allows for a more thorough, exhaustive way to decide what unit of analysis to use for the subsequent chapters and overall study.

Importance of understanding descriptive statistics

Perhaps the most important function of descriptive statistics in active shooter research is the influence it has in the way in which the media and the American public perceive the frequency and lethality of the events. In 2014, the FBI released a report of
descriptive statistics of active shooter events from 2000 to 2013, “concluding the trend over the study period showed a steady rise” (Blair & Schweit, 2014, p. 20). When the media presented this information, however, the common headline often included the term “mass murder” and suggested an increase in mass murder. The failure to differentiate between mass murder and active shooter events may only increase the confusion about these events and utilizes this scare tactic to catch readers’ attention. As Fox and Levin (2015) caution, “It is critical that we avoid carelessly scaring the American public with questionable statements about a surge in active shooter events” (9). The Crime Prevention Research Center (Lott & Riley, 2014) illustrated this point in their evaluation of the FBI’s most recent report on mass shootings.

Moreover, Lott and Riley (2014) note the importance of the threshold and its influence on perception and assert that “these non-mass shootings, with zero or one person killed, drive much of the purported increase in the number of attacks…In other words, the later period is padded much more heavily with these extra cases” (7). Thus, the use of the active shooter definition and zero-fatality threshold affect how the FBI reported incidents and statistics as well as the way that the media reported the findings. However, in their evaluation, Lott and Riley (2014) corrected the FBI data (for missing cases and the limited time period) and found that the increase in events is not statistically significant. It would, however, be hazardous to examine Lott’s response to the FBI study without doing so in the context of his notoriously conservative, pro-gun stance that has often been replicated and repudiated by other research studies (Ayers & Donohue, 2003; Black & Nagin, 1998; Webster, Vernick, Ludwig, & Lester, 1997).
For this reason in particular, it is imperative that researchers, policymakers, and the public alike understand terminology and the importance of definitions and thresholds. While the number of incidents may be increasing (though perhaps not in a statistically significant way), it is important to understand how the thresholds affect the number of incidents counted, the perceptions of total numbers of victims of such events, and other vital information about the events and the attackers. For statistically comparative purposes, it is also useful to understand how the results and outcomes may differ based on location. This section will aggregate the descriptive statistics based on location type in order to understand how thresholds affect our understanding of each type of shooting.

**Descriptive Statistics**

First, this data aims to describe the differences that arise when using different minimum thresholds to describe active shooting events, or in some cases, mass shootings. Given the definition for this study, any incident from 1966 through 2012 in which a person engages in shooting at people in a confined, public space—regardless of the number of people injured or killed—would be included\(^1\). Thus, there are 245 cases that fall under these criteria. Using a one-fatality threshold, there are 212. As the minimum threshold increases, the number of incidents decreases, as only approximately 22 percent (53 cases) of the total cases in the study resulted in five or more fatalities.

In terms of understanding frequency of events, it seems that 53 active shooter events in the course of 46 years warrants little research or interest because they occur so infrequently. However, using a lower threshold indicates that active shooter events happen much more frequently. Using a zero-fatality threshold would indicate that such

\(^{1}\) For further information on the NYPD Active Shooter database, refer to Chapter 3.
events occur more than 4.5 more frequently as compared to a five-fatality threshold.

Though the number dead or injured may be less per event, the need for evaluation and study is more evident and pressing.

Table 5.1. Descriptive statistics using varying fatality thresholds.

<table>
<thead>
<tr>
<th>Variable</th>
<th>5+</th>
<th>4+</th>
<th>3+</th>
<th>2+</th>
<th>1</th>
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<td>75</td>
<td>98</td>
<td>144</td>
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<tr>
<td>Total dead</td>
<td>461</td>
<td>549</td>
<td>618</td>
<td>710</td>
<td>777</td>
<td>777</td>
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<tr>
<td>Avg dead (SD)</td>
<td>8.70</td>
<td>7.32</td>
<td>6.30</td>
<td>4.93</td>
<td>3.68</td>
<td>3.17</td>
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<td>(5.57)</td>
<td>(5.14)</td>
<td>(4.85)</td>
<td>(4.48)</td>
<td>(4.12)</td>
<td>(4.03)</td>
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<tr>
<td>Total inj</td>
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<td>489</td>
<td>548</td>
<td>694</td>
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<td>947</td>
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<tr>
<td>Avg inj (SD)</td>
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<td></td>
<td>(10.88)</td>
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<td>(8.73)</td>
<td>(7.66)</td>
<td>(6.53)</td>
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</tr>
<tr>
<td>Avg num guns (SD)</td>
<td>2.08</td>
<td>1.96</td>
<td>1.95</td>
<td>1.72</td>
<td>1.59</td>
<td>1.55</td>
</tr>
<tr>
<td></td>
<td>(1.25)</td>
<td>(1.20)</td>
<td>(1.21)</td>
<td>(1.10)</td>
<td>(0.99)</td>
<td>(0.96)</td>
</tr>
<tr>
<td>Avg shooter age (SD)</td>
<td>32.92</td>
<td>32.69</td>
<td>34.03</td>
<td>34.54</td>
<td>34.54</td>
<td>34.17</td>
</tr>
<tr>
<td></td>
<td>(11.97)</td>
<td>(11.77)</td>
<td>(12.19)</td>
<td>(15.05)</td>
<td>(15.06)</td>
<td>(15.26)</td>
</tr>
</tbody>
</table>

When examining the number of deaths that have occurred as a result of these active shooting events, it calls into question the severity of each event and how both academics and the public view active shootings. The definitions used to classify such events can affect the ways in which the events are perceived and how academics evaluate and research them. For example, using a zero- or one-fatality threshold, the number of victim deaths is 777, whereas using a five-fatality threshold, the total number of deaths is 461. When calculating these numbers in terms of the average number of deaths per event, it can potentially reframe how we view the seriousness of each event. Asserting that active shooting events typically result in approximately 3.17 deaths (when using a zero-
fatality threshold) as compared to 8.70 deaths (when using a five-fatality threshold) can confuse and hinder what the reader or consumer of knowledge may come to believe about the seriousness of the events in question. When observing incidents using a lower threshold, we see that active shooting events occur more frequently than when compared to event counts using a higher threshold. Clearly, though, the increased frequency includes events that are less deadly. Depending on how the American public determines the seriousness of the active shooting problem (number dead as compared to the number of events), the numbers paint a picture of some of the differences that arise when using different thresholds. The variety of ways of presenting the information in the media is then troubling unless the data is operationalized and conceptualized in a way that the public can understand.

Examining the data by comparing the descriptive statistics at varying thresholds highlights an interesting pattern. As the minimum fatality threshold increases, the ratio of injured to dead changes given differing definitions. Using a zero-fatality threshold, the total number of injured victims is 947, while the total number of victims who died as a result of their injuries is 777. At the zero- and one-thresholds, the total number of injured is greater than the total number dead; however, this changes when the threshold is three. At three and higher, the injured to dead comparison becomes relatively stable with the totals nearly even. Though seemingly obvious, this may suggest that incidents with the most fatalities have the highest fatality to injury ratio.

The average number injured follows a similar pattern to the average dead per incident. However, we see an increased standard deviation suggesting even more variation among the number injured when utilizing a higher threshold.
As one would expect, the number of guns increases with an increased threshold, highlighting the deadly nature of weapons. As Newman et al. (2008) note, there would not be active shooting events without guns. The introduction of more weapons in such a scenario clearly leads to more fatalities.

The analysis of this data presents a useful inquiry regarding the use of thresholds. It is questionable whether the data supports the use of any thresholding rule for classifying a subset of the active shooter events as “mass murders.” To see this, consider a Binomial model for the total deaths in each active shooter event. Let $X_{i,j}$ be a random variable that equals 1 if the $j$th injured person in the $i$th event was actually a fatality, and 0 otherwise. If $N_i$ equals the number of injuries in the $i$th event, then $X_{i,*} = X_{i,1} + \ldots + X_{i,N_i}$ is the total deaths. If we assume that the probability of death given injury, $p$, is shared across incidents, then $P(X_{i,j} = 1) = p$, and thus each $X_{i,*}$ follows a Binomial distribution with mean equal to $pN_i$ and standard deviation $N_i \left[ p(1-p) \right]^{1/2}$. The average value of dead/(dead + non-fatal injuries) amongst events with positive injuries is $0.502^2$, suggesting that for an event with total injuries equal to $N$, the expected number of deaths is $0.502^*N$, with standard deviation $N^*\left[ 0.502(1-0.502) \right]^{1/2} \approx 0.5^*N$. If a shooter were to enter a building and hit ten people, for example, the expected number of fatalities is five, with the total deaths being between 3 and 7 only 89 percent of the time. Further, in approximately 38 percent of such occurrences, the total deaths would be four or fewer, thus disqualifying the event from “mass shooter” classification under the current threshold. A similar calculation

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2 The analysis above excludes six events in which the total of deaths and non-fatal injuries is zero, which makes dead/(dead+non-fatal injuries) undefined. If we calculate the empirical average dead/(dead+injured) value whilst setting these six cases to dead/(dead+injured) = 0, the empirical average value is 0.486, and the standard deviation estimate becomes $N^*\left[ 0.486(1-0.486) \right]^{1/2}$, which is actually closer to $0.5^*N$ than if these events are excluded. Hence from both a quantitative and qualitative standpoint, the analysis that follows is unchanged.
shows that for an active shooter event with a total of nine dead + injured, the chance of it being categorized as a mass murder is approximately 49.5 percent. The fact that the classification of the event as a mass murder is essentially left to chance seems to call into the question the usefulness of such thresholds.

Hence a researcher applying the five death threshold to a series of events with a total of nine dead or injured individuals would obtain a subset of events whose composition has similar variability to simply flipping a coin to decide whether to include each event. This is a stylized example, to be sure, but the data clearly suggests that datasets culled from a set of active shooter events using a thresholding rule can be highly variable.

As a result, researchers and practitioners should make an effort to understand how the use of thresholds affects research and conclusions that are drawn regarding active and mass shooting events.

*Table 5.2. Number of incidents aggregated by location and fatality threshold.*

<table>
<thead>
<tr>
<th>Location Type</th>
<th>5+</th>
<th>4+</th>
<th>3+</th>
<th>2+</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>School, non IHE</td>
<td>7</td>
<td>8</td>
<td>11</td>
<td>22</td>
<td>42</td>
<td>54</td>
</tr>
<tr>
<td>IHE</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Office</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>10</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Mall</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Commercial</td>
<td>9</td>
<td>16</td>
<td>20</td>
<td>24</td>
<td>31</td>
<td>33</td>
</tr>
<tr>
<td>City/state/fed</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Employment</td>
<td>19</td>
<td>26</td>
<td>36</td>
<td>53</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>15</td>
<td>23</td>
<td>24</td>
</tr>
</tbody>
</table>

Table 2 illustrates the number of incidents at each type of location. Utilizing the initial location types created by the NYPD, this study re-coded the data to more accurately reflect the relationships of the shooters to the location. The data were entered into a new database. The most significant adjustment is the clarification of location based on the shooter’s affiliation with the incident. For example, Case #6 from the NYPD
database is listed as an office building shooting. However, the office building where Jason Rodriguez opened fire was his former workplace. Thus, the incident was entered in the database as his place of employment. Another important difference from the NYPD database is the differentiation between schools (e.g. elementary, middle, or high schools) and institutes of higher education (IHE) such as colleges or universities. The other categories include office buildings, malls, commercial areas, city/state/federal buildings, and “other” which includes a temple, a clinic, and other locations that are not encompassed by the other categories.

The table shows that, using a zero-fatality threshold, incidents at a place of employment (or places where the shooter was previously employed) are still the most common types of active shooter events, followed by school shooting. However, using a two-fatality threshold or higher, active shooter events in commercial locations become the second most common location as opposed to schools. At all levels, mall shootings were the least common events of all the locations.

As expected, the number of incidents at each location decreases with a higher fatality threshold. Schools experience the most dramatic increase in incidents when using reduced fatality thresholds. When lowering the threshold to zero, the number of incidents is 6.75 times greater than when using a five or more threshold. Similarly, a zero-count threshold increases the number of events at places of employment by nearly 450 percent.
Table 5.3.. Number injured aggregated by location and fatality threshold.

<table>
<thead>
<tr>
<th>Location Type</th>
<th>5+</th>
<th>4+</th>
<th>3+</th>
<th>2+</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>School, non IHE</td>
<td>81</td>
<td>90</td>
<td>99</td>
<td>171</td>
<td>223</td>
<td>260</td>
</tr>
<tr>
<td>IHE</td>
<td>56</td>
<td>61</td>
<td>64</td>
<td>73</td>
<td>87</td>
<td>89</td>
</tr>
<tr>
<td>Office</td>
<td>14</td>
<td>20</td>
<td>21</td>
<td>28</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Mall</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Commercial</td>
<td>120</td>
<td>145</td>
<td>159</td>
<td>168</td>
<td>192</td>
<td>202</td>
</tr>
<tr>
<td>City/state/fed</td>
<td>33</td>
<td>33</td>
<td>34</td>
<td>37</td>
<td>38</td>
<td>47</td>
</tr>
<tr>
<td>Employment</td>
<td>61</td>
<td>70</td>
<td>101</td>
<td>127</td>
<td>168</td>
<td>184</td>
</tr>
<tr>
<td>Other</td>
<td>37</td>
<td>61</td>
<td>61</td>
<td>81</td>
<td>103</td>
<td>121</td>
</tr>
</tbody>
</table>

Observing the number of injured persons at each location, Table 3 indicates that using a zero to two-fatality threshold yields the highest number at schools. Those at commercial locations are result in the second-highest number of injuries, but they become the category with the greatest number of injuries at the three- or higher fatality threshold. Interestingly, when using a three-fatality threshold, the number of fatalities at places of employment becomes increasingly more injurious, but that pattern does not continue at the four- and five-threshold levels. However, it is important to note that the number injured is strongly affected by the Batman theater shooting in Aurora, Colorado that left 70 people injured.

The Other category is the most affected by the threshold differences. Lowering the threshold results in a number injured that is 3.27 times greater than using a five-fatality threshold. Schools, offices, and places of employment are also affected at 3.14, 2.36, and 3.02 times greater, respectively. Mall shootings, likely due to their rare occurrences, are least affected by the change in threshold and remain stable at nine people injured at one- through five-fatalities.
Table 5.4 shows the number dead at each location at varying thresholds. Active shooter events at places of employment prove to be the deadliest by far. Though the five- to zero-fatality threshold difference nearly doubles the number of fatalities, the numbers still show that the greatest number of people have died at the hands of shooters who return to their place of employment.

The next deadliest of the categories is commercial locations. Changing the threshold from zero to five excludes more than one third of the fatalities. The number of fatalities, however, is strongly affected by high profile cases such as the Batman movie theater shooting, Luby’s Café, and James Huberty’s McDonald’s massacre. Those three events alone account for 55 of the fatalities at all of the thresholds, thus drastically affecting the results. Excluding these three events would make school shootings the second deadliest events.

Death resulting from active shooter events at malls remains the same across all threshold, while those at IHEs only resulted in a 24 percent difference in fatalities from the zero to five-fatality threshold.
Table 5.5 shows the average number of guns at each location type. As expected, the average number of guns increases with an increased threshold in all locations except offices. At the zero- and one-fatality threshold, the highest average number of guns is present at offices, while school shooting had the highest at the two or higher threshold.

<table>
<thead>
<tr>
<th>Location Type</th>
<th>5+</th>
<th>4+</th>
<th>3+</th>
<th>2+</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>School, non IHE</td>
<td>2.86</td>
<td>2.75</td>
<td>2.73</td>
<td>2.00</td>
<td>1.73</td>
<td>1.63</td>
</tr>
<tr>
<td>IHE</td>
<td>2.00</td>
<td>2.17</td>
<td>2.11</td>
<td>1.83</td>
<td>1.65</td>
<td>1.61</td>
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<tr>
<td>Office</td>
<td>1.67</td>
<td>1.83</td>
<td>2.00</td>
<td>1.78</td>
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<td>1.75</td>
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<tr>
<td>Mall</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
<td>1.33</td>
</tr>
<tr>
<td>Commercial</td>
<td>2.00</td>
<td>1.81</td>
<td>1.80</td>
<td>1.67</td>
<td>1.52</td>
<td>1.48</td>
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<tr>
<td>City/state/fed</td>
<td>2.00</td>
<td>1.67</td>
<td>1.75</td>
<td>1.67</td>
<td>1.63</td>
<td>1.71</td>
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<tr>
<td>Employment</td>
<td>2.21</td>
<td>2.04</td>
<td>1.92</td>
<td>1.73</td>
<td>1.58</td>
<td>1.52</td>
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<tr>
<td>Other</td>
<td>1.33</td>
<td>1.38</td>
<td>1.44</td>
<td>1.27</td>
<td>1.30</td>
<td>1.29</td>
</tr>
</tbody>
</table>

Table 5.5. Average number of guns aggregated by location and fatality threshold
Table 5.6. Number of events per year aggregated by fatality threshold.

<table>
<thead>
<tr>
<th>Year</th>
<th>5+</th>
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<th>2+</th>
<th>1+</th>
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<td>4</td>
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<td>2</td>
<td>2</td>
<td>3</td>
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<td>7</td>
<td>9</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>12</td>
</tr>
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<td>2007</td>
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<td>3</td>
<td>4</td>
<td>8</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>2008</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>2009</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>2010</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>10</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
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<td>3</td>
<td>4</td>
<td>4</td>
<td>8</td>
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</tr>
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<td>2012</td>
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<td>6</td>
<td>10</td>
<td>13</td>
<td>14</td>
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</tr>
<tr>
<td>TOTALS</td>
<td>53</td>
<td>75</td>
<td>98</td>
<td>144</td>
<td>211</td>
<td>245</td>
</tr>
</tbody>
</table>
Table 5.6 illustrates the number of incidents per year using various thresholds. The years with the greatest number of attacks (or attempted attacks if using a zero-fatality threshold) are 1993, 1999, and 2012. 1999 still remains one of the busiest years in terms of active shooting events and the deadliest in terms of injuries/deaths. Affected greatly by the Columbine High School shooting, the year saw 73 injured and 58 dead. Given that 12 of the 17 incidents occurred after the infamous attack at Columbine, this highlights the need for a focus on the copycat effect and the role that prior attacks play in affecting future offenders.

*Figure 5.1. Incidents per year (left) and trendlines (right) at varying thresholds.*

Figure 5.1 uses the same data presented in Table 5.6 to visually depict the number of incidents over time and compare the data using varying thresholds. Of particular interest are the trendlines presented on the right that highlight an increase in the number of incidents per year.
With a zero-threshold definition, it appears that attempts have been increasing over time (by .33 incidents per year\(^3\)). As expected, though, when raising the fatality threshold, the number of incidents per year decreases, and the slope decreases dramatically. At one, two, three, and four, the increase in incidents is .27, .19, .13, and .09, respectively. At the furthest end of the spectrum, a five-fatality threshold shows a .06 increase per year, demonstrating that these events are the least common and show the least amount of increase.

While there is a clear increase in events, the increases may not be significant enough to claim that there is an “epidemic” of active shooting events. Though Lott and Riley (2014) may argue that the FBI “padded” the data with zero-fatality cases, the inclusion of such cases highlights the changes over time and the ways that active shootings may be changing. For example, in 2010, there were 19 active shooting attempts with zero fatalities, and only two events with five or more fatalities. Examining this in a critical manner may lead researchers to question why. One potential explanation may be increased police presence in specific areas that may be targeted (especially among schools) or improved responses to active shooting events. The inclusion of these cases allows us the opportunity to seek the differences and engage in future research to explain these trends.

Additionally, the inclusion of these cases provides researchers with more information regarding offenders and active shooters, regardless of the outcome of their attack. Both qualitatively and quantitatively, this has value for researchers by adding a

\(^3\) For a complete list of trendline equations and \(R^2\) values at each threshold for the variables incidents per year, dead per year, and injured per year, see Appendix B.
broad scope of offenders to a study and allowing for the evaluation of any number of factors regardless of offenders’ effectiveness at shooting.

Figure 5.2. Dead per year (left) and trendlines (right) at varying thresholds.

Figure 5.2 depicts the raw data of victims killed per year as a result of active shootings. Of particular interest are the differences that are highlighted at each threshold. As indicated, as the threshold increases, the rates of increase decreases. However, the rate of increase, ranging from .52 (at threshold=5) to .96 (at threshold=0) indicates that there has been an increasing in number of victims killed per year as a result of active shooting events. 2012 proved to be the deadliest year with a total of 81 victims killed at using a zero-threshold. 2007, 1999, and 2009 followed with 59, 58, and 57 victims killed, respectively.

---

4 Figure 5.2 may appear to be missing a trendline in the graphic on the right. The trendlines for thresholds 0 and 1 are actually overlaid, as the number of dead per year at the thresholds is the same (since at the zero-threshold, there were no victims killed).
Figure 5.3 shows similar patterns for injured per year. Like the number of victims killed per year, 2012 resulted in 106 victims injured at a zero-threshold, and 72 injured in 1999. The rate of injuries per year shows a more substantial increase than rate of deaths, however. At a zero-threshold, we see a 1.08 increase per year, while at a five-death threshold we see a lesser increase (but still more than the rate of deaths) at .46 per year.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>5+</th>
<th>%</th>
<th>4+</th>
<th>%</th>
<th>3+</th>
<th>%</th>
<th>2+</th>
<th>%</th>
<th>1+</th>
<th>%</th>
<th>0</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide</td>
<td>32</td>
<td>54.24</td>
<td>38</td>
<td>46.91</td>
<td>50</td>
<td>48.08</td>
<td>66</td>
<td>44.00</td>
<td>86</td>
<td>39.63</td>
<td>94</td>
<td>37.85</td>
</tr>
<tr>
<td>K police</td>
<td>2</td>
<td>3.39</td>
<td>7</td>
<td>8.64</td>
<td>8</td>
<td>7.69</td>
<td>10</td>
<td>6.67</td>
<td>13</td>
<td>5.99</td>
<td>14</td>
<td>5.58</td>
</tr>
<tr>
<td>Force</td>
<td>15</td>
<td>25.42</td>
<td>21</td>
<td>25.93</td>
<td>27</td>
<td>25.96</td>
<td>46</td>
<td>30.67</td>
<td>70</td>
<td>32.26</td>
<td>86</td>
<td>34.26</td>
</tr>
<tr>
<td>No force</td>
<td>5</td>
<td>8.47</td>
<td>8</td>
<td>9.88</td>
<td>11</td>
<td>10.58</td>
<td>18</td>
<td>12.00</td>
<td>30</td>
<td>13.82</td>
<td>37</td>
<td>14.74</td>
</tr>
<tr>
<td>Arrest (St)</td>
<td>5</td>
<td>8.47</td>
<td>7</td>
<td>8.64</td>
<td>8</td>
<td>7.69</td>
<td>10</td>
<td>6.67</td>
<td>17</td>
<td>7.83</td>
<td>17</td>
<td>6.77</td>
</tr>
<tr>
<td>AttSuicide</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>.46</td>
<td>2</td>
<td>.80</td>
</tr>
<tr>
<td>TOTAL</td>
<td>59</td>
<td>81</td>
<td>104</td>
<td>150</td>
<td>217</td>
<td>251</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5.7 outlines the outcomes for the shooters (including the cases that had multiple shooters). For each threshold, the most common outcome for the shooters was suicide after the attack had begun. However, at the highest threshold, more than half of the shooters committed suicide, as compared to only 37.85 percent of shooters at the zero-fatality threshold.

The second most common outcome for all thresholds was the use of force to subdue the offender. The Stanford database used the outcome “Arrest” and did not differentiate between the use of force and no force. While only two shooters in low fatality incidents attempted suicide and were unsuccessful, police at the scene of the attack killed a small percentage of perpetrators. Without knowing the true intentions of the shooters, it is impossible to differentiate between those who were unwillingly killed by police and those whose goal was suicide by police.

Another disparity between thresholds arises in the no force category. 14.74 percent of attackers in the zero-threshold surrendered to police and required no force compared to only 8.47 percent of those in the five or more threshold. Viewed with the increase in suicide outcomes at that threshold, one can conclude that suicide is a more likely outcome than one that results in an arrest.

Conclusion

The data included in this study present interesting findings when comparing descriptive statistics across thresholds. The use of a higher death threshold reduces the number of cases that could be included in a study and eliminates the possibility of gathering knowledge about shooters if they were less effective in their shooting.

Comparing the descriptive statistics through this thresholding lens allows researchers to
understand the differences that arise at each level in terms of shooter characteristics, outcomes, and the frequency of events. Though seemingly obvious, the average number of victims—both injured and dead—increases with a greater death threshold. However, the significance of this finding highlights an important point for the media and the American public. Though there may be a slight increase in incidents per year as the data shows, they may not be as deadly as the public believes.

The glaring and obvious difference in varying thresholds is the increase in means at higher thresholds. Such findings should be used to educate the public and affect policy in productive ways to reframe the perceptions of active shooter events in the United States. While the public may believe that such events are occurring more frequently and becoming more deadly, this research could be used to paint a more accurate picture about how often these events occur and how many people are injured or die as a result.

This chapter would be remiss if it did not discuss the potential underreporting of zero-fatality incidents. While the NYPD database attempted to include all active shooting events, there is a strong likelihood that events that had few or no injuries or deaths were excluded. The six incidents that had no injuries or deaths still represent an important piece of the puzzle for understanding how outcomes are affected by shooters and their actions. While other cases may have been overlooked or inadvertently omitted in the creation of the database due to a lack of reporting, the inclusion of less-deadly shooters attempts to address this issue and examine them in a context of all mass and active shooter events.

Perhaps the most important finding of this exercise is that there are, in fact, discernible patterns when using multiple thresholds. The data indicate that there are
increases in the number of injuries, deaths, and frequency of events over time, regardless of the threshold used. These trends offer an important contribution to the understanding of active shooter events in a more specific way to address the definitional issue that often plagues research in this specific area. While this may appear to be a simple conclusion, it highlights the need for examining all shooters, regardless of the number of victims who died as a result of their attack. Due to the variability of death in an active shooter situation (50 percent), the inclusion of those offenders with low-fatality attacks becomes increasingly more important. The inclusion of these offenders allows for a research focus on the biographical and situational factors for all these individuals that affected outcomes. It includes a broad spectrum of shooters, and thus paves the way for a more thorough understanding of motivating factors without excluding them based on their effectiveness.

By including these cases in the qualitative examination that follows, the goal is to include a myriad of offenders who committed an act that qualifies as an active shooting event regardless of the deadliness of the outcome. To complete the most thorough, inclusive analysis of the multilevel variables that may drive an individual to engage in an active shooting, the presentation of the descriptive statistics points to the inclusion of all of these shooters as opposed to excluding some based on chance and accuracy.

In sum, the purpose of this chapter was twofold. First, it aimed to examine the differences in descriptive statistics at varying thresholds to identify potential similarities or differences. The data indicate that there are, in fact, similar upward trends in terms of frequency of active shooter events over time at all fatality thresholds. While there were
differences in the size of the increase, there were otherwise no other discernible discrepancies based on thresholds.

Secondly, this chapter sought to identify the best threshold, if any, to use for inclusion criteria for this study. Because all the thresholds indicated an increase over time, this study utilizes the lowest possible threshold (zero fatalities) when examining the victim count in each event. As such, all shooters who fit the active shooter definition as outlined by the FBI were used in this study for the qualitative analysis provided in the subsequent chapters.

The following chapter outlines the multilevel factors from the literature about the shooters. It uses grounded, inductive theory to identify emergent patterns and themes and discusses the frequency for each. In doing so, it attempts to explain the ways in which multilevel factors may related to each shooter and his individual development and psychological growth. By highlighting the most common factors, it allows for later comparison of the factors to relate them to event characteristics and outcomes.
Chapter 6 – Research Question #2

*When using Bronfenbrenner’s theory of ecological systems, which factors emerge as the most important individual, relational, and environmental influences in development?*

As described in Chapters 2 and 3, this study aims to use Bronfenbrenner’s (1989, 1977) theory of ecological systems to classify, organize, and evaluate the information in a comprehensive, multilevel way that allows for a greater understanding of influences on behavior and development. Moreover, it examines the processes and interactions to understand the ways in which the levels and factors affect each other and the individual.

Inspired and influenced by the works of Vygotski and Lewin, Bronfenbrenner’s contributions to developmental psychology were important because they examined the interconnected, bidirectional flow of environment and person. The ecological systems model highlights individual, biological traits (to be discussed further in this section) and the ways that they affected development through interactions with the people and settings on a stage influenced by culture, historical developments, life transitions, and time.

Traditional criminological theory has certainly recognized how individual characteristics and social influences affect criminality by contrasting trait theories and social theories. Trait theories, from as far back as Lombroso’s first edition of *Criminal Man* in 1876, criminologists sought to explain how biological traits affected and influenced criminality. Since then, the work of the Gluecks (1950), Gottfredson and Hirschi (1990), and others has focused on the development of theories to explain how individual traits can lead to criminal behavior. The focus on individual traits, as opposed to purely social influences, looks much like the resource and demand traits from Bronfenbrenner’s theory. Yet, social theories like Sutherland’s (1933) differential
association theory or Aker’s (1994) social learning theory stress the important of external stimuli and their influence on criminal behavior. Similar to Bronfenbrenner’s theory, these social theories of criminal behavior examine the ways in which people (regardless of individual traits or differences) are led to criminal behavior through those around them.

By bringing Bronfenbrenner’s (1989, 1977) theory of ecological systems and applying it to deviant behavior, we are using a theory that attempts to combine both individual and social traits that criminologists have been exploring for decades. The emphasis on individual traits in conjunction with the interaction of person and environment allows us to better explain rare, violent behavior in the context of multilevel variables. It also allows for not simple a nature versus nurture debate, but an inductive evaluation of nature’s developmental influence in conjunction with nurture that occurs over time and the life course.

As such, using this theory of ecological systems helps us to evaluate and organize the information available about the shooters so that we can understand the interactive nature of multilevel influences as it pertains to human development. This chapter will provide an overview of the data as it pertains to culture, policy, environment, relationships, and the individuals. The emergent themes and patterns of the data are described in detail and offered with specific examples and descriptions that support the research.

This chapter also seeks to identify the frequency with which the shooters experienced each of these themes and gain a more in-depth understanding of the themes
that were the most abundant across the dataset. By doing so, this begins the process toward a conceptual understanding of potential factors for later comparison and analysis.

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**Overview of the Factors**

The levels of Bronfenbrenner’s (1989, 1977) ecological systems are individual level factors, the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem.

Individual factors are traits that a person possesses. These are characteristics that affect the way the developing person affects and is affected by the environment in which he finds himself. These traits may occur as a result of genetics (e.g., a child born with fetal alcohol syndrome or with a family history of mental illness), or they may be a result of chance (e.g., a child born with birth defects as a result of the umbilical cord wrapped around its neck during birth). Additionally, the traits represent personality and demeanor, and they may be developed, nurtured, or hindered throughout development. These are qualities of the developing person that he essentially carries with him in many or all facets of his development and interactions.

The microsystemic factors are those that have a direct effect on the individual’s development. Microsystemic factors, including people, institutions, and things, are directly involved in the individual’s life and have potentially the most influential effect
on their behavior. The individual level factors are those that are inherent and innate in the person and affect the way in which he interacts with others in his microsystem.

The mesosystem describes the relationships between those in the individual’s microsystem. These can be affected by any number of factors (including exosystemic factors), and the absence or strained presence of mesosystemic factors can have an effect on development.

The exosystem includes influences that directly or indirectly affect the immediate environment in which the individuals and those in their microsystem develop. These factors affect the quality of life that the individuals enjoy and the conditions under which they live, work, and grow. Additionally, the exosystem represents the interaction of an individual in the microsystem and an external influence with whom the developing person does not have a relationship. This exosystemic relationship may have an indirect effect on the individual and affect development.

The macrosystem refers to larger scale upon which events occur that affect development. These laws, policies, and culturally accepted standards are the framework that defines human development in the United States. They shape all of the interactions, perceptions, behaviors, and decisions that are made under its umbrella.

Finally, the chronosystem is comprised of major life events and socio-historic events that may affect culture on a grand scale or the individual on a very personal level. These can be life-altering events, or they can be ones that influence culture or society in such a way that the effect may trickle down to individuals. The chronosystem is also the element of time in the Process-Person-Context-Time model and moves the individual through a process of development.
One of the most important aspects of this theory is the notion of individual development and the ways in which it occurs in ecological contexts. The development of the individual happens within this hierarchically nested model and is shaped and influenced over time, as represented by the chronosystem. The information in this chapter is organized in a bottom up method so as to create an understanding of the individuals as he moves throughout and interacts with the environment around him. Though it is written in such a way that it presents as a list, the model itself is not linear; rather, it is a whole, integrated theory that is presented as a nested model of four levels (the microsystem, the mesosystem, the exosystem, and the macrosystem) that highlights the interactive nature of development. These four levels and the nested model are then strongly affected by the linear, chronosystemic influence of time and events as they occur, as represented by Figure 6.1.

The goal of this chapter is to clearly evaluate and examine the overall structure of the Process-Person-Context-Time theory that Bronfenbrenner (1989) outlined. By clearly identifying emerging patterns and themes among the nested hierarchical levels, this chapter will explain active shooters’ development in the context of other factors, relationships, environments, and across time.

*Figure 6.1. Hierarchically nested systems.*
In this chapter, as the layers are explained, developed, and justified, the final sections, descriptions of the macrosystem and the chronosystem, are explained and described as being themes and patterns that emerged and were representative of larger relationships and conditions that affected the individual, the quality of the relationships with others, and the settings in which they occurred.

**Analytic Strategy**

As stated in previous chapters, the goal of this research question is to examine how multilevel factors affect and shape an individual and thus, his behavior. Generally, the levels or systems and the factors in each should have some explanatory power in clarifying important themes and patterns from the data available. The biographical, descriptive nature of the qualitative nature lends itself directly to an organization of the factors in this nested group of multilevel, hierarchical systems. To do this, the researcher used inductive, grounded theory to identify themes that appeared to emerge from information organized in Bronfenbrenner’s ecological systems framework as it has developed over time. Based on inductively generated themes, this chapter discusses how the factors interact with each other and work in coordination to affect development. Sullivan and Fullilove (2003) described the Bronfenbrenner work (in addition to Engel’s work) as:

“frameworks for solving problems by gathering appropriate data in an efficient manner, acknowledging the challenge of the unknown, refusing to accept inappropriate limits of possibly important information, and setting problems in their real-world contexts” (359).

For the purpose of this study, the information presented in this chapter guides the process to identify and explain the main factors used in the Qualitative Comparative Analysis (QCA) to understand the conjunctural pathways to violence. Because this dataset
is susceptible to the issue of selecting on the dependent factor, this and the next chapter aim to focus on the defining characteristics, themes, and patterns that differentiate the individuals in the dataset as opposed to comparing them to non-deviant individuals. For example, while work strains may be a contributing factor that helped to develop the foundation for comparison and understand relationship between these factors and event outcomes in the study, it does not suggest that all individuals in the United States who experience work strains will go on to commit a violent act at their place of employment.

As such, the theoretical framework and the analytic process aim identify the frequency of common multilevel themes using inductive, grounded theory to examine the emergent patterns from the data. Given the vast possibilities of contributory factors that might affect the decision to commit large-scale acts of violence, it essentially becomes necessary to parse out the most prevalent and important factors at each level.
Table 6.1. Frequency of all emergent multi-level factors from qualitative data.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MACRO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failed gun laws/loopholes</td>
<td>22</td>
<td>8.76*</td>
</tr>
<tr>
<td>Media influence</td>
<td>1</td>
<td>0.40</td>
</tr>
<tr>
<td>Mental health policies</td>
<td>20</td>
<td>7.97*</td>
</tr>
<tr>
<td>Pursuit of success</td>
<td>102</td>
<td>40.64*</td>
</tr>
<tr>
<td>National economics</td>
<td>5</td>
<td>1.99</td>
</tr>
<tr>
<td><strong>EXO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditions</td>
<td>22</td>
<td>8.76*</td>
</tr>
<tr>
<td><strong>MESO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>33</td>
<td>13.15*</td>
</tr>
<tr>
<td><strong>MICRO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abused</td>
<td>11</td>
<td>4.38</td>
</tr>
<tr>
<td>Self-reported bullying</td>
<td>5</td>
<td>1.99^</td>
</tr>
<tr>
<td>Employment problems</td>
<td>57</td>
<td>22.71**^</td>
</tr>
<tr>
<td>Family</td>
<td>82</td>
<td>32.67*</td>
</tr>
<tr>
<td>Financial troubles</td>
<td>33</td>
<td>13.15**^</td>
</tr>
<tr>
<td>Individual success</td>
<td>19</td>
<td>7.57^</td>
</tr>
<tr>
<td>Relationship problems</td>
<td>13</td>
<td>5.18^</td>
</tr>
<tr>
<td>Failure</td>
<td>137</td>
<td>54.58*</td>
</tr>
<tr>
<td><strong>INDIVIDUAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fascination with other shooters</td>
<td>8</td>
<td>3.19</td>
</tr>
<tr>
<td>Prior police contact</td>
<td>63</td>
<td>25.10*</td>
</tr>
<tr>
<td>Prior violence</td>
<td>50</td>
<td>19.92*</td>
</tr>
<tr>
<td>Racist or prejudicial behavior</td>
<td>11</td>
<td>4.38</td>
</tr>
<tr>
<td>Suicidal</td>
<td>43</td>
<td>17.13*</td>
</tr>
<tr>
<td>Terrorist/radical ideals</td>
<td>10</td>
<td>3.98*</td>
</tr>
<tr>
<td>Non-citizen status</td>
<td>11</td>
<td>4.38</td>
</tr>
<tr>
<td>Warning signs</td>
<td>63</td>
<td>25.10*</td>
</tr>
<tr>
<td>Substance use</td>
<td>13</td>
<td>5.18</td>
</tr>
<tr>
<td>Video games</td>
<td>6</td>
<td>2.39</td>
</tr>
<tr>
<td>Mental illness</td>
<td>140</td>
<td>55.78*</td>
</tr>
</tbody>
</table>

*More than 20 individual observations (approximately 8%)
^Discussed in Macrosystemic factors

Prevalent Factors

The following sections discuss each of the most prevalent factors and themes as they appeared in the literature. If there were more than 20 shooters who presented these
specific characteristics or experiences, they are discussed below. While the following
sections discuss some of the factors in reference to their classification among the
Bronfenbrennerian levels (e.g. gun laws as a macrosystemic factor), others may be
relevant to multiple levels or, depending on the root causes or influences, be classified on
different levels depending on the individual circumstances.

Thus, the sections below describe in further detail the multiple levels outlined by
Bronfenbrenner (1989, 1977) to provide a framework for understanding how they affect
the development of the individuals. Thus, the sections below describe in further detail
the multiple levels outlined by Bronfenbrenner (1989, 1977) to provide a framework for
understanding how they affect the development of the individual. Yet, two of the most
prevalent factors will be discussed across multiple levels to offer the best explanation of
their complexity and multilevel nature. Three of the factors—mental illness, abnormal
behavior, and failure—may be initially be considered individual or microsystemic
factors. However, upon closer examination, they may also be affected by other influences
at multiple levels. As such, it becomes necessary to examine all the levels to identify the
ways in which these factors are classified and evaluated.

First, individual factors play an invaluable role in understanding the Process-
Person-Context-Time model as outlined by Bronfenbrenner (and later clarified by Tudge,
Mokrova, Hatfield, & Karnik, 2009). While the notion of ecological systems, and
interactions, and processes are the heart of the theory, the person is, invariably, at the
center of and present in these connections and exchanges.

In his later work, Bronfenbrenner and Ceci (1994) discussed the notion of
heritability, highlighting the level of variance in behavior as a result of genetic variation.
Bronfenbrenner essentially admitted that there are, in fact, individual differences that an individual brings to the interactions he experiences with those in his microsystem (which in turn affect the quality of the other multilevel relationships and effects). Heritability explains individual differences and acknowledge that even “conditions and processes in the environment can influence substantially the degree of heritability” (Bronfebrenner & Ceci, 1994, p. 570). These individual traits can be nurtured, hindered, or developed in the context in which they occur, and affect the person who is present in all levels of the categories in active or passive ways.

Through these individual traits and features including demand, resource, and force characteristics that make the person unique, he, in turn, affects and is affected by the context in which he develops. Bronfenbrenner (1989) aptly describe this in clear detail when he described a frame of reference for conceptualizing these properties. More specifically speaking, Bronfenbrenner (1989) described one of his later workings of the theory as such:

“…the orientation takes as its point of departure a conception of the person as an active agent (italics in original) who contributes to her own development. Correspondingly, personal characteristics are distinguished in terms of their potential to evoke response from, alter, or create the external environment, thereby influencing the subsequent course of the person’s psychological growth” (203).

As such, it becomes necessary to evaluate the individual characteristic patterns and themes that emerged in this research.

Yet, while certain themes and patterns that emerged from the data may be considered individual-level characteristics may also be categorized on other levels depending on their root causes, influences, and development over time. The following
sections discuss these factors while also outlining the various scenarios that may affect their classification on different levels.

**Mental illness and treatment.** The policies and procedures surrounding mental illness will be discussed later in this chapter as macro-level factors affected treatment and responses to potentially dangerous individuals. However, at the most fundamental level, mental illness and treatment affect the ways in which the shooters interacted with their families, friends, and the environment around them.

In the dataset, mental illness was one of the most prevalent factors that arose when examining the individual level factors. This mental illness categorization also included those 43 shooters who exhibited suicidal ideations or tendencies through verbal or written communication, as such self-destructive and self-harming tendencies are often indicative of underlying mental illnesses including depression, psychotic experiences, bipolar disorder, and schizophrenia (Subica, Allen, Frueh, Elhai, & Fowler, 2016; DeVylder & Hilimire, 2015).

The initial coding of the data led to four possible outcomes: 1.) no history or presentation of mental illness mentioned; 2.) presentation of symptoms that may have been indicative of mental illness but no formal diagnosis either before or after the attack; 3.) formal diagnosis before attack; and 4.) formal diagnosis after attack. Table 6.2 presents the distribution of the data as it appeared in the qualitative data.

**Table 6.2. Mental illness among shooters.**

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No mental illness</td>
<td>111</td>
<td>44.22</td>
</tr>
<tr>
<td>Symptoms w/o diagnosis</td>
<td>77</td>
<td>30.68</td>
</tr>
<tr>
<td>Diagnosis before attack</td>
<td>36</td>
<td>14.34</td>
</tr>
<tr>
<td>Diagnosis after attack</td>
<td>27</td>
<td>10.76</td>
</tr>
</tbody>
</table>
As a binomial variable (either mental illness present or not present), 140 shooters (44.22 percent) presented with some type of symptoms mental illness and/or a diagnosis. The cumulative percentage of those who presented with symptoms or had an official diagnosis is 55.78 percent, representing the majority of shooters.

While the risk for mental illness may be affected by genetic or inherited risk factors, it is not solely born of genetically-based problems. Rather, it can also be considered a result of biosocial functions, and thus must be examined as a multi-level factor. Not only does it affect the individual through heritability and genetic variation as Bronfenbrenner and Ceci (1994) described, but it can also be affected by the environment. These traits are bi-directional in influence, as they affect the way the individual interactions with, perceives, and develops in his environment while also affected the ways in which others in his microsystem and other systems interact with him.

For example, if a high school student were genetically at risk for depression and anxiety, the presentation of mild symptoms could affect his interactions with his peers, teachers, family members, and social groups. Thus, if he appeared nervous, awkward, or uncomfortable in social situations, he may be ostracized by his peers or excluded from groups and activities which may, in turn, exacerbate his symptoms. This may, as Bronfenbrenner (1989) describes, “influence the subsequent course of the person’s psychological growth” (203).

In this sense, then, mental illness may potentially be considered an individual-level variable as it does, in some sense, represent traits and features like resource characteristics that affect the person’s interactions and environment. Yet, through these interactions, the relationships in the microsystem may similarly affect the ways in which
the mental illness progresses as a result of psychological growth, biosocial functions, and other multi-level influences. If we look to specific examples among shooters in the dataset, we see a wide range of symptoms and mental illnesses as they affected the individuals and how they interacted with their environment.

For adults, their behavior often alarmed those they knew including coworkers and spouses. Many of the shooters experienced paranoia and delusions. Edward Charles Allaway believed that “a group of homosexual men in the bathroom had tried to kill him and that his wife had been recruited to appear in pornographic movies being shown in the library basement” (Hardesty, 2006, para. 17). Sergei Babarin believed that his son, who was actively trying to get him help for his symptoms of mental illness, was a spy for the CIA (Brooke, 1999). And Russell Weston believed that everyone, including the government, was out to get him (Murphy, 1998a). While loved ones often struggled to get them help and treatment, despite the policies that prevent involuntary commitment in the absence of an imminent threat, their paranoia affected their relationships and ability to work and function at a high level.

Other shooters exhibited signs of personality disorders, bipolar disorder, or antisocial tendencies. As one reported described, “[Abdelkrim Belachheb] was also a narcissistic sociopath and an all-around failure in life who blamed his problems on everybody but himself” (Floyd, 2014, para. 6). Steven Kazmierczak had been diagnosed with anxiety, depression, and bipolar disorder and had often refused to take his medication (Stambaugh, 2008). And Barry Loukaitis had been diagnosed with bipolar disorder after his attack, which was unsurprising given that it had afflicted prior generations of the family (Andersen, 1997).
Often for juveniles and young adults who demonstrated signs of mental illness, it often affected their performance in school, interaction with peers, and relationships with parents. Their parents or school officials may have sought to get them help, as in the case of Brenda Spencer. She told a reporter, “A month before I was arrested, my [high school] counselor took me to see a psychiatrist” (Daly, 2014, para. 70). Jamie Wilson had displayed aggressive, violent tendencies, and his mother had been forced to hospitalize him multiple times until his insurance expired (Gormley, 2006). Mitchell Johnson had been self-mutilating, cutting his own arms with a knife in the time before his attack (Koon, 2008).

One important point to note is that there is a distinction between many of the shooters in the timing in which they were diagnosed. While some displayed symptoms of mental illness before their attacks, they may not have been formally diagnosed. Some, including Michael Carneal, Dylan Klebold, and Wayne Lo, exhibited problematic behavior or had raised concerns, but they did not receive the treatment or attention that they needed to address the problems. Others, such as Laurie Dann, James Eagan Holmes, Steven Kazmierczak, and Joseph Wesbecker, had been diagnosed and offered medication, but they may have failed to follow up on treatment or take their medication as prescribed. And many of the shooters were diagnosed after they perpetrated their attacks. These shooters, which included One Goh, Jared Loughner, Jeff Weise, and Andrew Wurst, may certainly have displayed symptoms or problematic behaviors but did not receive a formal diagnosis until after the attack. Some may wonder, though, if these diagnoses may have served a secondary purpose in the shooters’ defense.
**Abnormal behavior.** Though violent behaviors are often perpetrated against those in the microsystem of the individuals, their behavior may be indicative of other such individual traits such as temperament or attitude. Such behaviors highlight important interactions with microsystemic players such as family members, coworkers, neighbors, or police. Yet, the driving force behind many of these may be deep-rooted behavioral issues that are representative of the force or resource characteristics that Bronfenbrenner illustrated.

As previously discussed, abnormal behavior may have been rooted in mental illness. However, in the absence of a diagnosis, the behaviors may be indicative of abnormal traits. These resource and demand characteristics may often represent the access to mental and emotional resources as well as genetically heritable traits like temperament. Others may be influenced by microsystemic influences such as motivation or persistence, but they are uniquely representative of the individual and offer insight to the developing person and the ways in which he interacts in microsystemic relationships. The examination of this factor, behavior, as it is described below, focuses not on the interactions with others, but with the problematic, deviant behaviors and responses that may have shaped their interactions with others in the context of other multilevel variables. This factor is an overarching characteristic that combines the themes of violent outbursts, contact with the police for drug offenses or domestic disturbances or violence, and warning signs (such as threats) of their future violence. While Table 6.3 presents the

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1 Bronfenbrenner (2001) established three types of individual traits of an individual: demand, resource, and force. Demand characteristics are immediately obvious, physical stimuli, such as age, weight, race, etc. Resource characteristics, are those “that relate to mental and emotional resources such as past experiences, skills, and intelligence and also to social and material resources” (Tudge, Mokrova, Hatfield, & Karnik, 2009, p. 200). Force characteristics are “those that have to do with differences of temperament, motivation, persistence, and the like” (200). In his 1989 writing, he referred to these as developmentally-instigative characteristics. For further reading on these types of characteristics, see Tudge, Mokrova, Hatfield, & Karnik, 2009 and Bronfenbrenner, 2005, 1989.
frequency of each of these themes, Table 6.3 below offers the binomial presentation of abnormal behavior as defined by reported warning signs, prior police contact, or prior violence.

Table 6.3. Abnormal behavior among shooters.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not reported</td>
<td>133</td>
<td>52.99</td>
</tr>
<tr>
<td>Reported</td>
<td>118</td>
<td>47.01</td>
</tr>
</tbody>
</table>

Though many of these were, in fact, interactions, observing them through the lens of an individual engaged in violent behavior as a result of an angry temperament or unhappy or relatively abnormal demeanor, these actions provide an insight as to the role of the individual in context with those around him. In this section, I present evidence that temperament, behavior, and responses (and often violence) are individual level factors that affected microsystemic relationships and interactions. Bronfenbrenner (1989) presents evidence to support this when he asserted, “…a scientifically more rigorous and productive approach would be one of viewing temperament in context; that is, examining the systematic variation across context and method as a defining element of the individual’s characteristic pattern of differential response to varying types of environments” (214). These behaviors, especially in context, shape the quality of the relationships and the interactions with other multilevel factors and affect the effects of the person on environment as well as environment on person.

Many of the shooters exhibited problematic behavior prior to their attacks. Incidents of particularly alarming violence included Kenneth Bartley stabbing his principal in the hand with a pencil (Associated Press, 2005); Dr. Amy Bishop punching a woman in the head at an IHOP and later killing her brother with a shotgun (Dewan, Saul,
& Zezima, 2010); Mark Hilbun assaulting another postal worker with a bag of rabbits (Lynch, 1994); and Mitchell Johnson molesting a female toddler while living in Minnesota (Bragg, 1998). Other incidents included choking a fellow student, felony strangulation, and driving a tank over someone’s car. Often these events were addressed by police and resulted in charges, jail time, or probation. However, they were not enough to prevent the individuals from continuing their violent behavior and obtaining weapons.

Many of the shooters, including Jerry Lee Adams, Larry Gene Ashbrook, John Bedell, and Lamar Deshea Moore had interactions with the police for minor drug charges such as possession or distribution of marijuana. Others, like Sergei Babarin, Thomas Cowan, and Patrick Purdy had more serious offenses such as weapons charges.

Often, the violence that the shooters displayed was related to domestic disputes that resulted in restraining or protective orders. The women who were victims of these attacks were typically the targets of the future attacks. Bradford Baumet had allegedly raped his ex-girlfriend, threatened her life, and assaulted her resulting in a required appearance in court for domestic violence. He attacked the salon where she worked on the day she was to appear in court (Daily Mail Reporter, 2012). As Ian Stawicki’s girlfriend described,

“…he began flying into a violent rages (sic)…In February 2008, she came home to find [him] smashing more than $1,000 worth of belongings, including her computer monitor and vinyl-record collection. When she tried to call 911, ‘All of a sudden (sic) I was on the ground and my nose was bleeding,’ she told police” (Martin & Sullivan, 2012, para. 26).

Others like Charles Lee White and Christopher Williams had assaulted and made threats against their significant others resulting in restraining orders and police contact.
Many of the shooters offered warning signs prior to their attacks, primarily in the form of verbal threats. Though they may have seemed like empty words, their ominous threats served as foreshadowing for their later attacks. Andres Casarrubias reportedly told his wife, “…the day you betray me, it’s going to cost you dearly…You should get far away because the day will come where I will find you, and things will change” (Burstein, 2003, para. 20-24). Others, like Maurice Clemmons, clearly warned of their actions in detail. He told his friends, “‘Watch TV tomorrow; I’m going to shoot some cops’” (Yardley, 2009, para. 2).

The school-age students in the dataset often informed friends before their attacks. They threatened to blow up the school, stab everybody, and offered lists of those students they wanted to kill. The majority of students who heard these threats did not report their concerns to teachers, administrators, or parents. Mitchell Johnson and Andrew Golden “bragged that they were going to get even with other children, even killing them, [but] no one took them seriously” (Bragg, 1998, para. 37). Mitchell even explained their plans to others, as Bragg (1998) reported:

“Candace [his girlfriend for three days until they broke up several weeks before the shooting], like all the other students, thought he was just talking big again when they heard he had put together a list of students he planned to kill. Two students said he told them he was going to shoot Candace first, then everyone else in the building. Again, they ignored him” (para. 40).

Other teenagers, like Kip Kinkel, Michael Carneal, and Dylan Klebold wrote about their plans and their anguish, but those were only discovered or viewed upon with concern after the attack. Their writings described their sadness, preoccupation with death and violence, and recipes for bombs and Molotov cocktails.
Individual factor conclusion. Overall, these individual factors affect the ways in which the developing person interacts with the environment around him. These particular traits, mental illness and behavior, dictate and guide the interactions that he has with others as they work in conjunction with other factors at varying levels. The traits may be inherited through genetics or be as a result of chance, but in either case, they provide a foundational understanding of the individual as a developing entity that exists amongst the hierarchy of levels as they occur in time. These factors highlight the “Person” piece of the Process-Person-Context-Time model that Bronfenbrenner (1989) outlined.

Understanding the individual and what he brings to the developmental process allows us to better understand the ways in which other factors affect him and how they interact in the context of the individual traits and the presence of relationships and influence. We continue with the notion of the individual engaging in face-to-face interactions with individuals in the microsystem.

Microsystemic Factors

Of the myriad of information written about the shooters, the majority was written about the microsystemic level factors that described their lives, their families, and their experiences that were guided by individual level factors such as mental illness or a violent demeanor. While there was a wealth of information, there were two clear themes and patterns that emerged from the data. Specifically, the data highlighted failure and family.

Bronfenbrenner (1989) stressed the importance of face-to-face settings in which activities and interpersonal relations occur at the microsystemic relationships. More specifically, he added that the microsystem “[contains] other person with distinctive characteristics of temperament, personality, and systems of belief” (Bronfenbrenner,
For these reasons, it becomes imperative to understand the ways in which the interactions occur at this level.

Essential to the understanding of this section (and this chapter as a whole) is the reminder that these factors are not used as a part of a causal analysis. Because the data set has been created by the selection on the dependent variable, this is simply an inductive method of understanding the pathways to deviant, extreme violence. These factors may affect and afflict many members of American culture. Millions of Americans may suffer from microsystemic problems like familial troubles or failure at work, school, or relationships. However, these factors are outlined and described as part of a larger picture that represents the nested, hierarchical model that Bronfenbrenner outlined. These are not singular factors, but rather ones that occur in the context of other relationships, conditions, and settings. These are certainly not causes of violence, but instead, they may be clues as to what pairing or conjunction of factors may create a pathway toward violence.

In addition to simply describing the two themes that arose from the qualitative data, this section addresses the qualities of the relationships with those in the microsystem and addressing the microsystemic factors that also often serve as chronosystemic, major life events that occur over time and interrupt and affect relationships. The microsystemic factors alone are representative of the relationships with people such as family, coworkers, or peers. However, in true Bronfenbrennerian, interactive form, the relationships with the players in the microsystem (particularly failure and discord) often resulted in what proved to be major life events. In an even further interconnected layer, this microsystem to chronosystem relationship is rooted in
the macrosystem notion of the American pursuit of success (to be discussed later in the chapter). The interwoven, interactive nature of these relationships highlight and emphasize the foundations of the Bronbrenbrennarian model and show how multiple levels work together and interact to affect development. This section describes the themes from the qualitative data as well as offers examples that outline the diversity among the themes.

**Failure.** Social, academic, and professional failure played a significant role in understanding what may have triggered the events. Combined with the other multilevel factors, failed or tumultuous relationships or endeavors in the shooters’ lives may have contributed to the decision to commit their acts of violence. Table 6.4 presents the frequency of such failure as it was reported in the qualitative data.

*Table 6.4 Reported failure in the shooters’ lives.*

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not reported</td>
<td>114</td>
<td>45.52</td>
</tr>
<tr>
<td>Reported</td>
<td>137</td>
<td>54.58</td>
</tr>
</tbody>
</table>

Though failure in this sense often occurred at the microsystemic level, academic, professional, social, or relationship problems may also create problems or stigmas on multiple levels. For example, microsystemic conflict would lead to the termination of an employee. As a result, he may engage in some type of criminal activity to cope with the loss of his employment or to make up for lost wages. In this sense, he would be affected by mesosystemic relationships between other employees and his boss or exosystemic influences like future employment or incarceration.

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For some shooters, the failure may have come in the form of academic or professional failure. They may have been laid off or fired from their jobs (often due to their own shortcomings), but this may have been a serious blow to their own perceptions of worth as a provider, as a member of society, or as someone who hopes to succeed. For Jim Adkisson, his frustration stemmed from his inability to find a job. He had applied for and sought out employment, but he was still unemployed at the time of his attack. He also had received a letter prior to the attack informing him that his unemployment benefits were to be reduced or eliminated (CNN, 2008). Michael Julius Ford had been passed over for a promotion at his warehouse (Sanchez, Eichmiller, & Cardona, 2006); Louis Kinyon had been suspended for material found on his computer at work (Hyde, 2005); and Stephen Leith, a science teacher, had been reprimanded for making inappropriate remarks about a female student (Shellenbarger, 2013). Other narratives tell the similar tale of the proverbial disgruntled employees who are fired for minor infractions or are treated unfairly.

In the academic sense, failure can come in the form of failing a class (typically seen at the high school level) or being passed over for awards and attention at the graduate level. For many of the graduate students in the dataset, the idea of failure, especially when they had spent a life achieving success, seemed like a wounding blow to
their intellectual ego. For Gang Lu, who was one of China’s most advanced students in physics, the attention and commendations that a rival student received proved to be too much to bear. Robert Flores, an adult student at the University of Arizona, “was on the verge of flunking out of the nursing program and chose to take retribution on the teachers who gave him failing grades” (Broder, 2002, para. 3).

Other aspects of failure include social failure. Either regarding friends or romantic relationships, many of the shooters failed to meet traditional expectations of socially accepted norms. In the case of romance, the individuals often tried desperately to salvage their relationships, many times with violence or stalking. These incidents were reported to police as domestic violence or assault and battery. The themes of breakups, separations, and divorces were evident throughout many of the cases.

Bradford Baumet perpetrated his attack at the salon where his estranged girlfriend worked on the day she was to appear in course for a domestic violence case (Daily Mail Reporter, 2012). Cesar Chaparro-Vielma followed his estranged wife and her new boyfriend to a nightclub where he opened fire on them and others (Associated Press, 2011). And Richard Farley, after a coworker who was object of his obsessive affection spurned him, opened fire at their office, killing seven and injuring four.

Notably, George Sodini, who attacked a gym and shot three and injured nine (all women), experienced frustration at his inability to get women’s attention. As he wrote in his online diary:

“Women don’t like me. There are 30 million desirable women in the US (my estimate) and I cannot find one. Not one of them find me attractive” (Armas, 2009, para. 1).
Similarly, Gang Lu made every effort to integrate himself into the dating scene, spending many nights at the local college bar, but with no luck. As Chen (1995) wrote, “His inability to connect with women drove Lu to pornography. He began accumulating stacks of hard-core magazines” (50).

Another potential area for failure involved friendships, especially at the high school level. While many (but certainly not all) of the shooters were described as being loners, some of the individuals in the study had found friends or at least had tried to form friendships. Perhaps one of the most telling descriptions of this could be exemplified in Michael Carneal: “What he lacked was a crowd of his own. He was a fringe figure in a number of groups (e.g., band) but was central to none” (NRC, 2003, p. 137). Others had few friends (and little desire to make new ones) and at times, the friends they made tended to be those whom others may have also labeled losers or problematic. A classmate described John Romano and claimed, “He just became more of a freak…He was depressed and he just didn’t care because he lost all of his friends” (Santora, 2004, para. 17).

In addition, a neighbor described Kevin Cruz as “kind of a loner. He came and went at all times, [and] lived with his mother” (Murphy & Marshall, 2000, para. 14). Others recount similar stories about shooters such as John Romano, Jamie Rouse, Robert Benjamin Smith, and Patrick Sherrill. No one knew of any friends these men may have had, and they note that it was often difficult for them to make friends and associate with people. Whatever the reason for their shyness or inability to socialize, One L. Goh described it as being a personal shortcoming: “‘But I’m a loner,’ Goh [said]. ‘I do not
have the skills to deal with other people. I cannot do things that other people can do…My entire life I cannot do things other people do” (Kang, 2008, para. 8).

Overall, failure proved to be a major theme across microlevel factors and individual cases. At times, if the failure seemed to be so large that they ceased to care about the consequences because there was nothing, in fact, to lose. The failures also may have created the need to exact revenge and exemplify power, success, and resilience against those who had wronged them. Adjustment to and acceptance of failure may also be shaped and affected by face-to-face interactions with family members, who ideally teach their children to work through failures and demonstrate resilience and strength.

**Family.** The notion of family proved to be a strong theme throughout the data, though there was a wide range of diversity in the relationships that the shooters had with their families. Table 6.4 below highlights the differentiation between reported family information. Reports of quaint families, loving relationships, or caring behavior between the shooters and their family members (e.g. siblings, parents, spouses, etc.) were coded as “reported stable,” while problematic relationships or stressful family conditions were coded as “reported unstable.”

**Table 6.5. Reported family circumstances.**

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported information</td>
<td>169</td>
<td>67.33</td>
</tr>
<tr>
<td>Reported stable</td>
<td>39</td>
<td>15.54</td>
</tr>
<tr>
<td>Reported unstable</td>
<td>43</td>
<td>17.13</td>
</tr>
</tbody>
</table>

According to a friend, Shareef Allman, who was an active member of the church and a loving father of a 17-year-old daughter, “…came out of a family where there was some abuse between the mother and father” (Romney, 2011 para. 8). Yet for other shooters, there were cases of problematic behavior in the home such as in the case of Asa
Coon. News articles reported that he lived in a working-class neighborhood, and the police had been to the house multiple times for incidents of domestic violence, assault, and property crimes (Bazar & Bello, 2007). Similarly, Thomas TJ Lane “struggled with a broken family and did poorly in school” and had to come to terms with his father’s imprisonment for assault (Associated Press, 2012, para. 1).

Other shooters came from seemingly quaint families. Michael Carneal was “the son of a respected attorney and a homemaker and brother of one of the school’s valedictorians” (NRC, 2003, p. 132). Laurie Dann (nee Wasserman) grew up in an affluent suburb of Chicago and had a presumably comfortable, normal childhood with her father, an accountant, and her mother (Papajohn & Kaplan, 1988). Cobb, an adult, was married and had a child. Other shooters like Andrew Engeldinger, James Eagan Holmes, and Dylan Klebold also came from families with two seemingly loving parents who were successful, middle-class providers for their children (Biography, n.d., Associated Press, 2012).

Though many of the shooters had problems with romantic relationships as previously discussed, others had happy marriages and children, such as Hesham Mohamed Hadayet. As the Associated Press reported, “[he] emigrated to California from Egypt 10 years ago with his family. His wife said their family had been happy in the United States, had good relations with their American neighbors and planned to settle there permanently” (Associated Press, 2002, para. 11). Alexander Lett was apparently happily married with a wife and three children when he opened fire on his coworkers at a shipyard (Nelson, 2005). And Charles Carl Roberts, who attacked an Amish school, was
described as “a steady worker, a devoted father, and the kind of husband, his wife would recall later, who never said ‘no’ to helping her change a diaper” (Bovsun, 2014, para. 1).

Of all the factors discussed in this chapter, this is the most perplexing. The paradox presented here of two drastically different factors – the troubled family and the “normal” family – can both lead to violent behavior leaves us with potentially more questions than answers. Though we may not necessarily be able to explain it satisfactorily within the constraints of this dissertation, we face three possible explanations. First, we can hypothesize that there may have problems in the home that would have contributed to problematic development. In this instance, the family would have, in some way, produced strain or conflict that—in the context of other multilevel factors—would have affected the individual and his development.

Another possibility may be that there were no problems in the family or the home that would have created microsystemic problems or conflicts. Other non-familial relationships may have created strain or difficulty that worked in conjunction with other factors at varying levels to affect development and lead to problematic behavior or deviance.

Lastly, the family may have not have played a role in addressing individual abnormal traits and behaviors, as sometimes characteristics do not manifest in the time prior to the incident. For example, if an individual were grappling with mental health issues, but he did not necessarily display signs or symptoms in such a way that the family was aware, they would not necessarily have had the opportunity to address the issues and therefore are something of a non-issue when addressing microsystemic factors.
Ideally, future research will examine the role that family plays in the development of active shooters, especially in the context of other multilevel, hierarchical factors.

**Microsystemic factor conclusion.** Of the information available about all of the shooters, these two factors, failure and family, play an important part of the Process-Person-Context-Time model. The face-to-face interactions between the individual and his microsystem allow us to understand the ways in which these relationships affect his development. Academic, professional, or social failure can serve as an indicator of troubling relationships that may have been a trigger, or at the very least a strain, that affected the individual’s sense of purpose or success in life. Familial relationships may have been seemingly normal or dysfunctional and troubling, but those interactions may have influenced development, particularly in conjunction with other multilevel factors, as we will see in the coming sections of this chapter.

These individuals in the microsystem also become an important part of understanding the interactions that occur not just with the developing person, but also with each other as a part of the mesosystem.

**Mesosystemic Factors**

The mesosystemic factors that arose in the data often pointed to relationships and communications. As Bronfenbrenner continued to revise and develop his developmental theory of ecological systems, his notion of the mesosystem remained unchanged. In short, the mesosystem is a system of microsystems. Thus, the interaction does not directly contain the developing person, but rather describes the relationships between parties in the individual’s Microsystems, such as family members, school employees, police, or employers. The vast majority of the information and the prevailing pattern through the qualitative analysis was the lack of communication between individuals and parties who
were in the shooters’ microsystems. This overall theme of lack of communication can be considered a “master factor,” with smaller examples from the data listed within this section.

**Lack of communication and action.** One of the most persistent mesosystemic themes that emerged during qualitative analysis was the notion of failed communication between microsystemic parties. In this sense, the absence of information sharing and interaction, especially when the individuals may have been posing a threat to themselves or others, created a gaping hole in the chain of communication. Often, for any number of reasons, people in the shooters’ lives were unaware of prior incidents of violence or warning signs that should have been communicated by others. Table 6.6 shows the frequency of reported faults in communication issues. Incidents were coded as “communication problems” if there was documented evidence that individuals aware of potential warning signs failed to communicate their concerns with others who may have been able to assist the shooter or prevent the attack.

**Table 6.6. Lack of communication between microsystemic individuals in the shooters’ lives.**

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>Communication problem</td>
<td>32</td>
<td>12.80</td>
</tr>
</tbody>
</table>

**Police.** In the case of Dr. Amy Bishop, her brushes with the law and violent outbursts were never communicated to her employer, the University of Alabama at Huntsville. The police, who never charged her with crimes in the shooting death of her brother or when she was questioned in a mail bomb incident, were not able to or did not communicate these concerns with the university at which she was employed. Had her colleagues and superiors known, they may have addressed her non-tenure hearings differently and not been the location for her rampage attack.
In another case of police inaction in mesosystemic communication, the local police had knowledge that Eric Harris had the potential for violence because he had threatened his friend, Brooks Brown. When his parents turned the information over to the authorities, “[the] police did not notify the juvenile court magistrate supervising the burglary case of Harris and Klebold” (Achenback & Russakoff, 1999, para. 16).

In the case of Robert Wissman who opened fire at his place of employment in Goshen, Indiana, “victims and their family members said they were angry with police because an officer allegedly told the caller that there was nothing police could immediately do about Wissman’s threats” (Wallberg & Mendell, 2001, para. 7). Had police investigated and acted on this information, they may have found that he had been encouraged to seek out psychiatric counseling and had not slept for days.

*Mental health providers.* While the police may have had an obligation to report to people who may have been in danger, so, too, do healthcare providers have a responsibility to report to the police. In the case of Joseph Brooks, he gave his therapist (who was ultimately his final target) a 52-page manuscript with hints of violence and ill will. Combined with the fact that he had turned over a gun to another therapist in the practice and confessed that he thought of killing his girlfriend’s mother and himself, the therapist should likely have notified the police. However, this breakdown in mesosystemic communication allowed for Joseph Brooks to return to the office to kill two and injure four. The police noted that they would have confiscated Brooks’s weapons had they know about the threats (Goodstein & Glaberson, 2000).

Additionally, those who treat and address the needs of the mentally ill must communicate with each other. In one of the most egregious oversights in the dataset, the
breakdown in communication between institutions and organizations led to Seung-Hui Cho’s perpetration of the Virginia Tech attack. A judge who declared him mentally ill ordered him to receive treatment, however, no one followed up to ensure that it happened, including the court, the university, or community services. Though, again, this is not the sole reason that Cho committed his rampage, but one must wonder what may have happened had he received the treatment he so desperately needed.

*Employers.* The issue and responsibility does not always lie with police, though. In one instance, a postal worker felt that he was the victim of racial discrimination at the workplace. The president of the local NAACP chapter had received multiple complaints from one branch of the postal service. The organization contacted the office, and

“In their letter, the black supervisors told the head of the Milwaukee district postal service that there was ‘a ton of pent-up hostility ready to explode.’ Soon after the letter was received…the four complainants were demoted and told that their letter was seen as threatening” (Associated Press, 1997, para. 9).

This highlights one of the major issues created by the importance of mesosystemic relationships. Even in cases in which there was communication, if it did not produce positive outcomes or results (or in this case produced a negative result), the outcomes were just as deadly. While the intent here should have been collaboration to improve a potentially dangerous situation, the supervisors acted in such a way that it helped to create an environment rife for violence.

In yet another communication breakdown, those who knew Nidal Malik Hasan “[questioned] not only [his] abilities as a psychiatrist, but also his loyalty to the country” (Shane & Dao, 2009, para. 31). However, news articles state that it is unclear if anyone reported those concerns to Army officials. Had his superiors known about his co-
workers’ concerns, they may have investigated him enough to potentially prevent his rampage which ultimately killed 13.

**Mesosystemic factors conclusion.** The lack of communication between parties in the individuals’ microsystems highlights the ways in which mesosystemic failure may have contributed to violent outcomes. Those who had face-to-face interactions with the developing person may have seen warning signs or had knowledge of potential violence. Yet, for any number of reasons, they did not share this information with others so that it could be properly investigated. Police, employers, mental health providers, and parents had the opportunity to alert others in the microsystem, but they chose to keep this information to themselves or not act upon it despite the urgency or the potential for harm. Though it is impossible to know for certain that adequate information sharing would have prevented tragedy, in coordination with other multilevel factors, the lack of communication between microsystemic players created a scenario in which an active shooting event could occur.

Just as mesosystemic relationships work together to indirectly affect the individual, so, too, does the exosystem. The next section explains the ways in which a microsystemic factor interacts with outside influence to create conditions or settings in which the developing person, affected by other multilevel variables, could become an active shooter.

**Exosystemic Factors**

This section outlines the emergent themes that arose in the qualitative analysis of the exosystemic factors. Exosystemic factors are those affect the immediate settings in which the person is found, but do not necessary affect them directly. Often, this describes the workplace, the school, the family, or the neighborhood.
Like the mesosystem, this system has remained unchanged throughout the ongoing development of the theory. One of the more important, often overlooked aspects of this level is the emphasis of interactions of two or more settings. As Bronfenbrenner (1989) writes, “one of [the settings] does not ordinarily contain the developing person, but…events occur that influence processes within the immediate setting that does contain a person (e.g. for a child, the relationship between the home and the parent’s workplace)” (227). As noted above, then, the workplace, the school, the family or the neighborhood are influential in development, but what places them in the exosystem is the existence of their interactions with another setting.

This level had the least amount of direct references in terms of explaining the shooting, as the vast majority of the articles focused on individual and microsystemic aspects of the shooters’ biographies. However, upon analysis, one can see how these factors could have created conditions under which a shooting could have occurred. This section will describe how processes that involved the developing person and another external setting affected conditions.

**Stressful settings.** The singular theme that arose during the multi-level analysis was the notion of condition. These conditions could have been at the workplace, schools, or environments in which the shooters develop and thus influence their decisions and behavior. For this binomial factor, incidents were coded as “reported stressful conditions” if the individual’s exosystemic environment was described as being a cause for concern or stress in his or her life. Table 6.7 presents the frequency of stressful environmental conditions in the shooters’ lives.
Table 6.7. Frequency of stressful environmental conditions.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported issues</td>
<td>228</td>
<td>91.20</td>
</tr>
<tr>
<td>Reported stressful conditions</td>
<td>22</td>
<td>8.80</td>
</tr>
</tbody>
</table>

Perhaps one of the most clear-cut examples of the exosystemic influence and workplace stress is the post office example. A spokesperson for the Postal Service “acknowledge[d] that the incidence of violence was higher at the Postal Service than at other government agencies, primarily…because postal employees work under especially high-pressured conditions…[They] have deadlines, time limits, time constraints in which to move mail from point A to point B…” (Mydans, 1993, para. 10). The same sentiment was echoed and often blamed in the cases of other postal shootings, including for Patrick Sherrill, Anthony Deculit, Joseph Harris, and Larry Jaison. An increase in workload for each worker with less time to complete the tasks made the environment one in which employees found themselves extremely unhappy. Because of external stress (likely a federal push for increased productivity with less resources and workers), the management became increasingly hostile and less accommodating, and the work simply piled on with little incentive for the workers. This created the two or more setting requirement for an exosystem, as an administrative and authoritative push led to a more hostile workplace and increased stress in the facilities. As Ames (2005) noted about the modern American workforce,

“Today’s workers don’t even need to be treated well in order for companies to squeeze the maximum amount of work out of them and gain the maximum level of self-initiative. In fact, like victims of domestic abuse, the more poorly American workers are treated, the more they work and the less they demands. It is as is they have no dignity left” (112).
Similarly, many of the shooters had experienced a loss of employment either through a direct firing or reductions in force. The workplace notion, especially in blue-collar professions, is that the employees are easily replaceable. Even with the support of unions and a grievance process, the message to many workers is clear. Ames (2005) calls it a “highly atomized corporate culture,” and notes:

“It is no wonder that workplace rage rebellions should take place in the form of one-man suicide missions. If the idea of banding together to fight for something as obvious and vital as one’s own self interest…is frowned upon, then who would consider raising arms with fellow employees to wage an insurrection against the company that oppresses them?” (119).

While the idea of larger corporate America struggling to keep middle- and lower-class employees down resonates in many of the cases, others highlight the adverse effect of tightly knit communities that tend to protect each other. This larger corporate pressure to keep the employees submissive—despite less money, more hours, and an increase in productivity—created conditions in the workplace environment (which directly contained the individual) with the influence coming from a higher power, yet all without ever having interacted directly with the employee himself.

Directly contrary to the adversarial relationship between management and laborers, the role of small, cohesive communities in many of the cases presented the unique problem of not reporting concerns. As Newman et al. (2004) found,

“…the close-knit, small-town nature of the communities where these shootings took place led school personnel to believe that social safety systems were in place as well. If the school didn’t pick up on a warning sign, it was assumed that others in the community would” (117).

The narrative in many cases describe these small towns as being so close that everyone knows everyone else in town. In this sense, the neighborhood as a whole entity that contains the individual grows, develops, and interacts with families and individuals in the
town that may not have access to the child. Yet, their interactions and patterns develop in a way such that the overall conditions in the neighborhood create a sense of secrecy. This may also lead to the problem of not wanting to come forward with a concern, because it may offend the child’s parents or family. Given that the average population of the towns at the time of the attack was 445,571, it is evident that the majority of the attacks took place in small- to mid-sized suburbs or rural areas. As such, it points to the neighborhood cohesion and closeness as an influential factor in reporting and addressing concerns, especially in the case of children. In the case of the “quiet towns,” as they are often called, the actual town and the relationships and conditions that it creates—simply by being so quaint—may affect the ways in which problematic behaviors are addressed.

The pressure and hostility in the workplaces created by two system interactions certainly contributed to the conditions marked by stress, dissatisfaction, and resentment. The push from “big business” or an unseen administrator calling the shots interacted with the management in the workplace to create strain negative exosystemic conditions. As such, it affected the ways in which the individuals interacted with the microsystemic players such as their direct employers, management, and coworkers.

Sadly, though, the hostile nature of the workplace created by exosystemic factors is in stark contrast to the quaint conditions created by neighborhood interactions. It was not, in fact, stress and institutional abuse that brought about problematic exosystemic conditions; rather, it was the desire to maintain the tight-knit nature and peacefulness of the community that often created these conditions. These two, starkly different intended outcomes (increased productivity at the cost of employee happiness versus the closeness
of a community) both led to potentially dangerous conditions and interactions that contributed to a deadly outcome.

**Exosystemic factors conclusion.** The relationships between the microsystemic factors and outside influences (such as corporate America or neighborhood ties) affected the conditions in which the individual developed and reacted in their environment or settings. In conjunction with other factors at various levels, the push for increased productivity at lesser costs created a high-stress scenario for many of the shooters in the dataset. Conversely, though, the quaint nature of suburban neighborhood creates an environmental norm of closeness that ultimately often created an air of secrecy among community members. Such secrecy and the fear of disrupting the peaceful nature of the neighborhood may have contributed to the development of undetected or unreported concerns that may have prevented the violence seen in this study.

These neighborhoods and workplaces existed and developed (and were influenced by the shooter) under the larger influence of the macrosystem. Macrosystemic factors, the larger patterns of culture and American influence, affected the ways in which the exosystem developed and affected the individual in those systems.

**Macrosystemic Factors**

In order to understand the national context in which these events occurred, it became necessary to examine the macrosystemic factors that may have influenced the shooters. As Bronfenbrenner (1977) described it initially, “a macrosystem refers to the overarching institutional patterns of the culture or subculture” (515). He did, however, revisit and revise this idea and reevaluated it as specifically:

“…with particular reference to the developmentally instigative belief systems, resources, hazards, lifestyles, opportunity structures, life course options, and patterns of interchange that are embedded in each of these systems [italics in
The macrosystem may be thought of as a societal blueprint for a particular culture, subculture, or other broader social context” (Bronfenbrenner, 1989, p. 228)

The factors described in this section show the emergent patterns and themes that arose during the qualitative analysis. The five major themes that arose were: the pursuit of success, mental health policies, national gun laws, and technology and the Internet.

The macrosystemic factors are those that “can create or constraint developmental opportunity” (Bronfenbrenner, 1989, p. 288) and offer insight into the setting that may have created and shaped the culture and the environment in which rampage violence occurred. These are organized patterns of phenomena that were essentially staples of American culture during the course of the time period that this data covers. Though each of the themes may not have specifically applied to or directly influenced each of the shooters, they have become the foundations of the American culture that set the stage for the attacks to occur. In order to understand how each individual developed, we must remember that each incident occurred in the context of a larger picture.

**Pursuit of success**. Related to strain as part of the theoretical framework for this study, the American dream and cultural expectations for success play a crucial role in the macro-level conditions of the United States. The pursuit of success, rooted in the tenets of achievement orientation, individualism, and universalism, creates the environmental foundation upon which expectations are created (Messner & Rosenfeld, 2007). Social institutions, including the economy, schools, and family demand success as measured through a varying number of socially accepted markers. While they may be interconnected and affect each other, individually, they each require and almost demand
that Americans find ways accomplish these goals to be considered a contributing part of society, and they assert that all Americans have the opportunity to do so successfully.

Culturally speaking, individuals—and men in particular—are expected to find and keep a job, provide for their families, have friends with whom they can spend their time, and engage in romantic relationships that should typically result in a stable, loving marriage. These are widespread beliefs that are accepted by the vast majority in America, and set culturally recognized expectations. This notion of American success as a cultural staple further assumes that individuals can do this on their own with hard work and determination. Americans are expected to take on these beliefs and achieve their goals through individualism and self-motivation. If a person in the United States can adhere to these goals, he then, theoretically, should be able to find and maintain his financial, academic, professional, and social success.

The data point to any number of cases in which the shooters could not achieve these goals, and their attempts to resolve their problems and obtain their goals were blocked by a variety of obstacles. Largely speaking, the culture in America set the stage for their goals, and individually, the strains that they encountered kept them from finding success. Financially, romantically, and socially, these shooters demonstrated failure in the pursuit of the American dream. This factor was created by merging reported incidents of employment difficulties, relational stresses, financial distress, and social problems. Table 6.8 presents the frequency of strains or problematic incidents that may have impeded the shooters’ pursuit of the traditional American dream.

Table 6.8. Frequency of roadblocks to American dream.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported issues</td>
<td>149</td>
<td>59.36</td>
</tr>
<tr>
<td>American dream roadblocks</td>
<td>102</td>
<td>40.64</td>
</tr>
</tbody>
</table>
Financial troubles plagued many of the shooters. Table 6.9 shows the frequency of reported financial issues.

Table 6.9. Frequency of reported financial issues.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported issues</td>
<td>238</td>
<td>94.82</td>
</tr>
<tr>
<td>Reported financial issues</td>
<td>13</td>
<td>5.18</td>
</tr>
</tbody>
</table>

Nathaniel Brown was fighting foreclosure on his home, Herbert Chalmers’s pay was being garnished for child support payments, John Luigi Ferri was close to filing for bankruptcy, and Johnny Wicks had recently learned that his monthly Social Security payments were reduced. In one particularly notable case, “[Mark] Barton lost $105,000 during 15 days of securities day trading that began on June 9” (Sack, 1999, para. 8). The following month, he typed a confession note, killed his wife and two children with a hammer, and then opened fire at the brokerage houses where he traded.

Often, financial troubles are related to employment problems. Professionally, 57 shooters experienced employment struggles. While many of the shooters’ employment status was unknown, only 31 reportedly had a steady job until the attack. Others, however, had been fired or suspended prior to the attack, and others had no steady job or only worked odd jobs. Table 6.10 presents the employment information for the shooters as reported in the qualitative data.
Table 6.10. Shooters’ employment status.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>163</td>
<td>64.94</td>
</tr>
<tr>
<td>Steady job until attack</td>
<td>31</td>
<td>12.35</td>
</tr>
<tr>
<td>Fired/laid off prior to attack</td>
<td>22</td>
<td>8.76</td>
</tr>
<tr>
<td>Suspended prior to attack</td>
<td>6</td>
<td>2.39</td>
</tr>
<tr>
<td>No steady job/unemployed</td>
<td>23</td>
<td>9.16</td>
</tr>
<tr>
<td>Pending or perceived firing</td>
<td>3</td>
<td>1.20</td>
</tr>
<tr>
<td>Odd jobs</td>
<td>3</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Socially, the expectations for Americans to succeed in friendships and romantic relationships are quite clear. Those who do not partake in social endeavors or attempt to engage with those around them are often labeled “loners” or “freaks.” As such, it is expected that individuals are to be social creatures in American culture, and the inability to do so and achieve these goals can lead to a sense of failure and immense frustration.

While only five shooters has self-reported incidents of bullying, 20 others had been victims of bullying as reported by others, including co-workers, peers, or teachers.

Romantically, some of the men in the dataset experienced failure at their relationships. Table 6.11 presents the reported marital status information for the shooters.

Those that were separated, divorced, or married multiple times were coded as having problems pursuing the American dream.

Table 6.11. Marital status of shooters.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single/unknown</td>
<td>222</td>
<td>88.45</td>
</tr>
<tr>
<td>In a relationship</td>
<td>9</td>
<td>3.59</td>
</tr>
<tr>
<td>Married</td>
<td>6</td>
<td>2.39</td>
</tr>
<tr>
<td>Separated</td>
<td>6</td>
<td>2.39</td>
</tr>
<tr>
<td>Divorced</td>
<td>5</td>
<td>1.99</td>
</tr>
<tr>
<td>Married multiple times</td>
<td>2</td>
<td>0.80</td>
</tr>
<tr>
<td>Engaged</td>
<td>1</td>
<td>0.40</td>
</tr>
</tbody>
</table>
For these shooters, when their relationships failed, they often resorted to violence against their girlfriends or wives prior to their ultimate attack. These problems stemmed from existing relationships (or ones that the shooter believed to exist), while others failed so notably that they had not gotten the chance to be in a relationship.

Romantic relationships are not the only types of relationships that drive cultural expectations of social success. Friendships are an important part of the American narrative, and when people cannot or do not engage in social relationships—or at the very least act in a mildly pleasant manner with others—they become a type of loner that others believe to be odd or strange. This notion of being a loner has often been assigned to many who have committed mass shootings, but it is worth noting that many of the shooters in the dataset had friends, romantic relationships, and individual successes that involved socialization. For those who did not, though, their behavior stood out in the minds of people who knew them.

Financially, romantically, and socially, if individuals in the dataset felt as if they were inadequate in achieving culturally accepted goals, they may have need to reciprocate with some type of act to assert their power or success. As with all other factors, this alone is not an acceptable answer to the question of “Why” or “How,” but it frames the answer in a nationally accepted framework of success that outlines what Americans can and should do in order to be consider productive and “normal.” Closely aligned with the notion of hegemonic masculinity as discussed in Chapter 2, the social and cultural expectations and individuals strains that impede success cannot be ignored as a potential piece of the puzzle.
Mental health policies. Another emergent theme in the data was the issue of national mental health policies. As many of the shooters had been diagnosed with mental illnesses (either before or after their attacks), the policies that dictated the ways in which their needs were addressed are certainly relevant and important to note. The difficulty of this factor is the classification of mental health policies. They can be considered macrosystemic factors because they are a part of the cultural framework that often dictates behavior and actions. In terms of definitions, it may fall into the category of the exosystem, as it involves the mental health providers (which “contain” the individual who is attempting to receive treatment) and the federal lawmakers and organizations that craft the policies. However, for the purposes of this study, mental health policies will be considered macrosystemic factors, for they affect the patterns of social interchanges as outlined by Bronfenbrenner (1989) in his revised definition. As it will be discussed, the primary problem with mental health policies is the acknowledgment of an individual’s civil rights and the nationwide refusal to involuntarily commit him unless he is a threat to himself or others. This represents a cultural, socially accepted means of viewing and addressing the individual, even in times of potential crisis. It is a structural staple of American culture as it has developed over time, and it either directly or indirectly affects the developmental-instigative processes that affect an individual. As such, this study classifies mental health policies as being a macrosystemic factor.

Despite warning signs, threats of violence, and symptomatic behavior, many of the shooters were not institutionalized because loved ones were unable to do so without consent. Table 6.12 presents the frequency of mental health policies that may have
impeded effective treatment. Incidents were coded as “problematic” if mental health policies prohibited or prevented an individual from receiving treatment.

Table 6.12. Frequency of mental health policy problems.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported problems</td>
<td>230</td>
<td>92.00</td>
</tr>
<tr>
<td>Mental health policy problems</td>
<td>20</td>
<td>8.00</td>
</tr>
</tbody>
</table>

Often, state law prohibits individuals to be forced into treatment unless they are an imminent threat to themselves or others. In the case of Andrew Engeldinger, even his delusions and paranoia were not enough to necessitate involuntary commitment despite the best efforts of his parents. As Ian Stawicki’s father stated, “We couldn’t get him in, and they wouldn’t hold him…The only way to get an intervention in time is to lie and say they threatened you” (Associated Press, 2012, para. 31). The statement is sadly reflective of the struggle that many families experience when attempting to get help for family members. Similar themes were echoed in the cases of Sergei Babarin, John Bedell, Joseph Brooks, Carl Brown, and William Case among others.

Additionally, another layer of difficulty arises in ongoing treatment and medication. Essentially, without a commitment, it becomes increasingly difficult to monitor medication and treatment if the individual does not follow up. If the patient chooses to not take his medication or follow up with appointments or therapy, there is little that can be done. If the individual is of legal age, without the patient’s permission, doctors and therapists are not required to and legally cannot disclose information with loved ones due to Health Insurance Portability and Accountability Act (HIPAA) laws except in certain cases. The United States Department of Health and Human Services
clearly outlines the privacy laws regarding mental illness and communication with family members:

“When a patient is present and has the capacity to make health care decisions, health care providers may communicate with a patient’s family members, friends, or other persons the patient has involved in his or her health care of payment for care, so long as the patient does not object” (DHHS, 2014, p. 2).

Throughout the document, the key phrase in the guidelines is “so long as the patient does not object.” As such, the patient in question must grant permission to include family members and friends. Yet, if he declines their inclusion or assistance, the provider cannot legally disclose any information. The exception, however, is for cases of threats. As noted by the director of the Department of Health and Human Services Office of Civil Rights, “In instances where patients may pose imminent and serious threats to themselves or others, health care professionals may invoke their ‘ethical duty to warn’ by alerting family members, enforcement officials or perhaps even the target of those threats” (Lubell, 2013, para. 6). Even so, health care providers and others seem to believe that confidentiality laws, as in the case of Seung-Hui Cho, prohibit communication in all instances. In his case:

“University officials in the office of Judicial Affairs, Cook Counseling Center, campus police, the Dead of Students, and others explained their failures to communicate with one another or with Cho’s parents by noting their belief that such communications are prohibited by the federal laws governing the privacy of health and education records. In reality, federal laws and their state counterparts afford ample leeway to share information in potentially dangerous situations” (Virginia Tech Review Panel, 2007, p. 2).

Even in cases in which a person was held and committed, he was often released shortly after. Often, individuals in the study were held briefly (including 24- and 72-hour stays), but were released. David Logsdon was taken for treatment because his family was
concerned he would commit suicide, but he was released from the facility after six hours. Maurice Clemmons was seen for delusions and evaluated after an arrest in the months before his attack. The psychological evaluation concluding that he was a risk to public safety, “but not enough to one to justify committing him” (CBS News/Associated Press, 2009, para. 28).

In yet another case, Russell Weston was committed for 52 days before he was deemed a non-threat to himself or anyone else. One the determination was made, he was free to go, and he moved from Montana to Illinois where he was going to move in with his parents, thus hampering the follow-up care. Though the providers in Montana had set up appointments in Illinois for him, “there was no mechanism in place to ensure that he kept those appointments” (Murphy, 1998, para. 3). Less than two years later, he was in Washington, DC where he opened fire at the US Capitol Building.

These views and policies are staunchly American in that they expect autonomy and individualism while also necessitating governmental intrusion. As seen in other areas of American politics, including foreign policy, American interests often seek to assert the notion of liberty and freedom while requiring and providing American assistance, influence, and guidance. The same can be said in the decisions that are made about mental health policies; we, as a society will insert our governmental laws into the treatment of mental health issues by creating laws and policies to protect individuals, but we still must protect the individual and his freedoms at all costs (even if the cost is the safety of the American public). The issues of mental illness, confidentiality, and involuntary commitment are certainly not simple. They are laden with issues of civil rights, availability and capacity of institutions, and an individual’s personal choices.
However, with hindsight, we can see the clear point where intervention efforts failed or were insufficient. While these incidents and policies alone cannot be blamed as the sole reason that the attacks occurred, confusion about federal and state guidelines for informing combined with the inability to offer the necessary therapy and follow-up creates an environment in which potential shooters may not receive the care they need.

**Gun laws and loopholes.** While there was never a goal for this research study to either advocate for or against weapons and possession, the issue of guns was expectedly a prevailing theme throughout the literature. Each individual clearly had access to weapons in order to perpetrate a shooting. On a micro-level scale, weapon access is certainly a factor. Of the 50 cases in which information about how the shooters acquired weapons was available, 31 had legally purchased the guns for themselves\(^2\). As such, it became necessary to examine how this happened despite the fact that many had a history of violence, police contact, or mental illness. On the national and state level, weapon laws and loopholes often created conditions through which the shooters were able to acquire, obtain, or retain their weapons. Moreover, clearly representative of a macrosystemic factor, the United States’ gun policy is one that is well known and a cultural staple that is easily identifiable and discussed often. For this factor, an incident was coded as “problematic” if the individual should not have had a gun in his possession (as outlined by federal and state law). Table 6.14 presents the frequency of gun law loophole problems.

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\(^2\) Of the remaining 19, 3 had purchased weapons illegally for themselves, 12 had stolen them from a family member or friend, and 1 had borrowed it from a friend. One had stolen the weapon from an unknown person, and two had received the weapons as gifts.
Table 6.13. Frequency of gun law loophole problems.

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported issues</td>
<td>228</td>
<td>91.20</td>
</tr>
<tr>
<td>Problematic</td>
<td>22</td>
<td>8.80</td>
</tr>
</tbody>
</table>

Primarily in gun debates, the issue is the constitutional right to own weapons and who, if anyone, should have access to them. These laws that are rooted in American history and are the foundation of the belief that Americans are constitutionally entitled to weapons to defend themselves through the Second Amendment. Federal and state laws permit each citizen to purchase and own a weapon, though the process varies in terms of types of weapons, accessibility, ease of obtaining, and length of time required to get a permit. The Law Center to Prevent Gun Violence (LCPGV) (2012) measured each state based on policy and laws regarding firearm sales and licenses in addition to measures that increase the likelihood of gun violence such as “Shoot First” laws. While states such as California, New Jersey, and New York have the strongest gun laws, other states including South Dakota, Arizona, Mississippi, and Vermont had some of the weakest gun laws the country. Though states may have a list of qualifications that an applicant must meet in order to receive a permit to own or permit to carry a concealed weapons, those who have a clean record but a desire to harm others are allowed the freedom to obtain weapons. In the case of Ian Stawicki,

“Police in Washington gave him [a permit], based on that state's ‘shall issue’ law, which says that officials must award concealed weapons permits to anyone who meets the standards, even if police think the applicant is dangerous. The state's bar is so low that even a character like Stawicki could slither under it. He had never been involuntarily committed to a mental institution, was over 21, a U.S. citizen, had no felony convictions and met the handful of other qualifications needed for a permit…He didn't break the law until he pulled out a pistol and started shooting” (Turner, 2012, para. 2).
Despite his past record of violence (which were misdemeanors and later dismissed), he was able to obtain a concealed weapons permit and eventually used those weapons to commit an active shooting. Stawicki’s attack in 2012 highlighted the years of problems that have plagued the American government for years. In 1999, James E. Pough was able to purchase a weapon despite the fact that he had been convicted of a felony. (He had been arrested for murder in 1971, but pleaded down to aggravated assault and served five years on probation.) Yet, by lying on his application, he was able to purchase a .38-caliber revolver. And in 2007, when Anthony LaCalamita was denied a permit for a handgun, he could still buy a shotgun because Michigan does not require a permit to buy one. He simply needed to pass an FBI background check. This background check did not reveal his history of depression and mental health problems.

In certain cases, the state law allowed for the purchase of a weapon for someone who did not reside where the sale occurred. For example, Wayne Lo lived in Massachusetts while attending college. At the time, “Massachusetts state law provided that when an out-of-state resident wanted to buy a rifle, the gun laws in the person’s home state governed. The law in Montana, where Mr. Lo’s parents lived, permitted 19-year-olds to buy rifles with no waiting period…” (Glaberson, 2000, para. 30).

Along the same lines, an international student, Gang Lu, attempted to purchase a weapon in Iowa where he attended school. Despite the fact that he was not a citizen of the United States, he was eligible to purchase a weapon as long as he met the residency requirements. And in yet another case, Ali Abu Kamal, who originally had immigrated to New York five weeks before the purchase, traveled to Florida where he easily purchased a gun. At the time, “there was no mechanism in place to automatically alert the gun
dealer or local officials that he did not meet a Federal 90-day residency requirement to buy a gun” (Krauss, 1997, para.8). He patiently waited for the required three-day waiting period, and he picked up his gun before returning to New York where he killed one and injured six when he opened fire at the Empire State Building.

While some states may have laws and policies that call for the confiscation of weapons upon conviction of a felony, the problem in this case becomes enforcement. If the person in question is required to forfeit his weapons, the responsibility often gets passed between offices and thus gets left unaddressed. In the case of William Baker, he was found guilty of criminal sexual assault three years before his attack. The authorities should have made him relinquish the weapons he owned, but no one took the lead, and he kept his gun. He was charged with another crime the year before his attack, and again, his guns were never taken. A year later, he opened fire at his workplace, killing four and injuring four. And in yet another example of stunning loopholes and oversights, police had confiscated and destroyed Sergei Babarin’s guns, but somehow he was able to walk into a store three weeks later and purchase an identical weapon.

Without a national gun registry that allows for identification of legally purchased weapons, the timely filing of the orders, and the means to confiscate them, the mandate for forfeiture of weapons are virtually unenforceable and demonstrate a gaping hole in federal and national gun laws.

Interestingly enough, this issue, then becomes an exosystemic and mesosystemic factor. The exosystemic interaction of two systems—one of which includes the individual—affects the overall setting in which affects the individual. In this case, the police had direct interaction with the individual, and the lawmakers or criminal justice
system created conditions in which he was able to retain his weapons. Similarly, the lack of communication between these parties created a mesosystemic lack of communication as previously outlined. The lack of communication and action played an important role in the process by which the individuals were able to retain their weapons and ultimately commit their violent acts.

**Internet and technology.** Technology, namely the proliferation of the Internet, affected the change in the way individuals learned about and planned their shooting events. Namely, it affected communication with others, online and media glorification of mass shooters, and the ordering of weapons.

For this factor, the use of technology was coded as a “present” factor if the shooter reportedly utilized technological advances such as the Internet. Table 6.14 presents the frequency of the use of technology of the shooters.

*Table 6.14. Frequency of the use of technology.*

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported use</td>
<td>211</td>
<td>84.06</td>
</tr>
<tr>
<td>Present</td>
<td>40</td>
<td>15.94</td>
</tr>
</tbody>
</table>

Some of the shooters in the dataset were able to communicate with people who essentially supported their cause that was rooted in bigotry or terrorist ideals. In the case of Nidal Malik Hasan, the availability of the Internet allowed for him to make contact with Anwar al-Awlaki. In their email exchanges, he had the opportunity to

“[ask] Mr. Awlaki whether Muslim American troops who killed other American soldiers in the name of Islam would be considered ‘fighting jihad and if they did die would you consider them shaheeds,’ an Arabic term for martyrs” (Fernandez, 2013, para. 17).
Though Awlaki never answered this specific email (and was seemingly dismissive in others), the Internet allowed for Hasan to communicate with an active leader of Al Qaeda.

In another use for the Internet, James VonBrunn utilized it to spread his own hate-filled writings and beliefs on his anti-Semitic website. His computer, in fact, was “his primary connection to the fringe world of radical racists” (Fears & Fisher, 2009, para. 4).

Perhaps one of the most important functions of the Internet, though, is the quick and easy access to the wealth of knowledge about mass shooters that is available online. A quick Google search of “famous mass shooters” yields about 724,000 results including articles titled “28 Deadliest Mass Shootings in U.S. History,” “Famous Mass Murderers” and “List of Rampage Killers.” The Internet has allowed for the most effective shooters, their messages, and their images to remain enshrined with one click of a button. Shooters in the dataset often referenced other shooters (most commonly Dylan Klebold and Eric Harris), especially those who have videos or letters available online. The infamous basement tapes made by the Columbine shooters as well as Seung-Hui Cho’s final message are available for viewing on YouTube and other sites. The ease and privacy of the modern Internet allowed for the shooters to “research” their heroes who had committed these acts before and examine what they had done. Further, the messages that the shooters left could serve as essentially a call to action for someone who may have already been on the brink of violence.

In two specific cases, the Internet allowed for the individuals to identify ways to perpetrate their attacks. Michael Carneal spent time on site “that included how-to instructions for making weapons or rehearsals of violent attacks” (National Research
Council, 2003, p. 137). Similarly, Steven Kazmierczak used the Internet to examine the methods of the Columbine and Virginia Tech killers (DHS, 2008).

Further, the importance of the Internet and technology as a means of constant information cannot be ignored. The mass media’s presentation of coverage of active and mass shooter events has further transformed the ways in which the public receives information about such incidents. The nearly incessant coverage of events provides for an ongoing live stream of information mostly about the shooters and the attacks while also focusing on the victims and the locations. Technological advances allow for constant access to information when an event occurs. The media flock to the location to report the most groundbreaking news, and the shooter becomes the most infamous face in America for a short time. When a mass shooting or active shooting event occurs, and the public knows the details as they emerge. If deadly enough, it becomes a part of the news cycle for the next few days or weeks, but with the proliferation of the information comes the ability for potential shooters to gather research, find inspiration, and hypothetically improve upon the act. The simple knowledge and availability of the information and the ease in which nearly everyone can access it has undoubtedly changed the way in which Americans and individual people frame and understand such events.

**Macrosystemic factors conclusion.** As the final of the hierarchically nested levels, the macrosystem provides insight about the cultural stage upon which development of the individual occurs. The macrosystem guides all of the other systems, and in conjunction with other variables, outlines what culture looks like, how it affects the developing person, and the social, professional, and academic standards for American as they exist at the time. The pursuit of success as an American staple sets expectations
for by creating goals, norms, and behaviors that are socially expected in terms of academic, professional, and social success. The macrosystem also highlights the laws and policies that dictate how the country is run and the ways in which people are affected as a result. Mental health policies and gun laws (and loopholes) provide insight about American standards and expectations in regard to treatment as well as access to weapons. These are national and state-level guidelines that affected many if not all of the individuals in this study. And finally, the advent of technology and Internet changed American culture by reframing how people communicate and receive information.

As the largest and broadest of the levels, the macrosystem itself represents the cultural environment and national expectations that guided development for the shooters. It affected them as well as all of the other individuals and factors in all of the other systems. This level should highlight the interconnected nature and bidirectional influence of the person in his environment.

As the conclusion of the nested levels, the description of the macrosystem then leads to the time and process element as outlined by the chronosystem. The macrosystem, as with all other levels, is influences and is influenced by other levels to affect development and moves along by the chronosystemic elements of time. Chronosystemic variables, as they will be discussed in the next section, occur and influence development by pushing it along and adding socio-historical elements and major events as it occurs within the nested system.

**Chronosystemic Factors**

The last of Bronfenbrenner’s (1989) levels is the chronosystem. This level includes major, life-altering events, transitions and serious changes, and socio-historic environmental changes. These events can have a direct effect on the developing
individual, but they can also have an indirect effect by affecting the larger environment in which development and events occur. They can be events or incidents that alter or influence the larger culture and society.

In particular, chronosystemic factors focus on the dimension of time and important developmental milestones or events that affect the individual. They can be short-term (such as a life experience or transition) or long-term (such as those that occur over the life course through varying developmental paths). These events are important—and often grave—enough to affect development in such a way that combined with other multilevel factors, it can lead to catastrophic outcomes. As Bronfenbrenner (1989) described,

“These experiences may have their origins either in the external environment (e.g., the birth of a sibling, entering school, divorce, winning the sweepstakes), or within the organism (e.g., puberty, severe illness). Whatever their origin, the critical feature of such events is that they alter the existing relationship between person and environment, thus creating a dynamic that may instigate developmental change” (201).

As such, it becomes important to note that the interactions and relationships between factors at multiple levels are affected by chronosystemic events that occur and change the face of the relationships. Interestingly, such events (for example, a divorce) can occur between the individual and a microsystemic level factor, but then, with the added element of time, change the relationship between the two and also between the individual and others. Most importantly, though, it is important to remember that the examination of the chronosystem marks a shift from the hierarchical, nested model of systems to a more linear, time-based element. The chronosystem represents the function of time, and therefore highlights the progression of events and the influence of the Process and Time in the Process-Person-Context-Time model. This is, in essence, the driving force behind
the ecological systems of development, as it explains the movement the developing person through time as he interacts with and is influenced by the environment around him. This explains the mechanisms by which the development continually occurs and how it is affected and shaped by events in time. In addition to adding the dimension of time, the chronosystem functions as a way to bring criminology into the modern world of development and life course systems by examining how they function as a result of social influences, relationships, and time.

This section described two separate types of chronosystemic factors that occurred in time and emerged as a theme among many of the shooters. Major life events (as outlined by Bronfenbrenner) very clearly played a significant role in development by shaping relationships and generating strong emotional reactions, while prior shootings, occurring in time, may have affected the shooter’s decisions and interactions.

**Major life events.** Life events such as divorces, death in the family, and loss of a job can significantly affect how an individual reacts. Major events may also be a trigger for those had considered such violence before the attack. These events and their catastrophic nature may serve as a very clear message to the shooter that they have little incentive to live or continue their lives. Table 6.15 presents the frequencies of life events. Incidents that are considered major milestones, such as divorce, moving, death of a loved one, or other traumatic events were coded as “present.”

*Table 6.15. Frequencies of major life events.*

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reported life events</td>
<td>225</td>
<td>89.64</td>
</tr>
<tr>
<td>Present</td>
<td>26</td>
<td>10.36</td>
</tr>
</tbody>
</table>
As previously mentioned, many of the shooters have experienced divorce from their wives. Robert Flores, Myles Meyers, Jamie Paredes, and Douglas Williams were a few among many who had been greatly affected by their separations from their wives. Their divorces may have also affected their relationships with their children, financial stability, and sense of social achievement in maintaining relationships.

Other shooters experienced the death of loved ones including parents or siblings. In the case of Larry Gene Ashbrook: “Some speculated that what finally unhinged him was the death in July of his 85-year-old father, who had been the unemployed Ashbrook’s sole means of support” (Van Bierna, 1999, para. 7). Steven Kazmierczak had recently lost his mother (Stambaugh, 2008), and Dung Trinh committed his attack five hours after his 72-year-old mother died (Leonard & Gold, 1999). Terrence Tyler and Brian Uyesugi also lost their mothers in the years before their attacks, perhaps prompting their changes in behavior.

For One Goh, the loss of his sibling was difficult. As it was reported: “His brother, a soldier, reportedly was killed last year in the line of duty. CNN affiliate KGO said the brother, a staff sergeant in the Army, died in a car accident while training with the Special Forces” (Martinez, 2012, para. 3).

Another major life event that was thematic through the research was moving or relocating. For some of the teenagers in the dataset, moving proved to be difficult at best, and traumatic at the worst. Douglas Bradley, Robert Butler, Jr., T.J. Solomon, Randy Matthews, and Gary Scott Pennington had all recently moved to their new schools in the months or years before they brought guns and attacked teachers and fellow students.
Prior shootings. The issue of copycat shootings has often been considered as a valid point to make when evaluating motive and planning for active and mass shooting incidents. In the case of T.J. Solomon, the shooting at Columbine interested him, and as Sullivan and Fullilove (2003) describe:

“Investigations after the incident disclosed multiple instances in which T.J. said things to other people before the incident that indicated his feelings of identification with the Columbine killers. He began to talk about Columbine in odd ways to other people...[He also disclosed to students] that he ‘could understand’ the Columbine killers ‘wanting to shoot the jocks and preps’ and ‘that the kids at Columbine were aiming at certain people and that slowed them down, and if he ever shot at Heritage, that he wouldn’t take any time to aim, that he would shoot at everybody’” (51).

Similar patterns were observed in other shooters, who had similar fascination with the Columbine attack, including Robert Bonelli, Alvaro Castillo (who went so far as to email the principal of Columbine High School before his attack), and Seth Trickey.

The average number of shootings in the two years prior to each attack is 18 with a standard deviation of 9.6. Figure 6.2 presents a histogram of the frequency of number of prior shootings in the two years before the attacks.

*Figure 6.2. Frequency of number of prior shootings in the two years before the attacks.*
In five cases, there were no incidents of shootings in the two years before the attack, but those incidents occurred from 1966 to 1982. If, in fact, rampage shootings are becoming a part of a cultural script as Newman et al. (2004) describe, the trend of an increase in shootings in the time prior to the attacks is certainly no surprise. Rather than each shooter being directly influenced by each individual attack, it may be more logical to conclude that public violence and lethal responses to hurt, injustice, or anger are an accepted, standard response in American culture.

**Chronosystemic factors conclusion.** The chronosystem explains the time element of development. It provides the necessary explanation of time and events as they occur and interrupt the bidirectional influence of person on environment. Major life events and prior shootings created events in time and affected the relationships that the developing person had with those around him. It also may have affected other levels of the system, such as the macrosystem, as prior shootings may have set a cultural precedent for addressing violence and injustices. The chronosystem serves as both the glue that holds the nested, hierarchical levels together as well as the driving force that is necessary to understand how development occurs as a process that is affected by events and time.

**Conclusion**

Given the patterns and themes that emerged throughout the multilevel evaluation of the data, it is clear that each of the shooters in the attacks was, in fact, as Sullivan (2002) described: “an *individual in a family in a situation in a school in a community in a national culture*” (emphasis in original) (271). By highlighting the ways in which relationships, culture, communications, and conditions affected development and behavior, the goal of this chapter was to paint a broader picture of the shooters in a more complex, interwoven picture than has previously been done.
Bronfenbrenner’s theory serves as a template for organizing and developing the information that was available through secondary data such as news articles or books about the shooters. The various levels outlined in the theory allow for the evaluation and analysis of the patterns and themes as they emerged. More importantly, the organizational framework of the model emphasizes the interactive nature of the levels.

One of the most common individual-level traits was abnormal behavior. While mental illness may be affected by genetic and inherited risk factors (and therefore be considered an individual-level factor), it may also be affected and exacerbated by the environment and microsystemic interactions. Yet, these factors were representative, in some sense, of characteristics that may have been inherited or were indicative of issues related to attachment, temperament, or attitude that may have been influenced at an early age. The demand, resource, and force characteristics described by Bronfenbrenner (1989) highlight the characteristics that the developing person brings to his interactions with those around him and his environment.

The microsystem, for which there was the greatest abundance of information, showed that failure and family played an important role in development. Failure that often came in the form of job loss, subpar academic performance, or social strains occurred as a result of interactions with people in the microsystem. These problems may have highlighted failure as it pertained to the macrosystemic factor of the pursuit of success, and they may have served as a trigger for an extraordinary act of violence. Additionally, the role of failure may have created additional problems or stigmas at multiple levels, further affecting development and psychological growth.
The family, however, leaves us with a conundrum, as two patterns emerged from the data: the picture of the dysfunctional family that creates trauma and stress for the developing person or a quaint family that seemingly did everything correctly in terms of parenting and encouraging healthy development.

At the mesosystemic level, the relationship between persons in the microsystem influenced development through a lack of communication and action. Many people who had face-to-face interactions with the shooters knew about warning signs or potentially alarming behavior, yet they could not or would not take action. They had often observed the individual level traits that were problematic or troubling, and failed to alert others within the microsystem, thus prohibiting any type of action or treatment that may have prevented an active shooting.

The exosystem provided insight into the stressful conditions in which the shooters developed. When the players from the microsystem interacted with or were influenced outside factors, it often created stressful conditions in which the individual developed. The data indicated that workplace conditions influenced by corporate America or the need for increased productivity at reduced costs create high-stress situations or problematic conditions that may have influenced microsystemic relationships and failure. Whereas exosystemic relationships may have generated negative influences, they may also create a quaint, close-knit community. However, such communities can breed a sense of secrecy that prevents people in the developing person’s microsystem to ignore any individual level traits or warning signs that may have been indicative of coming violence.
The macrosystem provides the national stage on which development occurs. By examining the culture, laws, and policies that affect Americans, the macrosystem can provide insight and highlight the large-scale factors that may have shaped the way that development occurred within the nested, hierarchical systems through an interactional relationship. The pursuit of success was an emergent theme and representative of American society’s desire for financial, social, and academic achievement through individualism and hard work. Many shooters failed to achieve these goals (especially through their microsystemic relationships) that are benchmarks for success, thus highlighting this as an emergent pattern among the data. Further, both mental health policies and gun law loopholes are staples of American culture by asserting independence and attempting to protect the freedoms of its citizens while also still appearing to fail on a large scale. They are large-scale policies designed to protect constitutional rights and privileges, yet still asserting governmental influence and subjective beliefs about who and what the government can control. And finally, the Internet and technology affected American culture through the effect of mass media and constant access to resources and information. The vast majority of Americans have the capability to receive constant updates about violent events while also having access to resources, information, and similarly minded individuals if they are seeking out an audience for their own violent ideology. On a national scale, these themes add an essential piece to the understanding of development in relation to other multilevel variables. These policies, advancements, and widely held beliefs had to the potential to affect relationships at every other level and change the course of development in time.
Finally, the notion of time moves the discussion of development from the nested, hierarchical model to the linear, chronological element of the chronosystem. The chronosystem, represented by major life events and prior shootings, demonstrate the movement of development through time and remind us that this is one of the most important elements of the Process-Person-Context-Time model. Socio-historical events such as widely publicized shootings and major life milestones like divorce or the death of a family member may have changed the course of microsystemic relationships and guided what may have been healthy development toward a more violent path over time. The importance of the chronosystemic interaction with the nested levels is the driving force behind the process development as described in the coming chapter.

This analysis allows for large-scale observation of the themes to highlight general, comprehensive ideas that affect many of the individual in the dataset. Most importantly, it describes the ways in which the individual interacts with and is affected by the environment around him. The interactions of the factors all have the power to work in conjunction with other factors. This chapter addresses the complicated, interrelated ways in which the environment directly and indirectly affects individuals’ development on a variety of levels. Additionally, it outlines the conditions that culturally, nationally, and relationally affected development and behavior for the individuals. Important, this chapter utilized ground, inductive theory to systematically and analytically evaluate potentially contributing factors and their influence on development and growth.

This method of analysis, however, presented certain challenges. Primarily, which these themes and factors were identified using inductive, qualitative analysis and systemic evaluation, there is the potential that many of the details of the shooters’ lives
may have gone unreported. While the more notorious, infamous shooter were covered meticulously by the media, others may have received less coverage due to lower victim counts. Thus, more minute details of their lives may have gone unreported and would not appear in this study.

Another challenge in this chapter was the broad range of frequencies seen across the multiple levels. While some had few reports, such as the influence of media in only one case or the mention of violent video games in only five cases, other appeared much more frequently. This highlights the variation in influences and the thousands of combinations of factors among the shooters. It becomes difficult, then, to parse out and examine the effects of these influences on the individuals and even more challenging to use them to compare the shooters and their pathways to violence.

The two most striking findings in this chapter, however, are the two factors that each were evident in more than 50 percent of the dataset: failure and mental illness. While the frequency of these two factors is of importance and interest, they are also unique in that they both affect and can be affected by any number of other influences at multiple levels. The risk for mental illness may initially lie in individual-level factors such as heritability and genetic predisposition, but the progress of those risk factors and presentation of symptoms may be affected by biosocial functions including those actors in the individual’s microsystem and beyond.

Additionally, failure may originate at the microsystemic level, but it can be affected by exosystemic factors like the larger workforce, company goals or expectations, and criminal justice policies. The interconnectedness of the levels, the individuals, and
those in the microsystem create a much broader picture of the influence of failure and how it is affected by so many different factors.

The presence of incidents of failure in so many of the shooters’ lives offers preliminary support of Agnew’s strain theory. The types of failure that these individuals experienced represent the initial types of strain outlined in Chapter 2: the inability to achieve a goal; the removal of a positive stimulus, and the presentation of a negative stimulus. Though the presence of these experiences (and thus, failure as a factor) does not indicate causality, it does, however, highlight the need for further examination of failure and strain as an important multilevel factor in the lives of the shooters in this dataset.

The next chapter, then, examines these two multilevel factors in addition to radicalization. Though rare in the data, radicalization presents a unique perspective considering current events and prior research about the similarities and differences of those who embody radical ideals (Lankford, 2013, 2012). Because failure and mental illness represent such a large proportion of the potential influence across the most shooters, these become the factors in the next chapter for the examination of combinations and comparisons between specific groups. By discussing the presence and absence of these factors and identifying the ways in which they interact to produce different event characteristics, we can begin to determine the conjunctural pathways to violence and how they may influence outcomes.
Chapter 7 – Research Question #3

Using a Qualitative Comparative Analysis (QCA) framework, what combinations of motivational factors emerge, and how do they connect with shooter and event characteristics and outcomes?

This chapter seeks to address complex contingent conjunctures, provide parsimonious explanations, and investigate cases for comparison. This chapter, however, evaluates the shooters individually in order to highlight similarities and differences based on three potentially motivational factors. By doing this, the research outlines the ways in which event characteristics may be linked to individual motivations and how these motivational factors may work alone and in combination to create conjunctural pathways to violence. Further, it explains how the emergent patterns and themes lent themselves to both deductive investigation and inductive, grounded theory that differentiated the shooters into seven combinations of these motivational factors. It also describes information about each of the combinations and patterns that emerged through the analytic process.

This approach and methodology is unique in the active and mass shooter literature. While the challenges of studying rare events are many, they often center around issues of degrees of freedom and combined causes. The first issue is the problem of small sample size. As Harding, Fox, and Mehta (2002) describe, “With so many possible causes and so few cases, it is difficult to isolate the effect of any one variable” (179-180). The effects of singular variables are difficult to measure, because most typical statistical analyses are inefficient for such small samples. This also contributes to the second challenge of variable interactions. While profoundly rare events can not only be
characterized by any number of variables, the combinatorial effects of the variables are even greater. Here again, traditional quantitative statistical analyses used to measure interactive effects in prediction are not of use due to the relatively rare nature of the events. However, the issue of motivational factors and their interactions are still of paramount importance, as they may affect event outcomes. Additionally, combinations of factors and how they interact must be considered to understand how and why such incidents occur (and why they do not occur). And still, the absence of many of the variables creates another confounding issue.

This chapter addresses these two issues of small sample sizes and combinations of motivational factors by using an analytic framework that focuses on the conjunctural pathways to event outcomes. Rather than the focus on the prediction of future events, this chapter analyzes events using Qualitative Comparative Analysis (QCA) to highlight the motivational factors as they appeared in the data. The presence, absence, and combinations of these motivations provide insight into the shooters, their characteristics, and the ways in which they may be linked to the characteristics and outcomes of their events. This chapter is unique because it builds upon previous research and further examines the relationships between the motivational factors and event characteristics and outcomes.

**Methodology**

In order to identify patterns and relationships between the three major motivational factors—failure, mental illness, and radicalism—this study evaluates active and mass shooters as individual cases using a QCA framework to examine patterns and interactions. This chapter takes two of the most common individual motivational factors
and evaluates the ways in which these factors affect event characteristics and outcomes.

Using a database created from the NYPD Active Shooter Database, the researcher collected data from several sources to highlight major motivational factors, identify the most common, and examine the relationship between these factors and event characteristics and outcomes.

In mainstream media, mono-causal factors are often depicted as the driving force behind mass shootings. Common themes are bullying, video games, and mental illness, but these singular explanations fall short in explaining how and why these events occur or do not occur. When considering that the clear majority of those who experience these do not commit violent shootings, it becomes clear that more scientific research is needed. Prior research, however, has used quantitative analyses to compare broader, more thorough explanations. Lankford (2012) compared shooters and suicide terrorists based on location and several personal problems such as social marginalization and work or school problems. He found important similarities and patterns between the shooters, with the most notable exception being workplace shooters. In another study, Lankford (2015) found significant differences in demographic information and event characteristics between attackers who live and those who die.

This research builds upon these important works by offering a nuanced, granular approach. By using QCA to evaluate and compare groups using methodological techniques like Lankford (2012), it highlights the importance of personal problems (in this chapter, conceptualized as failure) and examines the ways that it may combine with other issues like mental illness and radicalization to affect outcomes. Lankford’s (2012) work focused on a location-based approach to compare shooters and their personal lives
and motivations, presenting a new approach to quantitatively comparing shooters and identifying key similarities between suicide terrorists, school shooters, and rampage shooters. Importantly, he found statistically significant differences between workplace shooters and the other types of shooters, including their targets, their perceived normalcy, and lethality. This work also builds upon Lankford’s (2013, 2013a) but uses a different organization approach by reaggregating the dataset (rather than separating them based on the locations of their attacks) to examine them. Because Lankford (2013) found these similarities between many of the shooters and suicide terrorists, it is methodologically sound to examine them as a group while then separating them into types based on their motivational categories. Then, by identifying relationships between the motivations and outcomes (as Lankford (2015) did by comparing attacker outcomes), the goal of this chapter is to identify the relationship between motivations and event characteristics. By identifying these motivational factors and comparing the offenders’ characteristics and experience, this research may be used to identify important similarities and differences that may be of future use to law enforcement and policymakers.

As described, the researcher utilized articles and books to provide relational, individual, biographical, and environmental information about each case. The most frequently mentioned individual-level factors outlined in Chapter 6 were coded as present and not present. This chapter uses those factors to compare each case in terms of comparisons and combinations of factors, which is useful in moving beyond a moncausal explanation of potential causes, such as mental illness or access to weapons.

Rather than using regression models to quantitatively identify causes and the size of their effects, the QCA method of analysis uses a binary classification system of present
or absent factors in order to identify conjunctural pathways. This framework is both deductive and inductive in nature. Ragin (2014) notes that it is deductive due to the way in which “initial theoretical notions serve as guides in the examination of causally relevant similarities and differences,” but also inductive in that “the investigator determines which of the theoretically relevant similarities and differences are operative by examining empirical cases” (45). One of the main tenets of QCA is the “search for underlying similarities among members of a set displaying some common outcome (or any characteristic of interest” (Ragin, 2014, p. 45). This chapter uses the underlying similarities of three specific motivations – failure, radicalization, and mental illness – among active shooters and connects them to the shooter and event characteristics and outcomes in active and mass shooting events. As Ragin (2014) explained, “cases are viewed as configurations – as combinations of characteristics” (3). By coding characteristics as binary data in a truth table, the combinations of present or absent factors allow the researcher to view each case holistically and analytically.

This chapter uses three potentially motivational factors to examine the conjunctural combinations of each of the shooter’s motives. Two of the individual level factors noted in Chapter 6, failure and mental illness, were included, as well as any evidence of radical thoughts or ideals. Each of these factors was presented in a truth table that included each of the shooters (see Table 7.1 for a sample) and used an upper-case letter to represent a “Truth” or presence in each specific case, while a lower-case letter represented an absence of information or evidence of the factor. From this truth table, the factors were then combined to form a representation of the shooter in a given time in a given context.
Table 7.1. Truth table sample.

<table>
<thead>
<tr>
<th>Shooter Number</th>
<th>Failure</th>
<th>Radical</th>
<th>Mental Illness</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>r</td>
<td>M</td>
<td>FrM</td>
</tr>
<tr>
<td>2</td>
<td>f</td>
<td>R</td>
<td>m</td>
<td>fRm</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>R</td>
<td>m</td>
<td>FRm</td>
</tr>
<tr>
<td>4</td>
<td>f</td>
<td>R</td>
<td>M</td>
<td>fRM</td>
</tr>
</tbody>
</table>

Thus, the FrM notation indicates the presence of mental illness and failure in the absence of any type of radicalization.

While failure, radicalization, and mental illness are not necessarily enduring traits or innate characteristics, they provide insight to the person as an individual who has developed in the context of his environment, his relationships and interactions, and his experiences. Examining the presence or absence of these factors, both alone and in combination with each other, allows for a more thorough understanding of the shooters as compared to other mono-causal representations in recent literature.

These conjunctural combinations allow for the understanding of how factors interact to produce specific behaviors and outcomes while also presenting an opportunity for comparison. This methodological approach provides the opportunity to understand how individual level motives act alone or may interact with each other to produce a range of event characteristics.

The following sections provide an overview of the dataset, describe the frequency of each of the combinations, offer discussions about the descriptive statistics of each, and common themes that emerged. Once the descriptions of the initial types are outlined and described, the remainder of the chapter will focus on the various permutations when
combined with the relevant multilevel factors. This allows for comparative analysis and a holistic understanding of each respective shooter.

This deductive/inductive approach is designed to compare, contrast, and potentially explain the ways in which three specific motivations may affect the characteristics of extraordinary acts of violence. The goal is to organize the myriad of information available about the shooters in a clear, methodologically-sound manner to identify and highlight any patterns and pathways between motivations and event characteristics based on the data and information available.

As discussed earlier, these factors and combinations are not designed to imply causality or insist that all those who experience these factors will commit extraordinary acts of violence. Because, again, this study selects on the dependent variable to create a sample from which we can draw conclusions, we have nothing against which we can compare for predictive modeling of those who will commit (or not commit) violent shooting events. Instead, we look to the QCA framework to analyze how various motivational configurations are associated with various event characteristics. The next section offers descriptive statistics, first for event characteristics and then for the motivations, and then we will connect them both.

**Event Characteristics**

Table 7.3 presents the descriptive statistics for the dataset that gathers information about the shooters and event characteristics (e.g. age, gender, number of guns, number of deaths, number of injuries, etc.). By assembling this comprehensive, thorough dataset, the purpose is to identify similarities, differences, and interactions among the motivations
and characteristics to examine the ways in which they may affect event characteristics and outcomes.

This dataset was compiled using information from the NYPD Active Shooter Database and the Stanford Geospatial Center Database, working from the following definition: “an individual actively engaged in killing or attempting to kill people in a confined and populated area, typically through the use of firearms.” Cases were excluded if they occurred outside of the United States, were foiled before the attack, had an unknown attacker, occurred in multiple locations, and/or only had one specific targeted victim with no other injuries or deaths.¹

¹ For a more comprehensive review of inclusion and exclusion criteria, please refer to Chapter 4.
This dataset, then, includes 245 incidents. One incident included three perpetrators, while four attacks were committed in pairs. Thus, there are 251 shooters represented in this database. The average age of the attackers was 34.2 years old with a standard deviation of 15.3. The youngest shooter was 11 at the time of his attack, while the oldest shooter was 88 years old.

The clear majority of the shooters were male. Only 3.2 percent of the shooters were female. These eight women all carried out their attacks alone. The range of female
shooters ages was 28 years, with the youngest being a 16-year-old girl and the oldest a 44-year-old woman.

Overall, the average killed and injured per incident was 3.2 and 3.9, respectively. Because this dataset does not extend beyond 2012, the deadliest incident from this time frame is the attack at Virginia Tech in which 32 were killed and 20 were injured. Since then we have seen the deadliest mass shooting attack in modern history at the Pulse nightclub in Orlando that killed 49 and injured 53. However, this dataset includes other high casualty incidents such as the attack at the University of Texas in 1966, the attack at a California McDonald’s in 1984, the attack on Fort Hood in 2009, and in 2012, the Aurora Theater and Sandy Hook Elementary School shootings. Though these attacks are certainly among the most notorious and memorable, many of the shootings resulted in injuries with no deaths, while others had relatively low deaths.

Of the 251 shooters, 104 (43.4 percent) died at the scene of the attack. 95 committed suicide while 14 were killed by police or law enforcement. Two attackers attempted suicide but survived, while the remaining 145 were taken into custody.

Lastly, two thirds of the shooters brought only one gun to the attack. While information regarding the number of guns at the attack was unavailable for some of the shooters, 46 brought two guns, 21 brought three, and 11 shooters brought 4 to their attack. In the most extreme cases, one shooter brought six, and another brought seven. Interestingly, these two attacks occurred in 1989 and 1988, respectively.

The table also provides an overview of the location types from each of the 245 attacks. The location types were initially based on the categories listed in the NYPD database. However, as the researcher examined each shooter’s circumstances and
biography, it became apparent that many of the shooters attacked their own place of employment. As such, another category was created.

The most common locations for attack were the shooters’ current or previous places of employment, either current at the time of the attack or previously. Schools that were not institutes of higher education (IHE) were the second most common, followed by commercial, non-mall settings such as stores, salons, restaurants, or nightclubs. Malls were the least common of the settings, while office buildings and city/state/federal buildings were only represented about 11 percent of the total sample.

While this section provided an overview of the event characteristics and outcomes, it does not provide insight about how these events relate specifically to the shooters. While we know basic information about who they were and what they did, such simple evaluations of the events offer little in terms of understanding beyond the motivations and inspirations for such acts of violence. The next section will highlight the relationships between individual motivational factors and event characteristics and outcomes.

**Motivations**

To understand the ways in which an individual interacts with the world around him, it becomes necessary to create a picture of each shooter to serve as the basis for comparison. These factors can serve as an important insight into the nature of the person and the factors that emerged from a qualitative analysis of the available information about the shooters. The three motives used to create these individual combinations are: failure, radicalization, and mental illness.
Failure and mental illness were identified as the two most common individual-level characteristics through inductive coding of the media reports. The researcher gathered nearly 1200 news and journal articles, and she uploaded them into NVivo for coding. Of the 251 shooters, 129 were reported as being symptomatic of or diagnosed with a mental illness, and 138 were described as having experienced some type of failure. Like Lankford’s (2013) study, if the presence of these was noted in the literature by someone with firsthand knowledge, it was included in the dataset as being present.

For the purposes of this study, radicalization is defined as those who had extremist views either related to recognized groups (such as Al-Qaeda) or racially motivated hate groups such as white supremacist organizations. Shooters who did not have official ties to these groups, but stated their goals and motivations as related to these causes were included. It was, however, was rather rare in the shooter literature. Yet, Lankford (2013, 2013a) found important similarities between suicidal terrorist attackers, rampage shooters, and school shooters. The importance of radical influence cannot be ignored in the current political climate and the potential cultural influence that this may have on shooters or aggrieved individuals.

By creating a combinatorial, motive-based picture of each of the shooters, we can identify the ways in which the absence and presence of these factors may interact to produce varying event outcomes. These combinations are designed to be representative of the person in the environment at the time of the attack to form a clearer understanding of the potential motivations and their combinatorial effects as they relate in the context of the larger world and with outside influences.
The primary goal of the dataset is to have a comprehensive, unique collection of active and shooters for which there are data reflecting these individuals, such as the event characteristics (such as the age, gender, and number of guns brought to the attack) to examine their motivation. More importantly, though, this chapter seeks to use the QCA framework to provide a thorough, logical methodology to explain how these event characteristics and motivations may work in conjunction to affect event outcomes.

Figure 7.1 shows the possible combinations of individual factors using capital and lower-case letters to indicate the presence and absence of each. If an individual only experienced one of the three characteristics or factors (as noted by the literature), he would be classified in one of the categories for which there is no overlap (e.g. Frm or frM). In the cases of the presence of two of the three factors, he would be represented by the categories with two capital letters (e.g. FrM or fRM). For example, if the qualitative data indicated that a shooter experienced some type of failure and was treated for mental illness (or exhibited clear symptoms of mental illness), the overlap and combination of the two is represented in the space marked FrM. The center section labeled FRM represents the combination of the three factors, and the absence of the three factors—frm—sits outside of the circles.

Figure 7.1. Individual level factors.
First, the notion of failure as a factor is important because it provides insight into the individual level status of the person as he moves forth through the world. Though the actual failure may have come about through microsystemic interactions, the repercussions of the failure may have created internalized feelings of self-doubt, anger, or hatred that would in turn affect his experiences with others. It also highlights the idea of strain or difficulties as they relate and interact with environmental and relational factors. The shooters were classified as experiencing failure if there was documentation of social, academic, professional, or relational failure at culturally or socially accepted goals and norms. Examples included being bullied or outcast by others, getting fired or suspended, experiencing divorce or relational problems with a significant other, or failing to meet academic or professional expectations.

The second individual level factor is mental illness. This, presented as a factor in the truth tables, allows for a more complex understanding of mental illness as a feature that interacts with other factors rather than a singular cause. As discussed, mental illness is often examined with a mono-causal, singular focus as a strongly influential factor in active and mass shootings. However, by using it in conjunction with other factors, it provides a more combinatorial, interactive picture of the individual.

Symptoms discussed in the data included hallucinations and/or delusions, depression, paranoia, anxiety, or antisocial tendencies. Interestingly, these symptoms or illnesses may have been influenced or exacerbated by the individual’s failure, so the combinatorial relationship is certainly one of importance. In Chapter 6, the information was presented with four different options: no history or symptoms, symptoms without a diagnosis before the attack, a confirmed diagnosis before attack, and a confirmed
diagnosis after attack. Table 7.3 offers the descriptive statistics offer for each category to highlight the distribution of these symptoms and diagnoses.

Table 7.3. Symptoms and diagnoses of mental illness.

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No symptoms/diagnoses</td>
<td>111</td>
<td>44.22</td>
</tr>
<tr>
<td>Symptomatic before attack</td>
<td>77</td>
<td>30.68</td>
</tr>
<tr>
<td>Diagnosis before attack</td>
<td>36</td>
<td>14.34</td>
</tr>
<tr>
<td>Diagnosis after attack</td>
<td>27</td>
<td>10.75</td>
</tr>
</tbody>
</table>

Approximately 44 percent of the shooters had no recorded evidence of symptoms of mental illness or any formal diagnoses before their attack. Of the remaining 140 shooters, though, 77 had symptoms such as paranoia, anxiety, suicidal behavior, or documented signs of depression. 14.34 percent had a formal diagnosis from a mental health professional, including schizophrenia, bipolar disorder, or major depressive disorder. The remaining 27 were diagnosed with a mental illness after their attack, typically in relation to their court proceedings.

While mental illness is a truly complex factor to evaluate, the nature of the truth table necessitates a binary approach. For the purposes of this chapter, those shooters with symptoms or diagnoses before or after the attack were classified as “mental illness present.”

The third and final individual level factor is the concept of radicalization. Though relatively rare in the United States, it remains a crucial piece when understanding the motives behind attacks. Radical thoughts and ideologies certainly played an important role in the lives of some of the shooters. Though these occurred in such a small percentage of the sample, it is imperative to note the interactional effects of radicalization with other individual level and multilevel factors. Radical shooters may possess certain
qualities or characteristics that are similar in nature to other types of shooters, and thus it would be irresponsible to disregard the need to for including it as an individual-level factor.

For the purposes of this study, the shooter was classified as being “radical” if the data indicated that he had any history or experiences with radical thoughts, ideologies, or hate groups. Examples included communication with Al Qaeda, participation in white supremacist organizations, and a commitment to radical Islam. Such beliefs may also have been influenced by mental illness. As such, the importance of the combinatorial effects of the factors once again plays an important role in distinguishing the more nuanced nature of radicalization.

This chapter, then, examines failure, radicalization, and mental illness as three potentially overlapping types of motivations for mass shootings. The combinations allow for comparison between the shooters based on these important and emergent factors from the data. To annotate the presence or absence of the factor, lower case and capital letters were used. The researcher sought information for each of the shooters, and in the presence of failure, radicalism, or mental illness, marked him with a capital letter. In the absence of the information, a lower-case letter was used. With three motivational factors and two possible outcomes for each, this allowed for eight possible combinations of factors. Once these eight combinations were evaluated and compared, they were also used as the basis of comparison to examine the interactions and relationships with other multilevel factors. The descriptive statistics and an overview of the combinations are listed below.
The Combinations

Given the three individual-level, binary foundational factors, there are eight possible outcomes, represented above in Figure 7.1. The capital and lower-case letters represent the presence of absence of the factor, respectively. So, for example, FrM would indicate failure and mental illness noted in the qualitative data and the absence of radical thoughts or ideology. The average and totals for victim injuries and deaths, average age, total and percent of male, and average number of guns provided for each type. While this study would have ideally compared these statistics using Chi-square and ANOVA analyses (for an example, see Lankford, 2012), the small sizes of some of the groups have rendered these tests ineffective. Rather, they are presented for descriptive and comparative purposes in the hope that future studies will be able to remedy these issues.

Before the discussion of the descriptive statistics, there are two important highlights to note. One of the primary issues is that there were no shooters that had any documented incidents of failure, radicalism, and mental illness symptoms combined (FRM). The absence of this combination indicates the unique nature of three individual factors and should be a relevant consideration when evaluating the factors and both their distinct and combinatorial influence.

Secondly, 41 of the shooters (16.33 percent) did not have documented examples of any of the three individual factors. This finding points to the need for further exploration into other potential causes outside of the ones discussed in this chapter. While the three factors were the most commonly found themes in the qualitative data, there may

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2 Other tests for consideration for these comparisons included the Kruskal-Wallis test, Mann Whitney U test, and the Wilcoxon test signed rank test. However, because of the degrees of freedom concerns, these tests will remain possibilities for future research.
be other explanations, influences, or details that may have combinatorial or conjunctural
effects that are associated with varying characteristics of active and mass shootings.
Table 7.4. Combinations and descriptive statistics.

<table>
<thead>
<tr>
<th></th>
<th>Total (%)</th>
<th>Total Male (%)</th>
<th>Avg. age (sd)</th>
<th>Total dead (%)</th>
<th>Avg. dead (sd)</th>
<th>Total inj (%)</th>
<th>Avg. inj (sd)</th>
<th>Shooter death (%)</th>
<th>School non-IHE (%)</th>
<th>IHE (%)</th>
<th>Office (%)</th>
<th>Mall (%)</th>
<th>Comm non-mall (%)</th>
<th>City/state/fed (%)</th>
<th>Place of employ (%)</th>
<th>Other (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>frm</td>
<td>41 (16.4)</td>
<td>39 (95.1)</td>
<td>30.4 (17.4)</td>
<td>77 (9.9)</td>
<td>2.0 (2.6)</td>
<td>94 (9.9)</td>
<td>2.5 (2.1)</td>
<td>12 (29.3)</td>
<td>9 (21.9)</td>
<td>4 (10.0)</td>
<td>3 (7.3)</td>
<td>0 (0)</td>
<td>5 (12.2)</td>
<td>1 (2.4)</td>
<td>13 (31.7)</td>
<td>3 (7.3)</td>
</tr>
<tr>
<td>frM</td>
<td>64 (25.5)</td>
<td>59 (92.2)</td>
<td>31.7 (14.7)</td>
<td>207 (26.6)</td>
<td>3.29 (4.5)</td>
<td>274 (4.4)</td>
<td>4.4 (6.6)</td>
<td>27 (42.2)</td>
<td>21 (32.8)</td>
<td>5 (7.8)</td>
<td>3 (4.7)</td>
<td>1 (1.6)</td>
<td>7 (10.9)</td>
<td>4 (6.3)</td>
<td>13 (20.3)</td>
<td>9 (14.1)</td>
</tr>
<tr>
<td>fRM</td>
<td>3 (1.2)</td>
<td>3 (100)</td>
<td>39.3 (3.2)</td>
<td>6 (0.8)</td>
<td>2.0 (1.0)</td>
<td>7 (0.7)</td>
<td>2.3 (2.5)</td>
<td>1 (33.3)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (33.3)</td>
<td>0 (0)</td>
<td>2 (66.7)</td>
</tr>
<tr>
<td>FrM</td>
<td>73 (29.1)</td>
<td>72 (98.6)</td>
<td>33.7 (13.9)</td>
<td>309 (39.8)</td>
<td>4.3 (5.2)</td>
<td>364 (38.4)</td>
<td>5.1 (8.3)</td>
<td>29 (39.7)</td>
<td>19 (26.0)</td>
<td>7 (9.6)</td>
<td>2 (2.7)</td>
<td>1 (1.4)</td>
<td>10 (13.7)</td>
<td>3 (4.1)</td>
<td>25 (34.2)</td>
<td>5 (6.8)</td>
</tr>
<tr>
<td>fRm</td>
<td>5 (2.0)</td>
<td>5 (100)</td>
<td>43.6 (20.6)</td>
<td>2.7 (4.2)</td>
<td>4.2 (5.2)</td>
<td>42 (4.4)</td>
<td>5.0 (8.4)</td>
<td>1 (20.0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (20.0)</td>
<td>1 (20.0)</td>
<td>3 (60.0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>FRm</td>
<td>2 (0.8)</td>
<td>2 (100)</td>
<td>40.5 (0.7)</td>
<td>1.0 (4)</td>
<td>4.0 (2.8)</td>
<td>8 (0.8)</td>
<td>4.0 (0)</td>
<td>2 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>2 (100)</td>
</tr>
<tr>
<td>Frm</td>
<td>63 (25.1)</td>
<td>63 (100)</td>
<td>38.3 (13.8)</td>
<td>19.2 (2.4)</td>
<td>2.4 (2.0)</td>
<td>158 (16.7)</td>
<td>2.5 (3.0)</td>
<td>37 (58.7)</td>
<td>5 (6.8)</td>
<td>3 (4.8)</td>
<td>5 (7.9)</td>
<td>0 (0)</td>
<td>10 (15.9)</td>
<td>2 (3.2)</td>
<td>34 (54.0)</td>
<td>3 (4.8)</td>
</tr>
<tr>
<td>Total</td>
<td>251</td>
<td>243</td>
<td>34.1</td>
<td>777</td>
<td>3.2</td>
<td>947</td>
<td>3.9</td>
<td>109</td>
<td>54</td>
<td>19</td>
<td>13</td>
<td>3</td>
<td>33</td>
<td>14</td>
<td>85</td>
<td>24</td>
</tr>
</tbody>
</table>
**Description of the combinations.** Table 7.4 indicates the distribution of the shooters among each of the seven categories. As previously noted, none of the shooters were categorized in the FRM category (with all three motivational factors represented), leaving seven remaining combinations of factors. The table presents the total number of shooters who fit each combination. The bottom row presents total numbers as well as overall averages (when appropriate) for easier comparison.

Of the 251 shooters, there were ten who had any record of radicalized ideals, thoughts, or communications. Of these ten shooters, a relatively small percentage of the dataset, five exhibited radical thoughts alone (fRm), three displayed symptoms of or were diagnosed with mental illness in addition to their radical ideals (fRM), and two experienced some type of failure in addition to their radicalization (FRm).

The remaining shooters (excluding those 41 shooters who exhibited none of the motivational factors) were categorized into three remaining categories, frM, FrM, and Frm. 64 suffered from mental illness symptoms alone, 73 experienced failure of some sort in addition to mental illness, and 63 experienced failure in the absence of radicalization and mental illness.

It is crucial to note that the FrM category represents 29.08 percent of the shooters (the greatest number of shooters) and shows the existence of failure in conjunction with mental illness among the shooters. While this is an important finding, the methodological approach of QCA does not lend itself to discussing issues of causality. As such, it is not implying that mental illness symptoms caused the social, romantic, academic, or professional failures that the shooters experienced. Similarly, it cannot assert that failures
exacerbated any symptoms of the mental illness. Instead, it simply identifies the
coeexistence of the two motivational factors as they are presented in this research.

The following sections outline the shooter characteristics and the event
characteristics as they relate to each of the groups to explore the ways in which the
groups are similar and different.

**Shooter characteristics.** First, this chapter compares the shooter characteristics of each
of the types. While race and ethnicity would certainly be important characteristics to
consider, the data were not available in all cases. Rather than hazard a guess in many
cases for which they were unclear, it seems more methodologically conservative to not
include this information in the analysis. The information available from the NYPD
Active Shooter database and the Stanford Geospatial Center Database, however, offers
clear information regarding shooter age, gender, and outcome. As such, the following
sections discuss the findings from each group regarding these factors.

**Gender.** As expected, the clear majority (96.81 percent) of shooters were male.
Only eight of the shooters were women, and of those, they only appeared in categories
with mental illness (frM and FrM) or no present factors (frm). None of the females in the
dataset had any indication of radicalization, and none suffered from failure alone; for
women, in the instance of failure, it was always accompanied by mental illness.

This certainly relates back to the earlier discussion about hegemonic masculinity
in Chapter 2. It cannot be ignored that there were no women in the failure alone (Frm)
category. As Madfis (2014) noted, “By one last catastrophic show of force, entitled but
continually emasculated men feel homicidal violence on a massive scale will regain lost
feelings of masculinity, superiority, and power” (78). The vast disparity between genders
in this category warrants further evaluation of the importance of gender, masculinity, and the role they play in influencing decisions to commit acts of violence.

Perhaps even more important than the fact that there were only eight women in the dataset is the finding that six of the eight suffered from some type of mental illness. Compared to the men in this dataset, the women clearly had similarities in their potential motivations, while the men had a greater difference in their dispersion among the categories.

Age. The average age of all the shooters, as noted in Table 7.2, is 34.17 years old. While some of the categories (frm, frM, and FrM) are within four years of the average, others show a higher average age, particularly (fRM, fRm, FRm, and Frm). Of interest is the fact that the average age of those combinations that include radical thinking are those with the highest average ages. The radical alone category (fRm), showed a broad range of ages from 18 to 88. The other two radical categories, however, had the least dispersion among the shooter ages. The failure and radical category (FRm) only had two shooters, but they showed the smallest range with the shooters being 40 and 41 years old. Similarly, the failure and mental illness category (fRM) showed that the three shooters were close in age with the minimum at 37 years old and the maximum at 43 years old. At an older age, these shooters may have had more time to develop their radical ideals or taken time to develop their thought processes and plan their attacks.

Of the non-radicalized shooters, the failure alone category (Frm) showed a broad dispersion with the youngest being 13 and the oldest a 71-year-old shooter. However, incidents of failure alone may have been influenced by cases of professional failure and workplace shootings, as these may have been older, more established adults who felt their
failure and losses more profoundly than shooters in other categories, supporting Lankford’s (2012) findings.

The lowest average age of the combinations occurs in the absence of all possible factors, while the next second lowest occurs when only mental illness was present of the three.

**Shooter death.** The data also allow for comparison of the types based on the outcomes of the shooters. The NYPD database provided information and classified the results as: suicide, force, no force, and attempted suicide. However, the Stanford database did not differentiate between forceful or non-forceful arrest.

To remedy the discrepancy, a new variable was created to classify the outcome as result in the shooter’s death or non-death, like Lankford’s (2015) comparative analysis of shooters who live and die. Here again, a Chi-square test would have been useful, but the small numbers in some of the cells make the test less than optimal. In the total dataset, however, 43.4 percent died at the scene of the attack while the remaining 56.6 percent lived and were arrested. Only two shooters attempted suicide but were unsuccessful, and they were from the mental illness and mental illness plus failure combinations.

The two radical plus failure shooters both died at the scene of their attacks. Of the more common combinations (those with more than 40 shooters), the highest percentage of shooter deaths is failure alone (58.73 percent). To understand the individual level factors and their influence, it helps to evaluate them and compare their total combinations. Table 7.5 shows the overall comparison of the combinations, and the data indicate that combinations that include failure produced the highest percentage of shooter deaths.
Table 7.5. Combinations and shooter deaths.

<table>
<thead>
<tr>
<th>Shooter death</th>
<th>Total</th>
<th>Factor percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- FM</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>- FrM</td>
<td>29</td>
<td>73</td>
</tr>
<tr>
<td>- FrM</td>
<td>37</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>68</td>
<td>138</td>
</tr>
<tr>
<td>Mental Illness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- fRM</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>- frM</td>
<td>27</td>
<td>64</td>
</tr>
<tr>
<td>- FrM</td>
<td>29</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>57</td>
<td>140</td>
</tr>
<tr>
<td>Radicalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- fRM</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>- fRM</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>- FRM</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

Of the combinations with mental illness, mental illness alone is the highest to result in shooter death (42.18 percent). Interestingly, in combination with failure – the highest overall influential factor in shooter death – the percentage of shooter death drops to 39 percent.

Nearly 50 percent of those who experienced failure died at the scene of their attack. This is affected by the increased percentage for those who experienced failure alone. However, 39.72 percent of those who experienced failure in combination with mental illness, it creates an increased need for understanding the ways in which failure affect the decision to commit suicide or die at the scene.

And finally, aside of the presentation of radicalism alone, the absence of any of the three factors is of the least likely to result in the shooter’s death at 29 percent. Again, the absence of the factors and this important finding raises the need to understand other individual-level factors and potential explanations.
**Attack characteristics.** The following section addresses the specific factors related to the attacks and compares them between categories. The databases provided information about the attacks, including the location type, the total number killed and injured, and the number of guns brought to the scene.

**Location type.** Table 7.4 also outlines the location types and the combinations. The broad distributions of the location types for many of the combinations demonstrates the various motivations behind each. Such findings may affect the ways in which we evaluate and compare location-based types, as there may be differing motivations despite a similar location choice.

Shooters who experienced failure alone and mental illness alone had a wide range of locations, representing all categories except for malls. Of those in the failure alone category, 54 percent perpetrated their attacks at their place of employment. For mental illness alone, however, many shooters (nearly 33 percent) attacked a school, indicated an increased need for examination of mental health policies relating to school students. Overall, though, those shooters who experienced failure and mental illness (either alone or in combination) were more likely to choose the places of their perceived injustices, such as their place of employment, schools, or universities.

However, radical shooters more often chose symbolic targets, such as city, state, or federal buildings or “other” locations, which included a Sikh temple and a museum. Failure alone is the combination most likely to occur in a place of employment, thus offering further insight into the workplace shooter.

Within many of the combinatorial factors—specifically the non-radical combinations—nearly all the location types are represented. This highlights the wide
variety of targets for each combination and suggests that location-based analysis of
shooters may not be the best approach for explanation and theory building. Rather, this
research indicates the need to for a stronger focus on the individual-level characteristics
or factors and how they influence target location. For example, the 54 school (non-IHE)
shooters in the database were committed by those in four separate combinations (frM,
FrM, Frm, and frm). As such, further exploration into school shootings could focus on the
role of failure and mental illness—both alone and in combination with the other—and
their absence.

To gain a clearer understanding of the importance of location choice for an attack,
the researcher created a new factor identifying the shooters’ associations to the setting. If
there was documented evidence that the shooter had a prior relationship or association to
the attack, it was coded as “association.” Such examples included a current or former
place of employment (most common), a spouse or significant other who worked at the
location, or a conflict at the location shortly before the attack (e.g. being ejected from a
bar and returning with a weapon). In instances in which a conflict arose rather
spontaneously, it was still noted as having an association, as the conflict or problem at the
time may have motivated the choice for violence. This is in stark contrast to the notion of
a random attack on a location solely for its symbolic message. Table 7.6 presents the
data.
Table 7.6. Combinations and location associations.

<table>
<thead>
<tr>
<th></th>
<th>Total (%)</th>
<th>No association with location (%)</th>
<th>Association with location (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>frm</td>
<td>41 (16.33)</td>
<td>4 (10.53)</td>
<td>37 (90.2)</td>
</tr>
<tr>
<td>frM</td>
<td>64 (25.50)</td>
<td>20 (31.25)</td>
<td>44 (68.75)</td>
</tr>
<tr>
<td>fRM</td>
<td>3 (1.20)</td>
<td>2 (66.67)</td>
<td>1 (33.33)</td>
</tr>
<tr>
<td>FrM</td>
<td>73 (29.08)</td>
<td>8 (10.96)</td>
<td>65 (89.04)</td>
</tr>
<tr>
<td>fRm</td>
<td>5 (2.00)</td>
<td>4 (80.00)</td>
<td>1 (20.00)</td>
</tr>
<tr>
<td>FRm</td>
<td>2 (0.80)</td>
<td>2 (100)</td>
<td>0 (100)</td>
</tr>
<tr>
<td>Frm</td>
<td>63 (25.10)</td>
<td>4 (6.35)</td>
<td>59 (93.65)</td>
</tr>
<tr>
<td>Total</td>
<td>251</td>
<td>44</td>
<td>207</td>
</tr>
</tbody>
</table>

From the data presented in the table, it is clear that most shooters had some type of previous association with their attack location. Of interest is the failure alone combination, in which 93.7 percent of the shooters had a relationship with the location which was most often the place that may have symbolized their failures. Examples include schools where students experienced marginalization, workplaces where employees were fired or humiliated, or businesses where they perceived to have been wronged.

The data also indicate that in cases in which radical ideals are present, the shooter was less likely to have had any prior association with the location. This falls in line with the belief that radical shooters may choose their locations based on their hatred and beliefs rather than any to exact revenge for any personal, meaningful vendetta. Table 7.7 demonstrates this more clearly.
Table 7.7. Individual factor combinations and location associations.

<table>
<thead>
<tr>
<th></th>
<th>Association with location</th>
<th>Total</th>
<th>Factor percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- FRm</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>- FrM</td>
<td>64</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>- Frm</td>
<td>58</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>122</td>
<td>138</td>
<td>88.41</td>
</tr>
<tr>
<td>Mental Illness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- fRM</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>- frM</td>
<td>43</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>- FrM</td>
<td>64</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td></td>
<td>108</td>
<td>140</td>
<td>77.14</td>
</tr>
<tr>
<td>Radicalism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- fRm</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>- fRM</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>- FRm</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10</td>
<td>20.00</td>
</tr>
</tbody>
</table>

This table presents the individual motivations and the shooters’ association with the locations of their attack. As in the previous table, those combinations that had the presence of failure had the highest rates of association (88.41 percent). Similarly, with mental illness, the majority also had relationships with the location. However, those combinations that included radical behaviors and ideologies were the least likely to have had any type of relationships or associations with the locations that they chose. Examples are a White supremacist shooting attacking a Sikh temple and a Palestinian teacher who fired his weapon on the observation deck at the Empire State Building. The only two attackers who had an association with their attack location were a Muslim Army psychiatrist who opened fire at his base and a Vietnamese immigrant who (later told a jury he hated Americans) opened fire at a hospital where his late mother had been treated and died.
Victim deaths. The descriptive statistics also allow for a more thorough understanding of the outcomes of the various combinations in terms of number of victim injuries and deaths. First, the highest average dead occurs in the presence of failure and mental illness (4.29). Though the mental illness and failure combination only accounts from 29 percent of shooters, they account for nearly 40 percent of the total dead and 38 percent of the total injured. In cases in which mental illness and failure alone are present, outcomes are much less deadly. Perhaps the presence of failure with mental illness exacerbates symptoms and makes the need for revenge and deadliness more urgent. Failure in the absence of mental illness or radicalism, however, results in lower average deaths and injuries per incident (2.40).

However, mental illness combined with radicalism produces a notably lower average dead in the absence of mental illness compared to the others (2.00). This may be explained by the symptoms of mental illness distracting from the original targets or limiting the shooters’ organizational and planning abilities. This coincides with Lankford’s (2012) finding that “suicide terrorism attacks (excluding 9/11)…were in fact the least lethal” (262). Radicalism and mental illness are certainly not mutually exclusive, and the intersection of these two factors may result in less deadly attacks. Additionally, the combination of radicalism and mental illness (specifically depression or suicidality) falls in line with Lankford’s (2015, 2012) assertion that suicidal terrorists may often exhibit signs of depression or suicidal ideations. However, in other permutations, radicalism alone and with failure produces two of the highest three average dead of the combinations (4.20 and 4.00, respectively).
Of interest are the lower rates of deaths and injuries among those shooters who had no evidence of the three motivations. This again points to a closer examination of other potential factors that may have influenced their behavior and event outcomes.

Conclusion

This chapter began by identifying the three major motivational characteristics that emerged from the data about the shooters. Building upon prior empirical works such as Lankford (2015, 2012), this study sought to re-aggregate the shooters into a large database in order to create motive-based combinations of active and mass shooters. The QCA approach allowed for the comparison of shooters in a search for underlying similarities based on a common outcome. By coding the three motivational factors as present or not present, the researcher could view the individual shooters using a holistic approach as opposed to a mono-causal explanation and utilize the data in an analytic manner.

Using the QCA approach also allowed for a stronger understanding of the three factors—failure, radicalism, and mental illness—and their individual and combinatorial influence on event outcomes. While the factors and combinations do not imply causality, but rather they identify how these configurations are related to and associated with various event characteristics.

The 251 shooters in the dataset were all classified into seven of the eight possible combinations. While there were no shooters who experienced all three of the motivations, there were 41 shooters who had no documented examples of the factors, highlighting the need for further exploration and potential influences. Most shooters experienced failure alone, mental illness alone, or a combination of the two. Only ten shooters had any record
of radicalized ideals, and some experienced failure or mental illness in combination with their radicalization.

When linking these combinations to the shooter characteristics, there were two notable findings. Nearly all the shooters (96.81 percent) were male. Of the eight female shooters, two had no documented evidence of any of the motivations, but the remaining six all experienced symptoms of mental illness (either alone or in combination with failure in one case). None of the women experienced failure alone. This indicates a clear need for the role of mental illness, masculinity, and gender in future research in responses to stress and decisions to commit acts of violence.

The second finding in relation to the shooter characteristics related to age. While the average age of all the shooters was 34.17 years old, the radical shooters all had the highest mean ages and a broader range of ages as compared to the other combinations. Of the non-radicalized shooters, the failure alone category showed the highest average age, potentially representing the older, more established shooters (including workplace shooters).

In terms of event characteristics and outcomes, there were four important findings. The first relates to shooter outcomes and combinations. Looking to Lankford (2015) for guidance, this research used a binary variable to classify the outcome as resulting in the shooter’s death or non-death. Though both radical plus failure shooters died at the scene, when examining radicalism (either alone or in combination with the other factors), these shooters had the lowest percentage (40 percent) of deaths at the scene of their attack. Those who experience failure had the greatest percentage of deaths at the scene. Of those, the failure alone combination experienced the highest percentage
with 58.7 percent dying either through suicide or being killed by law enforcement. Those who had no documented evidence of any of the factors were least likely to die, with only 29 percent dying at the attack, thus indicating the need for further investigation.

The location type for the attack also showed variation between the combinations. A new variable was created to identify prior associations between the shooter and the location to identify the relationship between the combinations and purely symbolic, representative choices as opposed to those locations that may have had been selected out of convenience, revenge, or spontaneous conflict. Most shooters had some type of previous association with their attack location. The radical combinations were the least likely to have had any association, thus furthering the assumption that their locations may be rooted in symbolism and ideological hate rather than in a personal vendetta.

Finally, the data indicated that the highest number of average deaths per incident were found in the mental illness and failure combination. In combinations of mental illness or failure alone, the outcomes produce lower rates of deaths per incident. The research also supports Lankford’s (2015, 2012) finding that radicalism may also be linked to depression or suicidality and results in less lethal attacks. However, radicalization in the presence of failure may result in higher average deaths.

This chapter highlighted important relationships between motivational factors and shooter and event characteristics. By making these connections, we may have uncovered important pathways to violence and identified potential findings that may influence prevention and intervention practices in the future. Rather than assuming, as the public often does, that there are singular causes for mass shootings, this research highlights the nuances of the motivations and how they may relate to vastly different outcomes.
The last aspect of this research, discussed in the next chapter, highlights the rates of change over time, as these combinations and factors come about in a temporal context. As discussed in Chapter 4, a stronger understanding of the rates of change over time may affect the perceptions of active and mass shootings as well as guide the future of public policy in response to these events. As such, the following chapter examines the rates of change in the frequency of events over time, the event characteristics and the lethality of the attacks, and the examines the potential effects of the Columbine attack on rates of change.
Chapter 8 – Research Question #3

*What is the relationship between the motivations and rates of increase of incidents, deaths, and injuries? How do these rates change over time?*

This chapter seeks to explain the relationship between three motivational factors—failure, radicalization, and mental illness—and the rates of change of mass and active shooting incidents over time. Chapter 7 revealed that there are, in fact, relationships between these factors and event characteristics and outcomes.

Chapter 5 highlighted the increasing rates of shooting events at varying thresholds and described the ways in which these thresholds affect the public policy, research methodology, and public perception of the problem. Despite the ongoing and continued use of thresholds, the fact remains that regardless of the minimum victim count used to classify an event as a “mass shooting” or “active shooting,” there is nevertheless an increase of the number of events per year in addition to the increases in the number of deaths and injuries per year as well.

In combining the information from both chapters, the next logical step is to examine and compare the rates of events, deaths, and injuries over time using the motivational factors. By examining the incidents using the combinations from Chapter 7, this allows for a deeper understanding of the types and shootings in a temporal context. While Chapter 7 provided the descriptive statistics per event (e.g. average deaths, average injuries, etc.), this chapter will offer information about the events per year and examine how the yearly rates have increased or decreased. Additionally, it allows for comparison between the motivations and identification of those that are most rapidly increasing and becoming more lethal as time progresses.
Lastly, this chapter will compare rates of incidents, injuries, and deaths using two different time models. The first divides the dataset in half to provide two periods that are of equal length for easier comparison (1966-1989 and 1990-2012). The second uses a critical turning point in mass shooting history to examine the relationship between the attack at Columbine and rates of occurrences. While this does not necessarily imply a causal relationship between this attack and the subsequent shootings, it serves as an important, widely publicized historical event that is often a reference point. Thus, it can serve as a critical comparison for changes in rates over time.

The chapter will begin by offering a review of the descriptive statistics about the mean incidents, deaths, and injuries per year for the combinations. It will continue by adding the element of time first with comparisons between the first and second time periods of the dataset and then between pre- and post-Columbine analyses. It continues with the use of Boolean minimization and Qualitative Comparative Analysis (QCA) to identify the motivations that are most strongly associated with changes over time. The chapter concludes with a brief discussion about the use of this methodology in active and mass shooter research.

**Descriptive Statistics**

Chapter 7 presented the eight combinations of three motivational factors: failure, radicalization, and mental illness. Of these eight possible combinations, the 251 shooters in the dataset were represented in seven. None of the shooters had any documented evidence of all three factors. The descriptive data that were presented analyzed the combinations in terms of the frequencies of incidents and average deaths and injuries per
event. This chapter, however, examines the same event characteristics in the context of time. Table 8.1 presents an overview of the data.

Table 8.1 – Overview of combinations and means per year

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>frm</th>
<th>Frm</th>
<th>frM</th>
<th>fRm</th>
<th>fRM</th>
<th>FRm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean incidents per year</td>
<td>5.21</td>
<td>0.81</td>
<td>1.32</td>
<td>1.51</td>
<td>1.34</td>
<td>0.11</td>
<td>0.06</td>
</tr>
<tr>
<td>Mean deaths per year</td>
<td>16.53</td>
<td>1.62</td>
<td>3.17</td>
<td>6.60</td>
<td>4.40</td>
<td>0.45</td>
<td>0.13</td>
</tr>
<tr>
<td>Mean injuries per year</td>
<td>20.15</td>
<td>2.02</td>
<td>3.36</td>
<td>7.74</td>
<td>5.83</td>
<td>0.89</td>
<td>0.15</td>
</tr>
</tbody>
</table>

Mean incidents, deaths, and injuries per year.

Table 8.1 shows the mean numbers of incidents per year, deaths, and injuries associated with each of the combinations over the 47-year period between 1966 and 2012. The table also presents the overall data for each of these categories as a point of reference, showing an astonishing 5.21 incidents per year that killed an average of 16.53 and injured 20.15 per year. While Chapter 7 presented incidents and averages of deaths and injuries for each combination, this chapter evaluates them in the context of time for the combinations to understand the ways averages in a particularly different way.

The radical shooters combined only represented ten of the 245 incidents (and 251 shooters). Thus, the incidents per year are extremely low relative to the other combinations, and as this chapter will demonstrate, show no specific pattern or have inconsistent patterns throughout the data. While there is certainly more need for research about radicalized, violent individuals, this should put the frequency of failure and mental illness into perspective.
The failure and mental illness combination had the highest number of average incidents per year at 1.51. The failure alone and mental illness alone categories had nearly equal incidents per year at 1.32 and 1.34, respectively, while the frm group (who fit none of the motivations) have 0.81 incidents per year.

These data also present a clearer picture of those combinations who commit the deadliest attacks. Perhaps most interestingly here, though, are the averages of deaths and injuries per year among those who experience failure and mental illness combined. We see that this combination yields the highest averages of injuries and deaths per year (7.74 and 6.60, respectively) as compared to the other four combinations. Putting this in perspective and thinking the consequences of this over the next decade if the rates continue is troubling. In practical terms, especially as compared to the radical groups, it highlights an increased need for treatment and services for those who suffer from failure or mental illness as opposed to an ongoing war against potentially violent radicals domestically and abroad.

Those who had no documented evidence of the motivations had comparatively low rates of deaths and injuries per year as well with 1.62 and 2.02, respectively. Like the findings in Chapter 7, these shooters were not nearly as lethal as those in the other combinations. This warrants further investigation into other factors that may influence outcomes and affect the lethality of their attacks.

Additionally, the failure alone category averaged 3.17 deaths per year and 3.36 injuries per year. Though there were clearly less than the mental illness categories (FrM and frM), the frequency with which they occur—nearly equal to those of the mental illness alone category—are still of concern.
Finally, the mental illness alone combination produces 4.40 deaths per year per year as well, but the failure and mental illness type averages 6.60 deaths and 7.74 injuries per year. This combination, then, accounts for nearly 40 percent of the total deaths and injuries per year despite only representing 29 percent of the shooters in this study. In Chapter 7, we also saw that the FrM group produced the highest average deaths per incident (although marginally so over the fRm category), but framed in an average per year perspective, this provides more insight and opportunities for comparison.

**Rates of yearly increase in incidents, deaths, and injuries per year.**

As discussed in Chapter 4, it is important to understand the rates at which mass and active shooting incidents are increasing, if at all. While Chapter 4 indicated a clear increase in events (at all thresholds), the increases may not be enough to claim that there is an “epidemic” of shooting events as the public tends to believe. And while the rates of the incidents are certainly important to evaluate and analyze, the rates of deaths and injuries are also essential in understanding the true impact and effects of these shootings on the public. By examining the rates of deaths and injuries, we may gain further insight into the lethality of the shootings over time as well as the seriousness and scope of the problem.

Table 8.2 presents data overall rate of increase 1966-2012 (based on the zero-threshold data from Chapter 4) as well as the rates over time for each of the combinations.
Table 8.2 – Combinations and rates of yearly increase over time.\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>frm</th>
<th>Frm</th>
<th>FrM</th>
<th>fRm</th>
<th>fRM</th>
<th>FRm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of increase of incidents per year</td>
<td>0.33</td>
<td>0.04</td>
<td>0.10</td>
<td>0.10</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate of increase of deaths per year</td>
<td>0.96</td>
<td>0.09</td>
<td>0.21</td>
<td>0.39</td>
<td>0.21</td>
<td>0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>Rates of increase of injuries per year</td>
<td>1.08</td>
<td>0.10</td>
<td>0.29</td>
<td>0.48</td>
<td>0.10</td>
<td>0.09</td>
<td>0.01</td>
</tr>
</tbody>
</table>

As presented in Table 8.2, the distribution of the rates of increase in incidents per year is spread across the five combinations. The radical groups, show only a 0.02 increase per year, largely because the first incident occurred in 1997 and their relatively infrequent nature in the subsequent years.

The two combinations including failure (both alone and in combination with mental illness) both present an annual increase of 0.10 incidents per year, the highest of the combinations. Of interest, though, are the rates of deaths and injuries per year in the failure and mental illness combination. While increases of 0.39 and 0.48 deaths and injuries per year may appear to be seemingly miniscule rates, they can have devastating effects over time. This should certainly be of note when analyzing the influence of these two motivational factors on event outcomes together. Failure alone produces the next highest rates of increase across all three variables after failure and mental illness. This finding should highlight the importance of understanding the nature of failure and how it may interact with other unexplored factors.

\(^1\) Columns may not equal totals due to rounding.
Also of interest are the rates of the mental illness alone category. The rates of deaths and injuries per year are rather low compared to the failure alone and failure and mental illness categories. While the rates of incidents and injuries are rather low (and similar to the frm and radical combinations), the rate of increase of deaths is particularly concerning.

Exploring Temporal Changes

To better understand the rates of increase of incidents and the lethality of the events, it becomes necessary to analyze the changes over time. For the purposes of this chapter, the time-period covered by the data (1966-2012) was divided into two groups: 1966-1989\(^2\) and 1990-2012. This is useful for multiple reasons. First, it allows for two nearly equal lengths of time to compare rates of change and means. Secondly, it addresses one of the issues in the FBI’s 2014 report that was strongly criticized by Lott and Riley (2014). They argued that choosing the starting year of 2000 was egregious because “2000 and 2001 were unusually quiet years with few mass shootings” (Lott & Riley, 2014, p. 8). By choosing these two time-periods, this not only allows for comparison, but it also offers a strong starting point (1990) for the second time-period and avoids the issue raised by Lott and Riley.

Additionally, this chapter compares the means and rates of increase of incidents, deaths, and injuries before and after the attack at Columbine in 1999. In doing this, the

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\(^2\) While there were fewer events from the earliest years in the database, we must proceed with caution and remember that there may, in some sense, be an issue of under-reporting from this time-period, as this was not the era of 24-hour news cycles and readily accessible media through technology. This does, however, provide us with a starting point for research and an introductory basis for understanding the rates of change over time.
goal is to use a partial test of the descriptive statistics to identify if there is any indication
of a true “Columbine effect.” Columbine was often depicted as a turning point of sorts in
active and mass shootings. It was widely publicized, and though there had, in fact, been
incidents of school shootings prior to the attack, it became the most notorious attack and
the event against which all subsequent shootings were compared. As such, it becomes
necessary to compare the rates of increase and means—especially in relation to the
evenly divided time-periods—to search for patterns or themes related to the attack at
Columbine.

**Mean incidents, deaths, and injuries per year between Time-Period 1 and Time-
Period 2.**

Table 8.3 offers the means of incidents per year, deaths, and injuries from the first
and second time periods (TP1 and TP2) for each of the combinations. Like the previous
tables, it also offers the averages of the aggregated data (at a zero-threshold) for
comparison.
Table 8.3 shows the increases in all categories between the first time-period and the second. Designed to show the mean number of incidents, deaths, and injuries per year, it highlights some truly shocking differences between the two periods. Overall, the first time-period averaged 1.38 incidents per year, but the second time-period showed an average of 9.22 incidents per year. The second time-period reflects an increase 6.68 times the mean incidents as compared to the first time-period. One cannot ignore the overwhelming evidence of the increasing number of incidents. The increases in average deaths and injuries per year is also astonishing. With nearly five times as many average deaths and nearly four times as many injuries per year in the second time-period, Table 8.3 frames the overall scope of this troubling finding while also evaluating the differences between the combinations.
Yet again, the failure and mental illness combination shows the increasing lethality with more a difference of nearly 10 deaths. The difference is even greater—over 12—for those injuries in attacks perpetrated by those shooters in this category. Not only do we see that the attacks occurring more frequently per year, but that they are becoming increasingly more dangerous.

Though not as significant of an increase, the failure alone combination saw large jumps in both the mean deaths and injuries per year. Failure as a motivation was somewhat rare in the earlier time-period, only resulting in 0.55 deaths and 0.33 injuries per year. However, the second time-period means show deaths and injuries that result in nearly as many casualties as those in the mental illness alone combination.

In the mental illness alone combination, the increase in incidents per year was rather comparable to the failure alone and failure and mental illness category. However, the more troubling finding here was the comparison between injuries and deaths per year. While the other categories reflect similar increases between the two categories, the average injuries per year is not as great of an increase, only moving from 5.04 in time-period one to 6.65 in time-period two. This may suggest that those shooters were more lethal in their attacks, killing their victims as opposed to injuring them.

In the category that had no documented evidence of experience any of the motivations (frm), there were increases in the average number of incidents, deaths, and injuries, but not as sizable. Additionally, as previously noted, there were no incidents of radicalized active or mass shooters before 1997, so there were no deaths or injuries to note from the first time-period.
Yearly rates of increase in incidents, deaths, and injuries per year between Time-Period 1 and Time-Period 2.

Once again, the rates of increase in incidents, deaths, and injuries per year will be presented in relation to each of the combinations, but now in relation to the rates in each specific time-period. Table 8.4 offers the data.

*Table 8.4 - Combinations and rates of yearly increase over time for first and second time-periods.*

<table>
<thead>
<tr>
<th>Rate of increase of incidents per year (TP1)</th>
<th>Total</th>
<th>frm</th>
<th>Fnm</th>
<th>FrM</th>
<th>frM</th>
<th>fRm</th>
<th>fRM</th>
<th>Fnm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of increase of incidents per year (TP2)</td>
<td>0.14</td>
<td>0.05</td>
<td>0.01</td>
<td>0.04</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate of increase of incidents per year (TP1)</td>
<td>0.58</td>
<td>0.11</td>
<td>0.17</td>
<td>0.12</td>
<td>0.15</td>
<td>0.02</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Rate of increase of deaths per year (TP1)</td>
<td>0.48</td>
<td>0.11</td>
<td>0.02</td>
<td>0.26</td>
<td>0.08</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate of increase of deaths per year (TP2)</td>
<td>1.62</td>
<td>0.24</td>
<td>0.32</td>
<td>0.34</td>
<td>0.51</td>
<td>0.13</td>
<td>0.00</td>
<td>0.07</td>
</tr>
<tr>
<td>Rate of increase of injuries per year (TP1)</td>
<td>0.64</td>
<td>0.07</td>
<td>0.05</td>
<td>0.20</td>
<td>0.32</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate of increase of injuries per year (TP2)</td>
<td>1.53</td>
<td>0.32</td>
<td>0.32</td>
<td>0.57</td>
<td>0.02</td>
<td>0.25</td>
<td>0.00</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Comparing the rates of increase for incidents, deaths, and injuries between the combinations over the two time-periods presents unique and unexpected findings. Overall, we see distinct rates of increase between the two time-periods for incidents and averages of deaths and injuries. And while the rate of increase for incidents per year is only 0.44, the rates of deaths and injuries increased by 1.14 and 0.89, respectively. It becomes clear that deaths and injuries are increasing at faster rates over time than are the
incidents. This warrants further investigation into situational and event characteristics that may affect outcomes, such as weapon power and responses to the incidents. The remainder of Table 8.4 also presents other patterns of interest.

First, we see a sharp drop in the mental illness alone category among the rates of increase of injuries between the time-periods. While some may view this as optimistic, it becomes strikingly more ominous when examining it in relation to the rates of deaths per year. As suspected given the mean incidents of deaths and injuries, we see that between the first and second time-periods, there is a sizable increase in the rates of deaths in the same category. It is, in fact, the sharpest increase among any of the combinations while this combination only has a 0.10 rate of increase of incidents per year. This could be indicative of a larger issue regarding the effectiveness and the lethality of these shooters in their attacks.

In line with the prior data showing mean injuries in each time-period, the greatest increase in rates of injuries was again represented by the failure and mental illness category. Yet, among the rates of incidents per year, the greatest change of rates was in the failure alone combination with a change of 0.16 increase in incidents per year and 0.30 in deaths per year. Further, the increase of rates of change for injuries per year were similar for the failure alone combination and those with no evidence of the motivations at 0.27 and 0.25, respectively.

Most importantly, the pattern of increase in nearly all categories across all combinations presents the true crux of the problem. The rates of yearly increase of incidents are clearly being outpaced by the rates of increase of injuries and deaths per year. For example, in the frm category, the rate of change in incidents per year increased
from 0.05 to 0.11. Yet, the rate of deaths per year increased by 0.13, and the rate of injuries increased by 0.25. With increased attacks come even greater yearly rates of increase in injuries and deaths.

While these rates of increase seem somewhat marginal when we think of incidents per year, it becomes more alarming when considering the relatively short time frame in which these events occurred. Considering that there was a nearly 300 percent increase in overall incidents between the first time-period and the second, it becomes imminently more obvious that there are strong and distinct patterns in the yearly rates of increase over time. Further, while each of the per year combinations may represent small fractions of that increase, a 1600 percent increase in failure alone shootings should clearly indicate the need for further examination of these motivations in relation to deaths, injuries, and public safety.

**Mean incidents, deaths, and injuries per year between Pre- and Post-Columbine eras.**

Lastly, this chapter examines the incidents, injuries, and deaths for two other time-periods. While the first was designed to examine two periods of equal duration as a point of reference and comparison, this second section seeks to identify what, if any, relationships may exist between rates and means before and after the attack at Columbine High School. As Kupchik and Bracy (2009) note, “[media] articles position Columbine as a measuring stick against which all school violence is compared” (148). By continuously referencing the infamous tragedy in news stories or comparing other school (or even non-school) shootings to the event, it has become a milestone in American history and something of a landmark turning point in the history of mass shootings. While informed
media consumers and scholars of active and mass shootings will be quick to note that it was certainly not the first of its kind, it has made its mark on the public with the notoriety that it has gained through media attention and all the makings of a moral panic framework.

As such, the notion of the 1999 attack cannot be ignored as a symbolic turning point of sorts which we can, in turn, use to compare events both before and after. While case studies and books have noted the fervor with which other shooters have admired and studied the Columbine shooters, in many cases, we cannot know the extent to which that specific attack may have influenced or inspired other shooters. However, Sullivan and Guerette (2003) noted from their ecological case study of a school shooter in Georgia,

“It is our contention that, at the time of the shootings at Columbine High School, T.J. was suffering from mental illness that had grown steadily more serious since the family’s move to Georgia…and had already manifested itself in withdrawal from others and suicidal thoughts. In this condition, the events at Columbine High School made an enormous impression on him. Withdrawn and lonely, immersed progressively in constructing meaning out of the materials of transgressive popular music, he became obsessed with Columbine” (49-50).

Such case studies provide us with a more thorough understanding of the effect of the attack. In this and other cases, it is evident that, at the very least, the attack had may have had an interactive, conjunctural effect on marginalized, depressed, or suicidal individuals. While this does not prove causality, it is, however, consistent with the idea of a new script in American culture in which mass shootings become a more recognizable solution to personal problems such as failure or mental illness. Because this study is exploratory in nature, it aims to present descriptive statistics and offer analyses of the information as it relates to Columbine. It also takes into consideration prior research conducted by Sullivan and Guerette (2003), Newman (2004), and Felson (1996) suggesting that the
influence of these incidents and their coverage in the media may affect other individuals. The notoriety of the event and the widespread, ongoing coverage (and continuous references and comparisons) can be considered cultural influences or historical markers in the evaluation of increases of yearly rates over time. Thus, pre- and post-Columbine timeframes seem to be a logical tool to compare the rates and means of incidents, deaths, and injuries.

Table 8.5 presents the mean incidents, deaths, and injuries for each combination, comparing pre-Columbine (pre) and post-Columbine (post) statistics. The total column offers the averages from the entire dataset for comparison.

*Table 8.5 – Combinations and mean incidents per year, deaths, and injuries pre- and post-Columbine.*

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>frm</th>
<th>Frm</th>
<th>FrM</th>
<th>fRm</th>
<th>fRM</th>
<th>FrM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean incidents per year (Pre)</td>
<td>2.48</td>
<td>0.48</td>
<td>0.45</td>
<td>0.82</td>
<td>0.70</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Mean incidents per year (Post)</td>
<td>11.57</td>
<td>1.57</td>
<td>3.36</td>
<td>3.14</td>
<td>2.86</td>
<td>0.29</td>
<td>0.21</td>
</tr>
<tr>
<td>Mean deaths per year (Pre)</td>
<td>8.91</td>
<td>0.94</td>
<td>1.42</td>
<td>3.94</td>
<td>2.55</td>
<td>0.18</td>
<td>0.00</td>
</tr>
<tr>
<td>Mean deaths per year (Post)</td>
<td>34.50</td>
<td>3.21</td>
<td>7.29</td>
<td>12.79</td>
<td>8.79</td>
<td>1.43</td>
<td>0.43</td>
</tr>
<tr>
<td>Mean injuries per year (Pre)</td>
<td>12.30</td>
<td>1.30</td>
<td>0.76</td>
<td>4.18</td>
<td>5.88</td>
<td>0.18</td>
<td>0.00</td>
</tr>
<tr>
<td>Mean injuries per year (Post)</td>
<td>38.64</td>
<td>3.71</td>
<td>9.50</td>
<td>16.14</td>
<td>5.71</td>
<td>2.57</td>
<td>0.50</td>
</tr>
</tbody>
</table>

In Table 8.5, we see patterns like those from the earlier time-period comparison. As one would expect given rates and trends outline between the two time-periods, the difference in mean incidents per year overall was greater in the Columbine comparison. With an
average of more than 11 incidents per year, this comparison allows for a consideration of
the influence of the Columbine attack. And while there was an increase of 9.09 incidents
per year, there was an increase of 25.59 mean deaths and 26.34 mean injuries per year.
Basic calculations, then, would indicate that overall, each incident resulted in more than
three deaths and three injuries in the post-Columbine era.

Among the combinations, the greatest difference between pre- and post-
Columbine mean incidents per year was again in the failure alone combination. The
difference, here, though (2.91 incidents per year) was greater than the difference between
the first and second time periods discussed previously. With only a 14-year period,
though, representing the post-Columbine incidents, the data may be more sensitive to
larger numbers, thus overestimating the increases. However, the clear differences
between the pre- and post-Columbine incidents among those who only experienced
failure is certainly of importance.

The lowest change in mean incidents was seen in the radical category, which saw
0.03 incidents per year before Columbine and 0.64 incidents per year. Clearly this is
affected by the small number of incidents and shooters in this category, but it once again
frames the frequency and seriousness of this type of shooter as compared to other
combinations.

Also of interest are the average numbers of deaths per year. Like the previous
time comparisons, the greatest increase between periods was seen in the failure and
mental illness combination. The increase, 9.78 deaths per year, was nearly equal to the
increase in both the failure alone and mental illness alone categories combined. While the
incidents may not have been increasing as rapidly per year as the failure combination, the
attacks were clearly become much more lethal and injurious. The lowest change of average deaths between the pre- and post-Columbine eras were seen in the frm and radical categories again with changes of 2.27 and 2.40, respectively.

Similarly, in the mean injuries per year category, the pre- and post-Columbine difference was also overwhelming for the failure and mental illness combination. With an increase of 12.25 injuries per year, it again demonstrated the increased effectiveness at inflicting harm. This certainly lends itself to future investigation about the mechanisms through which this may have happened, including the types of weapons used, the location types, and the law enforcement response.

Again, we saw the alarming decrease in injuries in the mental illness alone combination. While the mean injuries per year pre-Columbine was 5.88, the mean post-Columbine was 5.71, indicating that those who suffered from mental illness were not necessarily injuring their victims as frequently as in the years prior. However, the change in mean incidents per year—6.24— in the same category (in light of only a 2.16 change in incidents per year), again raises concerns about the lethality of events involving these types of shooters.

**Rates of increase of incidents, deaths, and injuries between Pre- and Post-Columbine eras.**

Table 8.6 presents the rates of increase (or, in one case, decrease) of incidents, deaths, and injuries per year based on the various combinations.
Table 8.6 - Combinations and rates of increase over time pre- and post-Columbine.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>frm</th>
<th>Frm</th>
<th>FrM</th>
<th>frM</th>
<th>fRm</th>
<th>fRM</th>
<th>FRm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate incidents per year (Pre)</td>
<td>0.21</td>
<td>0.02</td>
<td>0.05</td>
<td>0.08</td>
<td>0.06</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate incidents per year (Post)</td>
<td>0.66</td>
<td>0.18</td>
<td>0.16</td>
<td>0.23</td>
<td>0.15</td>
<td>0.01</td>
<td>-0.05</td>
<td>0.01</td>
</tr>
<tr>
<td>Rate deaths per year (Pre)</td>
<td>0.61</td>
<td>0.04</td>
<td>0.13</td>
<td>0.36</td>
<td>0.07</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate deaths per year (Post)</td>
<td>2.62</td>
<td>0.39</td>
<td>0.40</td>
<td>0.93</td>
<td>0.64</td>
<td>0.22</td>
<td>-0.10</td>
<td>0.15</td>
</tr>
<tr>
<td>Rate injuries per year (Pre)</td>
<td>0.80</td>
<td>0.04</td>
<td>0.13</td>
<td>0.39</td>
<td>0.26</td>
<td>0.03</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Rate injuries per year (Post)</td>
<td>3.73</td>
<td>0.80</td>
<td>0.99</td>
<td>1.14</td>
<td>0.38</td>
<td>0.52</td>
<td>-0.13</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Here again we see the disturbing trend of increases in overall rates of incidents, deaths, and injuries with an even more pronounced rate of change between eras. The rate of change in incidents was only 0.45 before and after the Columbine attack, but the rates of deaths and injuries increased by 2.01 and 2.93, respectively. Compared to the rates of change from the previously examined time periods, these rates are astronomically high. While they are from a smaller time-period and therefore more sensitive to larger shifts and more active years, it provides us with a better picture of what this 13-year time-period looked and felt like. This certainly puts into perspective the national feeling that these incidents “are happening all the time.” Combined with ongoing news reports, telescoping, and 24-hour media cycles, such a conclusion seems inevitable, especially in comparison to the relatively “quiet” decades before Columbine.

When examining and comparing the rates of the combinations, one important finding here is the decrease in rates for Radical shooters. In 1999 (Post-Columbine), there
were three incidents of Radical-type shooters who perpetrated attacks, thus creating a unique starting point for measurement that reflected a downward trend in incidents per year. This is certainly also affected by the small number of incidents (a small n), and therefore should be interpreted with a cautious eye. It does offer other interesting findings, though. Despite a marginal decrease in incidents per year, there are still notable increases in the rates of death and injuries per incident. While the incidents may have been decreasing in frequency over time in the Post-Columbine era, the incidents have led to an increase in casualties. This may point to a change in strategies or weapons used by the shooters, and it certainly warrants further investigation into this perplexing finding.

Both the mental illness alone and failure and mental illness combinations saw a 0.57 increase in the rates of deaths per year. However, as we saw in the mean number of deaths and injuries in Table 8.5, the rates of injuries in the mental illness alone category is relatively low compared to the other combinations. Such data lead us to believe that the lethality of these shooters is somehow increasing over time.

Finally, the rates over time reveal that this time-period reflects the largest increase among the shooters who had no evidence of any of the three motivational factors. Moreover, it also shows the greatest increase of in the rates of injuries over time as well. While their attacks may not produce the greatest average number of deaths per incident, the rate at which these seemingly “unmotivated” incidents are injuring victims is alarming. These three factors are clearly part of much larger systems and influences, but as the data indicate, there is a need to evaluate other factors that may affect decisions and therefore affect event outcomes.
Table 8.7 – *Period comparison of differences of means of incidents, deaths, and injuries.*

<table>
<thead>
<tr>
<th></th>
<th>Time-Period 1-2 Difference</th>
<th>Pre- and Post-Columbine Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean incidents per year</td>
<td>7.84</td>
<td>9.09</td>
</tr>
<tr>
<td>Mean deaths per year</td>
<td>22.48</td>
<td>25.59</td>
</tr>
<tr>
<td>Mean injuries per year</td>
<td>24.15</td>
<td>26.34</td>
</tr>
</tbody>
</table>

Table 8.7 presents the raw number differences between the means for each of the time-period comparisons. While there are slightly greater increases in all categories in the pre- and post-Columbine comparison, this may be due to the rate of increase over time.

The primary finding here, however, is the notable increase in incidents, deaths, and injuries per year for both time periods. This points to a clear conclusion that, despite Lott & Riley’s (2014) argument and regardless of the time frame or periods used for comparison, from 1966-2012, there has been, there is, in fact, a discernible increase in the mean incidents of active and mass shooting events and casualties per year over time.

Table 8.8 – *Period comparison of differences of rates of incidents, deaths, and injuries.*

<table>
<thead>
<tr>
<th></th>
<th>Time-Period 1-2 Difference</th>
<th>Pre- and Post-Columbine Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of increase of incidents per year</td>
<td>0.44</td>
<td>0.45</td>
</tr>
<tr>
<td>Rate of increase of deaths per year</td>
<td>1.14</td>
<td>2.01</td>
</tr>
<tr>
<td>Rate of increase of injuries per year</td>
<td>0.89</td>
<td>2.93</td>
</tr>
</tbody>
</table>

Yet, Table 8.8 presents the raw number differences between the rates of increases for each of the time-period comparisons. The difference of rates of increase of deaths and were nearly double that of the evenly divided period, and the difference of rates of
increase of injuries were more than triple. This may, then, be consistent with a true Columbine effect, as one of the most defining aspects of the attack was the high number of injured and dead victims. While the means per year (presented in Table 8.7) between the two periods may not be remarkably greater in the Columbine comparison, the rates at which deaths and injuries are increasing compared to the evenly divided comparison is of importance. Such a finding is consistent with the notion of a true Columbine effect in reference to deaths and injuries and the rates at which they have increased since the notorious 1999 attack.

**Comparative Analysis**

This chapter presents the descriptive statistics disaggregated by combinations and time periods to show the number of incidents, deaths, and injuries per year in addition to the rates of change for each. This process has generated important findings about the frequency with which these events occur and the lethality of the attacks. However, the wide range of information this chapter provides may need further clarification about the relationship of the combinations and the event outcome to changes in rates over time.

Thus, the process of minimization and QCA allows for a better understanding of the importance of the factors and their relationships. The following sections discuss the process of QCA and minimization using the information provided in earlier tables.

The earlier tables in this chapter first allow for a basic comparison between the combinations based on the overall mean incidents, injuries, and deaths (and the rates of change over time for each). The following section begins with a discussion of the overall dataset by comparing the means and rates of increase from 1966-2012 to provide a general overview of the motivational factors most closely related to each.
Using the most basic of principles of Boolean minimization, the objective of this exercise is to simplify the complexity of the findings and use the first step of straightforward logic to create more parsimonious explanations for the greatest increases of rates or means of incidents, deaths, and injuries. Ragin (2014) describes this as the most fundamental of rules and explains:

“If two Boolean expressions differ in only one causal condition yet product the same outcome, then the causal condition that distinguishes the two expressions can be considered irrelevant and can be removed to create a simpler, combined expression” (93).

Hence, if the combinations produce the greatest increase over time for a specific event characteristic, using Boolean minimization, we can produce a reduced expression to identify those factors that are irrelevant for that row. For the purposes of this exploratory analysis, I operationalize this as follows: If two or more combinations all are an order of 1.5 times the size of the other combinations, then they are deemed candidates for minimization. Otherwise, no minimization is deemed possible. The purpose of using this admittedly arbitrary parameter for selection and comparison is to serve as the foundation of the exploratory analysis and maintain consistency across the categories.

**Overall mean incidents, deaths, and injuries.** Table 8.1 presents an overview of the combinations and averages of the incidents, deaths, and injuries per year. For each of these event characteristics, the combinations with the highest mean incidents, deaths, and injuries per year were FrM and frM. The failure and mental illness combination here is of interest, as they appear to interact and produce higher means in all categories jointly rather than each of these in combinations alone. However, for the comparative analysis, minimization is not possible for mean incidents and deaths. Yet, for overall mean injuries per year, minimization is possible.
Using Boolean language and notation, the logical minimization process is as follows:

\[ FrM \text{ combines with } frM \text{ to produce } rM. \]

These combinations together produce the greatest mean injuries per year. Thus, the minimization indicates that the absence the presence or absence of failure is irrelevant. The absence of radicalization and the presence of mental illness (so, in sum, mental illness) is the factor most closely associated with increases in mean injuries from 1966-2012. While failure and mental illness are both independently important and appear to interact, in the same manner as for the other means, mental illness is more strongly associated with mean injuries with or without failure.

**Overall rates of increase in incidents, deaths, and injuries.** Table 8.2 presents an overview of the combinations and the rates of increase of incidents, deaths, and injuries per year. Unlike the means of these categories, the combinations that showed the greatest rate of increase in incidents and injuries are Frm and FrM. For these two categories, the minimization process is as follows:

\[ Frm \text{ combines with } FrM \text{ to produce } Fr. \]

While mental illness may be the most important of the three factors when considering the mean number of injuries per year, failure is most closely associated with the rates of change of incidents and injuries over the entire course of the dataset. This suggests that the rates of these failure incidents (either with or without mental illness) and injuries is increasing at a more accelerated rate than those associated with mental illness.

When examining rates of increase of deaths per year, however, the three combinations that are eligible for minimization are failure alone, mental illness alone, and
failure and mental illness. While both failure and mental illness are related to increased rates of deaths per year, the QCA process indicates that as motivational factors, their presence—either alone or in combination—cannot isolate a singular, minimized explanation for the increase. The fact that neither F or M can be minimized out of the combinations associated with the increased rates of death implies that F and M are both independently and also jointly associated. Their joint occurrence substantially increases the increase in yearly rates of death. This points to an ongoing need for evaluation of the motivations, their interactions, and other potential factors that may not have been included in this exploratory study.

The minimization indicates that failure—with or without mental illness—is the driving force behind the rates of increase of injuries and incidents. The rate of increase of 0.39 per year in the mental illness and failure combinations in affecting the death rate increase is still important to note, as it represents more than 40 percent of the total rate of increase of all the combinations. This finding is consistent with the notion that failure and mental illness, both independently and even more so in combination, are the motivations that produce the greatest increase of deaths over time.

**Discussion**

In the context of an exploratory analysis, this chapter has identified relationships between the motivations and the rates increase of incidents, deaths, and injuries over time. In evaluating the combinations and the ways in which the rates have increased from 1966-2012, this research has shown that incidents have increased across all the measured event characteristics and combinations. In relating these findings back to prior research, this affirms the FBI’s (2014) report that active shootings are, in fact, increasing. By
expanding the dataset to include shootings from a broader time-period, this also addresses Lott and Riley’s (2014) criticism and addresses their primary concern about the start date for inclusion.

In this broad comparison of overall mean incidents, deaths, and injuries per year from 1966-2012, QCA and Boolean minimization indicated that mental illness is the motivational factor most associated with the highest mean injuries per year. Yet, the rate of incidents and injuries per year is more closely related to failure. So, when examining the overall dataset, combinations with mental illness (with or without failure) produce an increase in mean injuries, combinations with failure (with or without mental illness) incidents are increasing at a more accelerated rate with the yearly rates of injuries increasing more rapidly as well.

While this provides an explanation about the trends and patterns over the entire span of time from the dataset, it leads to the inevitable question of causes for these increases over time. If, as Felson (1996) suggested, “the media directs viewer’s attention to novel forms of violent behavior that they would not otherwise consider” (103), these increases could not only be associated with violent video games, television, and entertainment, but also journalistic coverage of violent events such as mass and active shootings. If this is the case, each prior incident combined with ongoing access and exposure to violent media may have created the cultural script that Newman et al. (2008) referenced as necessary but insufficient factors for school shootings. Due to their social impact and ongoing, widespread discourse related to them, such violence may become perceived as a seemingly effective method of expressing aggression to right perceived wrongs.

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For a review of this discussion, please refer to Chapter 2.
To examine the potential influence of these cultural scripts, this chapter evaluates the changes between two time periods. The first divides the time span of the dataset into two evenly matched periods, while the second separates the dataset into two eras: pre- and post-Columbine. Though a weak but partial test, it offers an examination of the yearly rates of change for these periods and identifies the rates of changes and averages of incidents, deaths, and injuries.

From an academic, criminological standpoint, these findings indicate a need for ongoing research into the mechanisms by which these two motivational factors may be affected by or interact with cultural scripts and situational factors to affect outcomes. However, by identifying the relationships between failure, mental illness, and event outcomes, it highlights the complex nature of the situation, the individual, and multilevel influences (as failure and mental illness can both be affected and interact with other Bronfenbrennerian levels to influence development and psychological growth), and societal and cultural forces.

At the very least, though, the data indicate a clear rise in rates over time, with notably increased rates of change in later years suggesting the influence of cultural scripts that are fueled and reinforced by each new incident and ensuing media coverage. Columbine and subsequent attacks have continued to emphasize a new script that outlines mass gun violence as a potential solution that may not have necessarily occurred to aggrieved individuals experiencing strains or suffering from mental illness.

**Conclusion**

This chapter sought to understand the relationship between the motivations and rates increase of incidents, deaths, and injuries to connect the combinations with event
characteristics. It also added the element of time and influence by examining the chronological element and examining it in relation to rates of change by using Columbine as a milestone in mass and active shooter history. The descriptive data and qualitative analysis offered several important findings.

First, this chapter found that the most distinct patterns of increase are all associated with mental illness and failure either alone or in combination. When comparing the combinations in terms of means of incidents, deaths, and injuries per year from 1966-2012. It found that the failure and mental illness combination (FrM) had the highest number of average incidents (1.51), deaths (6.60), and injuries (7.74). This indicates that those who suffered from failure and mental illness combined have historically been among the most common and those who caused the greatest harm.

Secondly, this chapter identified the rates of increase over time to identify the scope of the problem for each combination. The rates of incidents, deaths, and injuries showed the lowest increase in all categories among the radical shooters (likely due to the rarity of their attacks) and the highest rates among the failure and mental illness combinations again.

In order to understand the temporal changes and the importance of time, this chapter utilized two separate measures of time. First, it examined two evenly divided periods: 1966-1989 and 1990-2012. A comparison of the combinations using this revealed notable differences between the first and second time periods, most notably among the average deaths and injuries in the failure and mental illness categories. When identifying increases in rates, though, there were increases in rates of incidents, deaths, and injuries among all combinations with one exception. In the mental illness category
alone, the rate of injuries dropped from 0.32 to 0.02, indicating a decrease in rates of injuries. When compared to the changes in rates of deaths per year, the data suggest increasing lethality and accuracy shooters with this combination of motivations.

The second temporal comparison used the Columbine attack to identify the influence of one of the most infamous shootings in recent history. In comparison to the other time periods, there was a greater number of incidents per year (11.57 compared to 9.22), deaths (34.50 compared to 27.91), and injuries (38.64 compared to 32.48). In most of the categories of mean incidents, deaths, and injuries, failure and mental illness represented the greatest averages. However, the only change was failure alone in the post-Columbine era with the highest number of mean incidents. As expected, the rates of increase in all categories was again higher in the failure and mental illness combination.

Finally, in using Boolean minimization to compare the overall yearly increase in rates of change and averages over time, it became evident that mental illness was most closely associated with mean injuries per year. Failure, however, was associated with increases in rates of incidents and injuries over time.

While failure and mental illness alone still present important patterns of increase over time in terms of means and rates of increase in incidents, deaths, and injuries, the interaction and combination of the two motivations produce the deadliest attacks. The inability to minimize these two combinations to isolate a single factor that drives the rate of increase of death suggests that independently, these two motivations are deadly, but together drive this increasing rate of increase of fatalities per year. It should come as no surprise that alone, each of these motivational factors has deadly outcomes, but within the context of an exploratory analysis, it seems that mental illness and failure to operate and
change in somewhat different ways. However, the combination of the two seems to affect the shooters in different ways and make the need to exact revenge and harm ever more imperative.

The use of QCA and Boolean minimization allowed for observations of patterns that may not have otherwise been uncovered. As an exploratory study, this research attempted to utilize a new methodology to examine the complex nature of motivations, development, and interactions as they relate to outcomes. At the time of this research, to the best of my knowledge, no such methodology has been used to evaluate active or mass shooters and their events. Though the findings are important and demonstrate the existence of different conjunctural pathways, there is a clear need for further examination and exploration about why these different pathways exist and the mechanisms by which they occur.

However, the findings from this chapter and this dissertation offer a broad overview of the qualitative and quantitative themes that emerged from the data. It also offered a new methodological approach to evaluating motivational factors and their relationships with event characteristics and outcomes. The concluding chapter will review the findings of this dissertation, offer policy recommendations, and suggest directions for future research.
Chapter 9 – Conclusion

This research highlights important new findings in terms of descriptive statistics, motivational factors, and conjunctural combinations of active and mass shooters, their attacks, and event outcomes. This dissertation contributes to the body of knowledge by offering unique ways to examine the research and analyze the data about these shooters and their attacks. Both qualitatively and quantitatively, the primary goal in this research was to use the broadest lens to outline the information and make connections between the motivational factors and event characteristics and outcomes.

This information is both necessary and important, because decisions and policies are made based on public opinion, perceptions, and available research. As such, the public and policymakers have the responsibility to understand the trends in data, especially those that are grounded in minimum death thresholds, and the factors and factors that shape their lives and influence the shooters to commit their acts. These are not simply “bad people who do bad things,” but rather people who develop in an environment and interact with others. As a result of any number of factors and interactions, these individuals became perpetrators of violence in an active or mass shooting scenario.

This chapter will begin by presenting an overview of the conclusions from each of the research questions set forth in this study and the contribution to the body of knowledge of each. It continues by discussing the limitations of the overall research, and it finally concludes by outlining the implications for future research and practical applications.
Research Question #1

Chapter 5 began by asking the following question: When broadening the definition of incidents, how do the descriptive statistics about active shooting events change? The purpose of the chapter was to examine how definitions and thresholds affect the current understanding of active shooter events and the offenders. By comparing the descriptive statistics, the chapter aimed to understand how the information changes when raising or lowering the minimum fatality count. Further, it allowed for a thorough way to decide on the proper unit of analysis and definition for the inclusion of cases for the study.

The chapter began by discussing the elimination of a minimum threshold. By evaluating incidents and shooters without a threshold, this allowed for inclusion of more shooters who may only have potentially been eliminated due to situational factors. The intent—to enter a public building and open fire—is still the same, and their inclusion in the study allowed for a broader scope of evaluation of individuals who sought to harm large quantities of people. Comparing the events and shooter characteristics at each threshold allowed us to visually and statistically understand the differences and ramifications of using threshold. As expected, using a lower threshold, we saw that these events occurred more frequently as compared to events using a higher threshold. The average number of fatalities using a zero-fatality threshold was 3.17, as opposed to 8.70 deaths using a five-fatality threshold. The average number injured follows a similar pattern to the average dead per incident, with 3.87 injured at a zero-fatality threshold, and 7.75 injured when using a threshold of five. As the threshold increases, the injured to
dead ratio becomes nearly even, indicating that incidents with the most fatalities have the highest fatality to injury ratio.

To better understand injuries and fatalities, a new variable was created, \( \frac{\text{dead}}{\text{dead} + \text{injured}} \), which allowed for the unique understanding of the probability of inclusion in mass shooting research as opposed to active shooting research. By calculating the likelihood of death if struck in an event. The average value of this is .50, and when calculating the standard deviation for each incident, the likelihood of inclusion in a research study with a threshold is essentially left to chance.

By comparing the descriptive statistics through this varied threshold lens allows researchers to understand the differences at each level as they relate to shooter characteristics, outcomes, and frequency of events. There are, in fact, discernible patterns when using multiple thresholds, as seen in the figures and charts in Chapter 5. This contributes to the body of knowledge by concluding that regardless of thresholds used, there are increases in the number of injuries, deaths, and frequency of events over time, indicating that the use of a zero-threshold is acceptable to use as inclusion criteria for the data in this study. It permits the inclusion of a broad spectrum of shooters and allows for the most thorough, inclusive analysis of the multilevel factors and their interactions that affect and influence development.

**Research Question #2**

While countless journalistic reports, news articles, books, and journals have sought to outline and describe the individual biographical explanations for their actions, the overwhelming evidence points to development occurring on a stage that is created by any number of factors on multiple levels. These factors affect the ways in which
development occurs, the relationships of the individuals in the shooters’ lives, and the
policies and laws that govern behavior and responses from all those involved.

Thus, Chapter 6 sought to answer this question: When using Bronfenbrenner’s
theory of ecological systems, which factors emerge as the most important individual,
relational, and environmental influences in development?

Though politicians and the public may resort to finger pointing and blame
assignment after an active and mass shooting event, this research could parse out the
patterns and themes using an organized, well-developed theory to understand the
influence of major issues that affected the shooters. The study laid out the available
information using Bronfenbrenner’s nested levels of development to understand the
influence and effects of individual factors, relationships, communication, and culture to
seek out the emergent patterns and themes. It evaluated both the individual and social
traits that criminologists have explored for years and emphasizes the important of person-
environment interactions in the context of development.

The goal of Chapter 6 was to lay out the factors in an organized way as pieces of a
larger puzzle and highlight and describe the most influential factors. By using the violent
outcome as an indicator of development, the chapter describes the most important themes
and patterns that emerged from the available data.

First, the mental illness and abnormal behavior affected the way the developing
person interacted with the environment around him. As the “Person” element of the
Process-Person-Context-time model (Bronfenbrenner, 1989), these factors highlighted
the individual and his behaviors and mental state that would have affected his
relationships and face-to-face interactions with people in his microsystem. These may
have been due to genetics or development, but whatever the reason, the traits represent personality and demeanor and are present in all facets of development.

At the microsystemic level, certain factors have a direct influence on development, as they are the face-to-face people and relationships that affect the individual. The emergent patterns that arose at this level were failure and family. Primarily, failure occurred at the microsystemic level through friendships, professional relationships (e.g. between an individual and his boss or a student and teacher), and romantic relationships. Such intimate, devastating failure may have created the need to exact revenge and demonstrate purpose or success in life. In other ways, failure may have been affected by multiple levels such as the exosystem or the mesosystem.

Family, however, could have been normal or dysfunctional, but the interactions likely influenced development in conjunction with other multilevel factors. While some of the shooters were from quaint families, this may be indicative of other factors at play (such as mental illness symptoms that had not yet been manifested); others were from abusive, problematic, or dysfunctional homes, which would have clearly affected developmental outcomes and relationships.

The prevailing pattern at the mesosystemic level was the lack of communication and actions. Those in the individuals’ microsystems were often aware of the individual level factors that may have posed or indicated a threat. However, for whatever reason, they did not share their concerns with others, and the lack of communication may have contributed to the path toward violence. The data indicated that this lack of communication occurred with multiple parties in the individuals’ microsystems, including the police, mental health providers, and employers. Some did not come forward
because they were scared or unsure, while others may have been bound by confidentiality or policies that prohibit the sharing of information except in very specific cases.

The exosystem represented the interaction between an individual in the microsystem and an outside influence. At this level, stressful conditions or settings emerged as an important theme. The environment in which development occurs (for example, the workplace) is often influenced by an external source, such as a CEO or a national push for increased productivity at lesser costs. Conversely, the notion of tightly knit communities can create a stressful environment in which secrecy and privacy prevail. The neighborhood, then, creates this secretive, stressful environment that inhibits mesosystemic communication and preventative measures for fear of offending a community member or the state of peacefulness everyone is expected to enjoy.

Finally, the macrosystem is the greater, cultural influence, policies, or laws that govern American society. The pursuit of success, mental health policies, national gun laws, and technology and the Internet emerged as the institutional patterns of the culture. They guided the other systems and outline what culture looks like and the relationships between the individual and those around him. First and foremost, the pursuit of success sets guidelines for Americans by outlining generally agreed upon social, professional, and academic standards for success. As American move through life, the American dream essentially provides a roadmap for what success looks like and thus drives the notion of success and failure (as noted in the microsystem).

Further, both mental health policies and gun laws explain the American standards and expectations for treatment and access to weapons. They are the guidelines that influence behavior and set boundaries and policies governing how individuals should act
and react. These policies affect the mental health care that a person can receive, the access to resources that he or his family may have, the weapons he can purchase, and the ways that concerns are communicated.

Lastly, technology and the Internet affected American culture and the face of relationships and information by altering the way that people communicate and the access to resources and knowledge. The Internet allowed for people to consistently be in contact with like-minded people, seek out those with similar interests, and share their ideals in a public way. It also created a place to house a wealth of information on all topics from guns to bombs to biographies of shooters. And lastly, it permitted the media to push their way into people’s lives through television, tablets, phones, and computers at a rapid pace.

The American public is now bombarded with information at every turn.

Outside of the nested levels, the chronosystem was the element of time that pushed development along and represented the major events within the multilevel systems. Major life events and prior shootings affected the relationships that the developing person had with those in his microsystem and other levels of development. Essentially, the chronosystem was the way that development occurred chronologically as opposed to simply occurring at a single point in time.

Overall, this chapter identified mental illness and failure as the two most overwhelmingly common factors across the literature. These were the only two factors that affected more than 50 percent of the shooters in the dataset. Additionally, they are unique in that they can both be affected by other multilevel influences. For example, the risk for mental illness may initially be affected by individual-level factors like genetics
and heritability, but the presentation and progress of the symptoms may be exacerbated by biosocial functions including individuals in the microsystem.

Also, failure typically was seen at the microsystemic level through relationships like romantic partnerships, professional and academic interactions, and social situations. Such failure, which may also be affected by other multilevel factors, provides strong support for Agnew’s strain theory and highlight the three types of strain that were outlined in Chapter 2: the inability to achieve a goal, the removal of a positive stimulus, and the presentation of a negative stimulus. The presence of these experiences (and thus, failure and mental illness as a emergent themes) do not indicate causality, but it created the possibility for comparison of the shooters based on these two motivational factors.

Ultimately, this chapter allowed for the evaluation of each shooter as a comprehensive, complex person who, due to a set of circumstances, events, and conditions, committed an act that injured or killed others. It contributed to the body of knowledge by allowing for a large-scale observation of the multilevel factors to highlight the emergent patterns and themes. It addressed the interactive, interrelated nature of the facts and how they shaped development to affect outcomes. Most importantly, it does not identify a singular cause, but rather outlined contributing cultural, relational, and individual factors that affected development as it occurred on a pathway to violence. As such, it created a wide-ranging, thorough description of emergent factors from which the researcher could create combinations for later comparison.

**Research Question #3**

Chapter 7 attempted to answer the following research questions: Using a Qualitative Comparative Analysis (QCA) framework, what combinations of motivational
factors emerge, and how do they connect with shooter and event characteristics and outcomes? By using the two motivational characteristics that were identified in Chapter 6—mental illness and failure—this chapter highlighted the similarities and differences between the shooters and their attacks. It also used radicalization to differentiate between the combinations. While it was relatively rare in the shooter literature, Lankford (2013, 2012) found important similarities between suicidal terrorist attackers, rampage shooters, and school shooters. In order to capture the importance of this factors in the current political and cultural climate, this factor was utilized as a combinatorial factor for further comparison among the shooters.

This chapter created combinations of motivations to identify the ways in which the presence or absence of the factors may have interacted to produce varying event outcomes. The combinations are designed to be representative of the person in the environment at the time of the attack. Of the eight possible combinations of three motivational factors, only seven were present. None of the shooters exhibited all three symptoms.

Chapter 7 first found that nearly all the female shooters (six of the total eight) experienced some symptoms of mental illness. None of the women experienced failure alone. The remaining two female shooters did not have evidence of any of the motivations. Yet, this certainly highlights the importance of masculinity, gender, and mental illness in the context of active and mass shootings.

Next, Chapter 7 found that the radical shooters all had the highest mean ages as well as a broader range of ages compared to the other combinations. Among the non-
radicalized shooters, the failure alone shooters had a higher average age, suggesting that these may have been older, more established individuals.

Those who experienced failure (either alone or in combination with other factors) had the greatest percentage of death at the scene. Failure alone had the highest percentage of the shooters dying at the scene. Those with none of the factors had the lowest percent of death at the scene of the attack.

Lastly, those who suffered from both mental illness and failure had the highest number of average deaths per incident. Mental illness alone or failure alone produced relatively lower rates of death per incidents. The finding, when compared to radical shooters, also supports Lankford’s (2013) finding that radicalism may result in less lethal attacks.

This chapter was useful in identifying relationships between motivational factors and event characteristics. This was important in identifying combinatorial conjunctions and explaining that the presence or absence of multiple factors may lead to violence. The research highlights the nuances of the motivations and how they may relate to vastly different outcomes.

**Research Question #4**

Chapter 8 attempted to understand the relationship between the motivational combinations and the means and rates of increase of incidents, deaths, and injuries. It also added a temporal component to understand the rates of increase and change over time by using Columbine as a milestone in mass and active shooter history to understand its influence in changing the cultural scripts about violence.

The chapter first found that the most distinct patterns of increase are associated with mental illness or failure alone or in combination. The combination of the two,
however, had the highest number of mean incidents, deaths, and injuries per year from 1966-2012. Boolean minimization of the two categories frM and FrM indicated that mental illness, with or without failure, was driving the increase in mean injuries per year.

Chapter 8 also evaluated the rates of increase of incident, deaths, and injuries over time. While radical shooters (with or without mental illness or failure) showed the lowest increase of the combinations in all categories, the highest rates of increase were again among the failure and mental illness combinations. Boolean minimization indicated that failure alone was most associated with the rates of increase of incidents and injuries per year, but the rate of increase of deaths could not be minimized. This is consistent with the notion that failure and mental illness are dangerous and deadly alone, but together create the deadliest scenarios that are driving rates of increase over time.

Additionally, the chapter used two different time comparisons to understand the change in rates of increase over time. In using two evenly divided time periods, 1966-1989 and 1990-2012, this comparison showed increases in mean deaths and injuries, particularly in the failure and mental illness categories. However, in examining the rates of increase, there was a notable exception. In the mental illness alone, the rate of injuries per year dropped from 0.32 to 0.02. Compared to the change in rates of deaths per year, this suggests increasing lethality and accuracy among this combination of shooters.

Compared to these evenly divided periods, the pre- and post-Columbine comparisons showed similar increases across the rates of increase and mean incidents, deaths, and injuries. As expected, the greatest rates of change and means were found in the failure and mental illness categories, with the highest among the combination of failure and mental illness. More importantly, though, in a comparison of the two evenly
divided time periods and pre- and post-Columbine means and rates of increase, the
descriptive statistics appear to support the notion of a true “Columbine effect” related to
discernible increases in rates of deaths and injuries per year.

Limitations

One of the major limitations of this research was the availability of information.
While there were more than 1,100 articles and books, there were still instances and
shooters for which there was limited or no data. Additionally, though every effort was
made to find reliable and accurate information, this study relied primarily on journalistic
accounts to gather information. Other information could have been obtained through
police records or federal reports, but the study sought to gather data from open sources.

The major limitation of this research was the amount of missing data. While the
qualitative analysis was based solely on information that was available, missing
information inhibited the qualitative analysis. When quantifying the data, often, the
factors were coded as unknown because they were simply not mentioned in the research.
If there were more information available, the researcher could have performed additional
statistical tests and analyses.

Further, the reliance on written accounts may have inhibited other information
that could have been obtained through interviews. Ideally, given more resources and
time, the researcher would have attempted to interview the shooters, their families, and
other members in their lives. Such access could have provided more insight and
information where it was lacking. However, due to time constraints and issues of access,
the decision was made to rely on journalistic accounts.

Contributions to the Body of Knowledge
This dissertation research has added to the body of knowledge surrounding active and mass shootings in three ways. First, it presents a compelling argument for dropping the threshold criteria for inclusion in studies in future research. Because the data show similar trends over time regardless of the minimum fatality thresholds, we can conclude that it is methodologically sound to include shooters who had fewer victims, especially when examining motive and development. The use of a higher threshold limits the understanding of the similarities and differences between shooters, and it may affect the interpretation of data for both researchers and academics. This new, comparative research about thresholds can offer new insight about the frequency with which active shootings occur and the number of victims who are injured or killed as a result.

Secondly, this research provides insight into the multilevel factors that may influence development and pathways to violence. By using Bronfenbrenner’s ecological systems of development theory, the available data were organized and explored using a systematic and analytic method of evaluation that allowed for the thorough examination of the factors at multiple levels as well as the interactive effects of each. Rather than a singular focus on one cause or factor, the multilevel, nested factors, in conjunction with the notion of time, allowed for the unique qualitative, comparative analysis of important, influential developmental factors.

Finally, the comparison of the seven motivational combinations allowed for a more granular, nuanced evaluation of the influence of the factors that were identified. The research indicated important differences between the combinations and their relationships to event characteristics and outcomes. Through Boolean minimization, it
also highlighted the driving forces behind rates of change and mean incidents, deaths, and injuries per year.

**Implications for Future Research**

This research utilized new methodology for analyzing and evaluating mass and active shootings, and it led to important findings about event outcomes and their relationships to important motivational characteristics that emerged from the literature. However, it also created more questions and the need for further research. Because the combinations were created using secondary data, it may be necessary to verify and confirm their existence by interviewing shooters who are still alive. Their firsthand knowledge and experiences could offer unique insight to the existing information and allow for any necessary modification or changes.

Perhaps one of the most useful aspects of this research is the process, as it may provide useful insight for researchers, mental health practitioners, criminal justice agencies, employers, and university and school employees. By having a better understanding of these motivations and relationships to event characteristics and attacks, these groups may be able to identify warning signs and the combinatorial effects of their interaction. In addition, they may be able to place an added emphasis on resolving problems or addressing the problems that plagued those who tried to help these shooters.

To date, there is no accepted checklist of warning signs or profiles of active shooters or mass shooters. While this research did not aim to create such tools, it may help to develop information that could be disseminated to the public or institutions such as workplaces, schools, universities, and other locations that have direct access to potential shooters. If people in these areas were to understand the warning signs or
identify steps in the process, they can be encouraged to contact authorities or improve communication with people or agencies who may provided help.

Lastly, if researchers do, in fact, continue this research, the data point to the need to eliminate (or at the very least lower) the minimum death threshold. Especially as law enforcement responses are changing and becoming more effective, there will likely be lower victim counts. However, the goal of such research is to identify people who may be at risk for such behavior and to interrupt the process before the reach the final stage of their attack. As such, it is increasingly more important to include all shooters, regardless of the outcome of their attack, to understand the ways in which their attack could have been prevented.

**Policy Recommendations**

Perhaps one of the most useful findings of the research is the affirmation that, regardless of threshold, the rates of increase over time are steadily increasing, indicating a change in cultural scripts that may have been affected by Columbine and ongoing incidents that are heavily covered by the media. This may necessitate a reevaluation of the procedures and ethics that dictate the ways in which the media decides to cover events and the shooters.

Also, given the role of mental illness in driving rates of increases in incidents and deaths over time, we may need to consider the availability of weapons for those who suffer from debilitating symptoms. While the implication here is not that all those who experience mental illness are potentially violent and capable of mass violence, it is an important distinction to note and, at the very least, worth of debate. President Obama’s proposed legislation to add the prohibit weapon sales for those who receive Social
Security disability benefits due to their mental health concerns may have been a positive start to examining mental illness and weapon possession. However, in light of recent political measure to overturn this legislation, it becomes again important to realize the implications of such measures as the ways it could affect future events and violence.

Lastly, the political climate has also led to an increase level of concern about radicalism, particularly related to radical Islamic terrorism. This database was limited to a time-period in which there were relatively few radical attacks (1966-2012), and there have been other attacks since then, including the shooting in San Bernardino committed by two radical extremists. Even so, the relatively rare frequency with which these occur hopefully can put the level of risk into perspective compared to the rates at which White American males perpetrate these types of attacks.

Conclusion

In the years since 2012 when this data collection ceased, the public has seen additional active shooter events including the shooting at Umpqua Community College in Oregon, the Charleston church shooting, the San Bernardino shooting, and the attack at Pulse Night Club in Orlando. The proliferation of these events should serve as a call to action for researchers to continue their studies so that the academic community can contribute to the prevention of such tragic events. Though the reaches of this area of academic study may not necessarily produce as many victims as other areas such as gang violence or mass incarceration, the need for more information and application strategies is clear. Law enforcement agencies in particular have risen to the challenge and created more direct, effective ways to address active shooter events and learned from each event. Criminal justice researchers, however, need to confirm this is a serious area of research.
and inquiry that has devastating effects on the victims, their families, and the public as a whole.

Finally, though this is indeed a research study, it represents acts that have resulted in the tragic loss of life. Parents have lost children. Children have lost parents. Husbands and wives have gone to work or to the movies or to the mall and not come home. And thousands of people across America are mourning those they have lost due to active shooting violence. Americans are also mourning the loss of the sense of security they may have had before the attacks. These events have shaken Americans to the core, and there has been a public outcry to change policies that could potentially have prevented these horrific acts of violence. Academics, policymakers, law enforcement agencies, mental health professionals, teachers, employers, parents, and friends all have the responsibility to answer this call. As Americans, we cannot simply wait to be outraged by the next shooting that splashes into the headlines. Rather, we are called to find ways to prevent these incidents, provide the help that potential shooters may need, and remove the weapons from the hands of people who may use them to create chaos and harm. In the midst of profound, collective sadness surrounding these events and the mourning of innocent victims, we all must work together to address the ways in which we can put an end to these tragedies and remove them from the cultural narrative.
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APPENDIX B. EQUATIONS AND $R^2$ VALUES.

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APPENDIX C. CHAPTERS 7 AND 8 EQUATIONS

AND $R^2$ VALUES

**Failure Alone (Frm)**

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<td>0.46</td>
</tr>
<tr>
<td>Incidents per year (TP1)</td>
<td>$y = 0.01x + 0.04$</td>
<td>0.02</td>
</tr>
<tr>
<td>Incidents per year (TP2)</td>
<td>$y = 0.17x + 0.54$</td>
<td>0.26</td>
</tr>
<tr>
<td>Dead per year (TP1)</td>
<td>$y = 0.02x + 0.28$</td>
<td>0.01</td>
</tr>
<tr>
<td>Dead per year (TP2)</td>
<td>$y = 0.23x + 2.02$</td>
<td>0.14</td>
</tr>
<tr>
<td>Injured per year (TP1)</td>
<td>$y = 0.05x - 0.28$</td>
<td>0.12</td>
</tr>
<tr>
<td>Injured per year (TP2)</td>
<td>$y = 0.32x + 2.02$</td>
<td>0.14</td>
</tr>
<tr>
<td>Incidents per year (Pre-Columbine)</td>
<td>$y = 0.05x - 0.38$</td>
<td>0.27</td>
</tr>
<tr>
<td>Incidents per year (Post-Columbine)</td>
<td>$y = 0.16x + 2.19$</td>
<td>0.08</td>
</tr>
<tr>
<td>Dead per year (Pre)</td>
<td>$y = 0.13x - 0.80$</td>
<td>0.23</td>
</tr>
<tr>
<td>Dead per year (Post)</td>
<td>$y = 0.40x + 4.31$</td>
<td>0.06</td>
</tr>
<tr>
<td>Injured per year (Pre)</td>
<td>$y = 0.13x - 0.80$</td>
<td>0.23</td>
</tr>
<tr>
<td>Injured per year (Post)</td>
<td>$y = 0.99x + 2.10$</td>
<td>0.33</td>
</tr>
</tbody>
</table>
### Failure + Mental Illness (FrM)

<table>
<thead>
<tr>
<th>Category</th>
<th>Equation</th>
<th>R2 value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents per year overall</td>
<td>$y = 0.10x - 0.78$</td>
<td>0.59</td>
</tr>
<tr>
<td>Dead per year overall</td>
<td>$y = 0.39x - 2.70$</td>
<td>0.32</td>
</tr>
<tr>
<td>Injuries per year overall</td>
<td>$y = 0.48x - 3.87$</td>
<td>0.22</td>
</tr>
<tr>
<td>Incidents per year (TP1)</td>
<td>$y = 0.04x - 0.12$</td>
<td>0.29</td>
</tr>
<tr>
<td>Incidents per year (TP2)</td>
<td>$y = 0.12x + 1.32$</td>
<td>0.24</td>
</tr>
<tr>
<td>Dead per year (TP1)</td>
<td>$y = 0.26x - 1.51$</td>
<td>0.25</td>
</tr>
<tr>
<td>Dead per year (TP2)</td>
<td>$y = 0.34x - 7.51$</td>
<td>0.04</td>
</tr>
<tr>
<td>Injured per year (TP1)</td>
<td>$y = 0.20x - 0.72$</td>
<td>0.18</td>
</tr>
<tr>
<td>Injured per year (TP2)</td>
<td>$y = 0.57x + 7.17$</td>
<td>0.05</td>
</tr>
<tr>
<td>Incidents per year (Pre-Columbine)</td>
<td>$y = 0.08x - 0.53$</td>
<td>0.48</td>
</tr>
<tr>
<td>Incidents per year (Post-Columbine)</td>
<td>$y = 0.23x + 1.43$</td>
<td>0.28</td>
</tr>
<tr>
<td>Dead per year (Pre)</td>
<td>$y = 0.36x - 2.23$</td>
<td>0.36</td>
</tr>
<tr>
<td>Dead per year (Post)</td>
<td>$y = 0.93x + 5.78$</td>
<td>0.09</td>
</tr>
<tr>
<td>Injured per year (Pre)</td>
<td>$y = 0.39x - 2.42$</td>
<td>0.37</td>
</tr>
<tr>
<td>Injured per year (Post)</td>
<td>$y = 1.14x + 7.60$</td>
<td>0.05</td>
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</tbody>
</table>
No Factors Evident (frm)

<table>
<thead>
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<th>Category</th>
<th>Equation</th>
<th>R2 value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents per year overall</td>
<td>$y = 0.04x - 0.19$</td>
<td>0.21</td>
</tr>
<tr>
<td>Dead per year overall</td>
<td>$y = 0.09x - 0.45$</td>
<td>0.13</td>
</tr>
<tr>
<td>Injuries per year overall</td>
<td>$y = 0.10x - 0.37$</td>
<td>0.14</td>
</tr>
<tr>
<td>Incidents per year (TP1)</td>
<td>$y = 0.47x - 0.12$</td>
<td>0.21</td>
</tr>
<tr>
<td>Incidents per year (TP2)</td>
<td>$y = 0.11x - 0.09$</td>
<td>0.22</td>
</tr>
<tr>
<td>Dead per year (TP1)</td>
<td>$y = 0.11x - 0.45$</td>
<td>0.08</td>
</tr>
<tr>
<td>Dead per year (TP2)</td>
<td>$y = 0.24x - 0.59$</td>
<td>0.22</td>
</tr>
<tr>
<td>Injured per year (TP1)</td>
<td>$y = 0.07x + 0.33$</td>
<td>0.06</td>
</tr>
<tr>
<td>Injured per year (TP2)</td>
<td>$y = 0.32x - 0.94$</td>
<td>0.22</td>
</tr>
<tr>
<td>Incidents per year (Pre-Columbine)</td>
<td>$y = 0.02x + 0.10$</td>
<td>0.08</td>
</tr>
<tr>
<td>Incidents per year (Post-Columbine)</td>
<td>$y = 0.18 x + 0.25$</td>
<td>0.18</td>
</tr>
<tr>
<td>Dead per year (Pre)</td>
<td>$y = 0.04x + 0.20$</td>
<td>0.16</td>
</tr>
<tr>
<td>Dead per year (Post)</td>
<td>$y = 0.39x + 0.30$</td>
<td>0.16</td>
</tr>
<tr>
<td>Injured per year (Pre)</td>
<td>$y = 0.04x + 0.62$</td>
<td>0.03</td>
</tr>
<tr>
<td>Injured per year (Post)</td>
<td>$y = 0.80x - 2.32$</td>
<td>0.41</td>
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### Mental Illness Alone (frM)

<table>
<thead>
<tr>
<th></th>
<th>Equation</th>
<th>R2 value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents per year overall</td>
<td>$y = 0.06x$</td>
<td>0.44</td>
</tr>
<tr>
<td>Dead per year overall</td>
<td>$y = 0.21x - 0.60$</td>
<td>0.15</td>
</tr>
<tr>
<td>Injuries per year overall</td>
<td>$y = 0.10x + 3.51$</td>
<td>0.02</td>
</tr>
<tr>
<td>Incidents per year (TP1)</td>
<td>$y = 0.05x - 0.13$</td>
<td>0.19</td>
</tr>
<tr>
<td>Incidents per year (TP2)</td>
<td>$y = 0.15x + 0.51$</td>
<td>0.33</td>
</tr>
<tr>
<td>Dead per year (TP1)</td>
<td>$y = 0.08x + 1.25$</td>
<td>0.01</td>
</tr>
<tr>
<td>Dead per year (TP2)</td>
<td>$y = 0.51x + 0.48$</td>
<td>0.16</td>
</tr>
<tr>
<td>Injured per year (TP1)</td>
<td>$y = 0.32x + 1.00$</td>
<td>0.05</td>
</tr>
<tr>
<td>Injured per year (TP2)</td>
<td>$y = 0.02x + 6.42$</td>
<td>0.00</td>
</tr>
<tr>
<td>Incidents per year (Pre-Columbine)</td>
<td>$y = 0.06x - 0.25$</td>
<td>0.34</td>
</tr>
<tr>
<td>Incidents per year (Post-Columbine)</td>
<td>$y = 0.15x + 1.70$</td>
<td>0.12</td>
</tr>
<tr>
<td>Dead per year (Pre)</td>
<td>$y = 0.07x + 1.32$</td>
<td>0.02</td>
</tr>
<tr>
<td>Dead per year (Post)</td>
<td>$y = 0.64x + 3.96$</td>
<td>0.07</td>
</tr>
<tr>
<td>Injured per year (Pre)</td>
<td>$y = 0.26x + 1.40$</td>
<td>0.06</td>
</tr>
<tr>
<td>Injured per year (Post)</td>
<td>$y = 0.38x + 2.88$</td>
<td>0.10</td>
</tr>
</tbody>
</table>
### Radical Alone (fRm)

<table>
<thead>
<tr>
<th></th>
<th>Equation</th>
<th>R2 value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents per year</td>
<td>$y = 0.1x - 0.10$</td>
<td>0.10</td>
</tr>
<tr>
<td>Dead per year</td>
<td>$y = 0.04x - 0.63$</td>
<td>0.08</td>
</tr>
<tr>
<td>Injuries per year</td>
<td>$y = 0.09x - 1.22$</td>
<td>0.06</td>
</tr>
<tr>
<td>Incidents per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Incidents per year (TP2)</td>
<td>$y = 0.02x + 0.03$</td>
<td>0.04</td>
</tr>
<tr>
<td>Dead per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dead per year (TP2)</td>
<td>$y = 0.13x - 0.70$</td>
<td>0.09</td>
</tr>
<tr>
<td>Injured per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Injured per year (TP2)</td>
<td>$y = 0.25x - 1.21$</td>
<td>0.06</td>
</tr>
<tr>
<td>Incidents per year (Pre-Columbine)</td>
<td>$y = 0.01x - 0.05$</td>
<td>0.08</td>
</tr>
<tr>
<td>Incidents per year (Post-Columbine)</td>
<td>$y = 0.01x + 0.22$</td>
<td>0.00</td>
</tr>
<tr>
<td>Dead per year (Pre)</td>
<td>$y = 0.01x - 0.05$</td>
<td>0.08</td>
</tr>
<tr>
<td>Dead per year (Post)</td>
<td>$y = 0.22x - 0.22$</td>
<td>0.06</td>
</tr>
<tr>
<td>Injured per year (Pre)</td>
<td>$y = 0.03x - 0.33$</td>
<td>0.08</td>
</tr>
<tr>
<td>Injured per year (Post)</td>
<td>$y = 0.52x - 1.32$</td>
<td>0.06</td>
</tr>
</tbody>
</table>
### Radical and Mental Illness (fRM)

<table>
<thead>
<tr>
<th>Category</th>
<th>Equation</th>
<th>R2 value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents per year</td>
<td>( y = 0.00x - 0.04 )</td>
<td>0.03</td>
</tr>
<tr>
<td>Dead per year</td>
<td>( y = 0.01x - 0.08 )</td>
<td>0.03</td>
</tr>
<tr>
<td>Injuries per year</td>
<td>( y = 0.01x + 0.09 )</td>
<td>0.03</td>
</tr>
<tr>
<td>Incidents per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Incidents per year (TP2)</td>
<td>( y = 0.00x + 0.11 )</td>
<td>0.00</td>
</tr>
<tr>
<td>Dead per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dead per year (TP2)</td>
<td>( y = 0.00x + 0.21 )</td>
<td>0.00</td>
</tr>
<tr>
<td>Injured per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Injured per year (TP2)</td>
<td>( y = 0.00x + 0.09 )</td>
<td>0.03</td>
</tr>
<tr>
<td>Incidents per year (Pre-Columbine)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Incidents per year (Post-Columbine)</td>
<td>( y = -0.05x + 0.59 )</td>
<td>0.13</td>
</tr>
<tr>
<td>Dead per year (Pre)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dead per year (Post)</td>
<td>( y = -0.10x + 1.19 )</td>
<td>0.13</td>
</tr>
<tr>
<td>Injured per year (Pre)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Injured per year (Post)</td>
<td>( y = -0.13x - 1.47 )</td>
<td>0.15</td>
</tr>
</tbody>
</table>
### Radical and Mental Illness (fRM)

<table>
<thead>
<tr>
<th>Incident Type</th>
<th>Equation</th>
<th>R2 Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents per year</td>
<td>$y = 0.00x - 0.06$</td>
<td>0.08</td>
</tr>
<tr>
<td>Dead per year</td>
<td>$y = 0.02x - 0.28$</td>
<td>0.08</td>
</tr>
<tr>
<td>Injuries per year</td>
<td>$y = 0.02x - 0.23$</td>
<td>0.08</td>
</tr>
<tr>
<td>Incidents per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Incidents per year (TP2)</td>
<td>$y = 0.01x - 0.06$</td>
<td>0.08</td>
</tr>
<tr>
<td>Dead per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dead per year (TP2)</td>
<td>$y = 0.07x - 0.46$</td>
<td>0.12</td>
</tr>
<tr>
<td>Injured per year (TP1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Injured per year (TP2)</td>
<td>$y = 0.05x - 0.22$</td>
<td>0.08</td>
</tr>
<tr>
<td>Incidents per year (Pre-Columbine)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Incidents per year (Post-Columbine)</td>
<td>$y = 0.3x + 0.04$</td>
<td>0.02</td>
</tr>
<tr>
<td>Dead per year (Pre)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dead per year (Post)</td>
<td>$y = 0.14x - 0.48$</td>
<td>0.13</td>
</tr>
<tr>
<td>Injured per year (Pre)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Injured per year (Post)</td>
<td>$y = 0.05x + 0.18$</td>
<td>0.02</td>
</tr>
</tbody>
</table>
Appendix D. Articles used to create database


Associated Press. (2012, February 29). Neighbor says T.J. Lane, the suspect in the Chardon High shooting, was a normal teenager. *Syracuse.com*. Retrieved from:


Bacon, J. (2012, August 6). Who was Sikh temple shooter Wade Michael Page? USA Today. Retrieved from: 
http://content.usatoday.com/communities/ondeadline/post/2012/08/shooter-identified-in-sikh-temple-killings/1#.U5DCDvldU11

http://www.usatoday.com/story/ondeadline/2012/10/21/wisconsin-mall-shooting/1647513/


http://old.post-gazette.com/pg/12078/1217740-53-0.stm


Green, A., & Filips, J. (1998, May 22) The suspect: Kipland Kinkel’s dark side was no secret to his peers. The Oregonian. Retrieved from:
http://www.oregonlive.com/special/index.ssf/2008/05/the_suspect_kipland_kinkel_s_da.html


http://money.cnn.com/2008/06/05/smallbusiness/guns_at_work.fsb/index.htm?pos tversion=2008062710


shooting-gunman-was-unhappy-at-work-and-had-filed-a-grievance-over-suspension.html


http://www.apnewsarchive.com/1996/Firefighter-Gunman-He-Was-a-Time-Bomb-Waiting-To-Go-Off-/id-093a3d0c193dfa97ac1de0f89df49529


http://www.huffingtonpost.com/2012/04/20/brendan-orourke-gets-life_n_1441728.html


Opyr, J. (2007, May 21). Jason Hamilton killed his wife, then turned his guns on the community. *New West.* Retrieved from: http://newwest.net/main/article/first_jason_hamilton_killed_his_wife_crystal_the_n_he_turned_his_guns_on_the/


