

2023

## A Quantitative Comparison of Mass Shooting Offenders Who Preemptively Used Social Media

Heidi Mathis  
*Walden University*

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# Walden University

College of Psychology and Community Services

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Heidi Mathis

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Walden University  
2023

Abstract

A Quantitative Comparison of Mass Shooting Offenders Who Preemptively

Used Social Media

by

Heidi Mathis

MA, Walden University, 2020

MA, Jones International University, 2014

BS, BA, The Richard Stockton College of New Jersey, 2008

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Forensic Psychology

Walden University

August 2023

## Abstract

The purpose of this quantitative study was to compare the characteristics of offenders who posted on social media for attention versus those who posted on social media for fame using discriminant factorial analysis (DFA). To date, there has been very little research done on social media usage with regards to mass shootings. The wealth of the research close to the study at hand has to do with not naming the offender and the media contingency effect. The current research helped close some of that gap. Researching social media usage and mass shootings showed how the variables: location, rejection, mental health history, criminal history, how weapons were obtained, how the offender(s) were apprehended, household status, education, and whether the offender killed family members relate to criminality. This was in line with the framework for this study, anomie, and strain theory. Out of 300 cases analyzed, 72 were chosen that contained all the variables being analyzed in this study. The results of this study were not significant. The variables did not significantly differentiate the mass shooting offenders who posted for attention versus those who posted for fame. This study may be used by forensic experts for positive social change by understanding social media statements made by mass shooters.

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## Dedication

This paper is dedicated to Patricia J. Smith (July 17, 1959–August 9, 2022). You were more than just my daughter’s nurse these past 7 years. You were one of my closest friends. A friend I chose as my family. You were a second mother to my children, another advocate, and an ever-present “push” when I needed my butt handed to me. You never strayed from reminding me of who I am and what I could be. This paper, my education, and career would be nowhere near where it is today had it not been for you with your “Mary Poppins” force. You are with me every day when I rise, breathe, and continue to push this gigantic boulder known as life up hill, backwards. I can hear you cheer me on, and I know you are so proud of me right now. For that I am eternally grateful. Rest easy my friend.

## Acknowledgments

It would be remiss if I did not start by acknowledging the only person who stayed up endless nights researching mass shooters with me; morbidly hoping this offender would meet all the criteria while falling asleep on her smartphone . . . Emily Jones. From the bottom of my heart, thank you. I would still be trying to find that last one (or 20) if it had not been for your around-the-clock diligence. You are always quick to offer me a hand and one of the only people to acknowledge that I may need a hand. There is no prize big enough. I guess you will have to settle for my first born.

Speaking of first born, I need to also shout out to Richard Lawrence. Not only did you save my oldest from certain demise (probably multiple times throughout his time in junior high), but you were always there to chat crime with me! A few of my offenders came from you! So, thank you! Even one case helped so much as one of the biggest challenges in this paper was to find enough qualified cases.

I must acknowledge all my children, young and old, as well as all my daughter's nurses. Thank you for understanding that I was not "ignoring you" yet working hard to accomplish my goals. Trust, I understand that it feels like I have been working on this paper "forever"! Everything I have done has been to provide a better example and life for my family. I hope you all know that you can do whatever it is you want to do in this life. You just need to set your mind to it and work hard. Never give up. This life is what you make of it and there are no redoes. Nothing worth fighting for is easy; always keep fighting. I love you all and again, thank you. You guys truly are my heart and soul.

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## Chapter 1: Introduction to the Study

### **Introduction**

The dawn of social media created a whole new platform and era for individuals to speak their mind. Many do so freely, often incriminating themselves of criminal activity or the likelihood of engaging in criminal acts. In 2005, about 5% of American adults used at least one form of social media (Pew Research Center, 2018). By 2011, that percentage rose to 50%, and by 2018, it was up to 69% with younger users being at even higher percentages (Pew Research Center, 2018). According to Pew Research Center (2018), Facebook is the most widely used social media platform, closely trailed by Snapchat, Pinterest, YouTube, Instagram, WhatsApp, LinkedIn, and Twitter. Social media provides a platform for anyone to post anything they want. It also enables the user to monitor the popularity of whatever they post (Hawk et al. 2019). Social media is the modern-day telephone and newspaper combined.

Social media enables, facilitates, and provides the platform for opinionated ideologies to be spread amongst any who use social media (Parker, 2019). It also allows like minds to coordinate anything from group crochet to terrorism. Without a doubt, the invention of social media has given new meaning to freedom of speech; however, it has also created an avenue for those craving attention via their behavior (Parker, 2019). Adults try to teach youth to be careful about what they put out there on social media, because once it is out there, it is out there forever. This is an alluring trait of social media to those crying out for help or looking for fame.

Amongst those looking for fame or crying out for help are perpetrators who post on social media (Follman, 2019). The desire for publicity is the final motivating piece many perpetrators need in planning and carrying out their offenses such as mass shootings (Follman, 2015). Furthermore, these types of offenders gather information on how to carry out such offenses from social media posts of past criminal events. Examples of this can be seen in mass shooting events such as the Parkland shooting, Sandy Hook, or the Virginia Tech Massacre; in all of these events, the perpetrators claimed inspiration, motivation, and to some degree, design from Columbine (Follman, 2015). Posts detailing each event can be found online. Groups whose members idolize the offenders can be found on social media. Understanding the implications of the similarities between the two groups should help professionals create predictive technologies and provide better preventative as well as treatment programs for those found to be at risk for offending. Additionally, professionals may gain a better understanding as to why the community should not ignore social media posts; if community members see something, they should say something.

This chapter provides an overview of this study and background on the literature found regarding this study, the gaps in knowledge surrounding this study, as well as why this study was needed. The problem statement points to a greater need for further research regarding offenders who post on social media to be memorialized versus those who post for attention. The purpose of the study, research questions, theoretical foundation, and nature of the study follow. Chapter 1 concludes with definitions of terms,



assumptions, delimitations, limitations, the significance of the study, and a chapter summary.

### **Background**

As social media is still in its infancy, so are research topics involving social media. Hawk et al. found that when adolescents post on social media for attention, they usually do so to recover from a perceived or real social rejection. These attempts tend to backfire and lead to ongoing patterns of self-defeating behavior (Hawk et al., 2019). There has also been research on social media's influence on copycat mass shootings and suicides, providing insight into the role that social media plays in certain mass shootings and killings. Lankford (2018) suggested that the way a culture views fame may be directly related to what one would do to obtain fame. The media sensationalizes crime, violence, mass shootings, and the offenders by naming them. Then the media plays the footage ad nauseum. This creates the inspiration some would-be offenders need to copycat and/or offend. In recent years, preliminary research has been conducted on topics such as the characteristics of fame-seeking individuals who have carried out a mass shooting or attempted to do so.

There is a need for more media psychology to understand the "why" behind human behavior with social media. There is a desired response that an individual is seeking when they post on social media. What it all means is something that needs further investigation. A person's profile often tells more than the author even intended for it to. Understanding people's motives behind posts may help in understanding their current and future intentions. Most social media research has shown how users compensate for

whatever is lacking in their interpersonal relationships or seek an extension of their interpersonal relationships (Edwards, 2017). The Federal Bureau of Investigation (FBI) implemented a “see something, say something” approach to crime stopping after Columbine (Silva, 2021). This approach needs to be extended to posts on the internet. Foiled mass shooting events usually occur because word got out before the event occurred (Silva, 2021).

Surely, posting on social media does not make an individual a mass murderer. However, reading media about mass murder or normalizing the behavior may. Mass murder is not an impulsive crime, which leaves it susceptible to threat assessments (Follman, 2019; Gerard et al. 2016). Understanding more about the similarities among offenders posting on social media will provide better predictive factors when conducting threat assessments as well as in the implementation of preventative treatment plans for those exhibiting specific risk factors, which could lead to the creation of environments that are less violence prone while showing why these posts should not go ignored. Paying closer attention to cyber behavior can reduce mass shootings. Communities have a responsibility to pay more attention to cyber behavior.

### **Problem Statement**

Offenders are posting online, and their warnings are being ignored until their words are acted upon. According to Meloy and O’Toole, over 58% of mass shooters advertised or “leaked” their intentions of violence to a third party before engaging in the act. Media coverage of school shootings influences the way some at-risk youths manifest their pathologies by giving recognition to students who commit these acts and showing

at-risk individuals how to get the recognition they crave (Baird et al., 2017). Meloy and O'Toole suggested that warnings of mass shootings and acts of targeted violence are often communicated to a third party via writings, videos, or social media and have described such warnings as "leakage."

Vossekuil et al. reported that in 81% of school shootings, there is at least one person who knew the offender was planning an attack, and in 93% of those cases, the person who knew was a friend, schoolmate, or sibling. This is a problem. There are individuals who are aware of potential threats yet are not reacting in any preventative fashion. Verlinden et al. suggested that this may be because the threat is not being taken seriously or because there is a fear of the offender, fear that authorities will not respond, or fear of retribution. Gerard et al., (2016) suggested that this phenomenon is due to a "code of silence" held within the community that makes such threats seem harmless. No matter what the reason, a psychological defense such as denial, minimization, or rationalization that calms a person's anxiety, allowing them to cope with knowing that a potentially catastrophic event is imminent, is no reason to ignore a potential threat (Meloy et al. 2004). Any combination of chronic and acute stressors may provide a cocktail for mass violence (Baird et al. 2017). By adopting an antiterrorism approach of "see something, say something," mass shooting events may be reduced (Follman, 2019). This study filled a gap in the literature by focusing specifically on the similarities in the characteristics of mass shooting offenders who post to social media for fame versus those who post for attention.

### **Purpose of the Study**

The purpose of this quantitative study was to compare the similarities and differences between offenders who posted on social media to be memorialized versus those who posted on social media for attention using discriminant factorial analysis (DFA). The nine variables listed above were independent variables. DFA was used to see to what degree those variables belong to the two dependent variables: offenders who post for fame versus those who post for attention.

Through this quantitative study, I aimed to identify the similarities between offenders who wanted to be memorialized versus those who were seeking attention. This was done by specifically focusing on the offenders' relationship to location, rejection (perceived or real), criminal or mental history, method of obtaining weapons, apprehension, household status, and education level, as well as if family members had been killed. This study was performed in the hope of potential threats being more identifiable and proper interventions employed before catastrophic events occur. This study was unique in that social media is a relatively new phenomenon. It was also unique in that locating posts of offenders who committed mass shootings versus those who posted preemptively for fame had never been the focus of a study before.

### **Research Questions and Hypotheses**

RQ1. What characteristics differentiate mass shooting offenders who post on social media for fame versus those who post for attention?

H<sub>0</sub>: There are no differences in mass shooting offender characteristics between those who post on social media for fame versus those who post for attention.

H<sub>1</sub>: There is a difference in mass shooting offender characteristics between those who post on social media for fame versus those who post for attention.

### **Framework**

The theoretical base for this study was Emile Durkheim's anomic theory (Smith, 2014) and Agnew's (2013) strain theory. These two theories are frequently seen together to explain criminal behavior. In Durkheim's (1897) book on suicide, the author explained anomie as a condition where society does not provide moral guidance to its members, causing chaos, rejection, and a loss of self. The term *anomie* is used when referring to those experiencing personal frustration and alienation because of an unstable environment/society (Agnew, 2013; Smith, 2014). This best fits with a culture that prioritizes fame to a point where many will take any form of attention, good or bad, to attain fame. As most research on mass murder, especially involving school shootings, points out, the perpetrator has usually experienced isolation and/or bullying (Baird et al. 2017; Gerard et al. 2016; Johnston & Jay, 2016). Victims of bullying or isolation are likely to experience anomie and retaliate because of the strain.

Strain theory suggests how cultural norms emphasize success through means of obtaining said success. Success is not equally distributed and as a result leads to crime (Agnew, 2013). Lack of fitting in creates a strain on an individual, which may result in

deviant behavior. Strain theory explains how one may cope with strain via violence and thus predicts violence. When an individual perceives victimization, discrimination, and anger, their strain levels increase (Agnew, 2013; Broidy & Santoro, 2018). To lessen this strain, a person without proper support and resources may act to reduce social control by acting out on society (Agnew, 2013; Broidy & Santoro, 2018). For a more detailed explanation, please see Chapter 2.

### **Nature of the Study**

The nature of this study was quantitative. I found cases where the offender posted online before committing a mass shooting event. Comparing similarities between mass shooting offenders who posted on social media for fame versus those who posted for attention was consistent with both Durkheim's anomic theory and Agnew's strain theory (Smith, 2014). DFA was used to see which of the nine independent variables fit into which of the two dependent groups. This determined which characteristics belonged to which type of offender, which characteristics they may share, and whether any characteristics were unique to one group or the other. This quantitative study supported suggestions for preventative threat assessment strategies based on offender characteristics of different offender groups. It may also enable society to better filter what people see on social media, to guide people in how to interpret what they are seeing, and to inform people of when to say something.

### **Definitions**

In this section, I further define all variables for clarity.

*Mass shooting:* There is no agreed-upon definition of what constitutes a mass shooting. For the purpose of this paper, the FBI's definition of killing four or more people, usually in a single location, not counting the shooter themselves, was used.

*Active shooter:* A term recently introduced by the Department of Homeland Security when referencing mass shooting events, *active shooter* is characterized as "an active individual actively engaged in killing or attempting to kill people in a confined and populated area; in most cases, active shooters use 13 firearm(s) and there is no pattern or method to the selection of their victims" (Elsass & Schildkraut, 2016, p. 17).

*Rampage shooter:* A new term used to describe an active shooter who often commits mass murder in the absence of other crimes and often at random targets (Lankford, 2016). For this paper, *rampage shooter* and *active shooter* were synonymous.

*Social media:* A platform that allows information, ideas, and opinions to be shared amongst virtual networks worldwide (Oksanen & Raitanen, 2018).

*Fame-seeking behavior:* Any behavior conducted in the hope of becoming famous and/or never forgotten (Greene-Colozzi & Silva, 2019).

*Attention-seeking behavior:* Any behavior conducted in the hope of gaining a specific person's or group's attention for oneself (Paradice, 2017).

*Media contingency effect:* The spread of certain ideations such as mass shootings, school shootings, and suicide bombings learned, aspired, and inspired by repetitive media coverage of those who have committed heinous acts (Johnston & Joy, 2016).

### **Assumptions**

Assumptions are basic beliefs that an individual believes to be true. I assumed that posts made on social media foreshadowing an event were being made by the perpetrator, as it would not be reasonable to assume otherwise. The data for this study were gathered mainly from news sources. Most of the time, multiple news sources reported on the same incident. If the data gathered were the same, then the data reported was assumed to be accurate. If the data differed, then the case was investigated further. In these instances, legal reports could be found offering accurate information.

### **Scope and Delimitations**

The primary goal of this study was to ascertain the characteristics of offenders who posted online seeking attention versus those who posted seeking fame. Discerning the differences between the two groups may help in identifying which posts to report on when such posts are seen. There was no real threat to internal validity. These variables were chosen because they are the characteristics that most often seen among mass shooting offenders. By analyzing these traits via DFA, one can see which group mass shooting offenders who posted for fame or mass shooting offenders who posted for attention were most likely to fit into. With this information, a better intervention plan can be put into place when such posts or public declarations are received. This study was also bound by the information that was already out there. This study does not provide specific policies and provisions for identifying posts or for mitigating the influence social media has on mass shootings in the United States. It does, however, offer a comprehensive framework that can be applied in policy formulation going forward.



In this study, I looked at mass shooting events that occurred in the United States. The offender(s) killed four or more people in a single location, not counting themselves. There were no age restrictions for perpetrators in this study, but the perpetrator needed to have preemptively posted on social media or had some connection with social media. Great care was taken in not projecting the findings of this study onto all mass shooting offenders. I only looked at offenders who had documented social media usage. Future research will have to be conducted to see the degree to which mass shooting offenders share the variables in this study, omitting social media usage or what type of mass shooter is more likely to commit mass murder.

To ensure that the results of this quantitative study could be replicated, I provided as much detail about variables and events as possible. I also illustrated many case studies and referenced works of literature that helped in the analysis of those who posted on social media for attention versus fame. I also provided a thorough account of the role media played in mass shootings so that this paper would be useful in a comparable context. This study also addressed the main venues where mass shootings were most likely to occur; workplaces, schools, and even some tribal reservations have had mass shooting events.

### **Limitations**

Identifying limitations in a study is important because they can affect the conclusions' validity and the study's replicability. A limitation to this study was that social media is in its infancy. While offender traits have been identifiable in mass shooters, social media is a relatively new tool mass shooters use. Another limitation was

that not all mass shooting offenders post on social media or even share the same forensic profile. Likewise, not all posts analyzed were put up by an offender or even a potential offender. Lastly, a limitation was the tone an article took; because mass shootings are such a polarizing topic, mass media has often focused on gun control or mental health, thus pointing out erroneous social media posts that had little if anything to do with the shooting itself. However, this was a quantitative study, and as such, I only looked at cases that had social media usage and documented facts for each variable being analyzed. By identifying traits of offenders who preemptively used social media either for attention or fame, communities can develop better policies and identify at-risk individuals in efforts to thwart mass shootings before they occur. In a future study, researchers could look at similar posts by individuals who do not offend, or which type of offender seems to offend more—the one who posts for attention, or the one who posts for fame.

### **Significance**

This study was unique because it addressed leakage via social media. Leakage is an under researched area of warning signs when it comes to mass murder (Meloy & O'Toole, 2011). Social media's role in mass murder is virtually unstudied, and yet social media has played a crucial role in the evolution of mass shootings. It would be useful to see how social media could predict mass shooting events. Notoriety was a central motivating factor for historical assassins and seems to be one for today's perpetrators (Fein, 2014). Furthermore, Murray (2014) and Meloy and O'Toole (2011) suggested that fantasies of fame and attention are key to a mass shooter's psychological identity, noting that their belongings and writings tend to be filled with references to past murders. The

results of this study provide much-needed insights into how to differentiate prevention and intervention protocols, as well as risk assessments, creating safer public environments. The study also indicates a great avenue for positive social change. This study identified warning signs not to ignore, furthering the “see something, say something” movement.

### **Summary**

This chapter introduced social media and the role that it plays when used by those entertaining ideas of committing mass shootings either for attention or fame. This chapter provided background information on similar research in this area and what future studies are needed. Chapter 1 outlined the problem that was studied in this research and how it was analyzed. The research questions, hypotheses, and framework were stated. The nature of this study, along with definitions, was also provided. Any assumptions made were outlined. The scope and delimitations were examined, and the limitations as well as significance of this study were explained. Chapter 2 will introduce a review of the literature pertaining to this study.

## Chapter 2: Literature Review

### **Introduction**

A review of current literature indicated that the number of attention or fame seeking incidents involving mass violence and death will not only increase, but also occur more innovatively than before (Greene-Colozzi & Silva, 2019; Lankford, 2016). This could in part be due to the United States' cultural regard for fame (Lankford, 2018). It is also in part due to injustices, real or not, felt by the offender (Gerard et al., 2016). Acting out is a way to achieve fame and vengeance in one effort (Murray, 2017). Nevertheless, there is a lack of knowledge surrounding mass shooting offenders using social media for attention or fame, which limits identification of potential perpetrators, services that could be offered to communities and their potential offenders, and both law and educational reform advancements. This study addressed this gap in the literature in the hope of understanding at-risk individuals via social media usage as well as aiding in the structuring of services for those most at risk and in need of help.

The purpose of the literature review is to lay the foundation for this study. First, I will describe the theoretical bases for this study, which were strain and anomie theory. Then I address the demographics of mass shootings, looking at domestic, workplace, school, tribal, and other locations. The composition of an adult versus adolescent offender is examined, as well as the differences found in religious and tribal violence. Next, the dependent variables are introduced, which included social media in the United States and fame-seeking behavior, attention-seeking behavior, and media contingency. Dependent variables are summed up with fame-seeking rampage shooters: initial findings

and empirical predictions. The independent variables are defined and included offender relationship to location, rejection, made a video or social media usage, mental health history, criminal history, how weapons were obtained, how offenders were apprehended, household status, education, substance abuse history, number of offenders, and family killed by offenders. The last section focuses on the methodological approach used in this study.

### **Description of the Literature Search**

The literature was primarily searched via the Walden University online library. The search focused on peer-reviewed journals through databases such as Academic Search Complete, PsycInfo, PsycARTICLES, CINAHL Plus with Full Text, SocINDEX with Full Text, EBSCO Host, and Google Scholar. Key search terms included *school shooting, school violence, mass shootings, mass murder, social media, fame, attention,* and combinations thereof. Most of the articles were published within the past 5 years (2015–2020), however, several older seminal studies and theoretical writings were included.

Research surrounding social media usage and violence was mostly qualitative or exploratory. Studies found that were relevant to social media usage and violence were those conducted by Lankford (2016, 2018), Langman (2015a, 2015b), Raitanen and Oksanen (2018), and Silva and Greene-Colozzi (2019). Lankford (2016, 2018) focused on fame-seeking rampage shooters, while Langman (2015a, 2015b) focused on shooters' words and school shooters. Langman (2015b) presented a compilation of school shooters' words in the form of video/YouTube transcripts, notes, posts, letters, and essays, which

was aided by Langman's (2015a) collection of school shooters. A study performed by Raitanen and Oksanen (2018) examined the role that social media played in school-shooting phenomena. Silva and Greene-Colozzi (2019) further examined the relationship between fame-seeking mass shooters in America and their severity, characteristics, and media coverage. Last, in 2019, a colleague completed a doctoral study regarding the effects social media had on millennials' counterterrorism-type behaviors (Domasneanu-Miulescu, 2019). In this study, I sought to expand on these studies. This study provided a more in-depth quantitative assessment of social media usage regarding violence and notoriety.

### **Theoretical Framework**

The two foundations for this study were strain and anomie theory. Anomie theory was developed by Émile Durkheim in 1897. Durkheim suggested that society was in a state of instability because of a breakdown in standards, values, or ideals. Robert K. Merton studied the causes of anomie, finding it to be most severe in those who cannot achieve their goals. Durkheim created strain theory and argued that society encourages too much deviance (Merton, 1938). Durkheim suggested that when one is strained trying to achieve a level of fitting in or whatever their vision of success is, one may resort to deviant behavior to fit those visions (Merton, 1938). Americans have an increasing desire for fame, and some seem to have an unrealistic mindset and sense of entitlement in relation to achieving fame (Lankford, 2016). When someone lives in a culture that values fame and attention, they may resort to crimes, even to the extent of murder, for status or attention (Lankford, 2018). Any combination of chronic and acute stressors may provide

a cocktail for mass violence (Baird et al., 2017). U.S. culture needs to improve the systems in place for passing on morals. In an age of technology, people are harvesting a generation of social-networking-dependent individuals who can share and embellish upon their own personal traits until everyone is in competition, and the competition may not be healthy. If it is not a competition for success or fame, it may be a cry for help or attention. In this study, I strived to distinguish the differences between posts for fame and cries for help and those who posted them.

Shultziner pointed out how mistreatment, shame, or humiliation can lead to acting out. Baron (2019) agreed with this by adding that anger/frustration can be particularly criminally yielding. However, as Broidy and Santoro pointed out, acute or chronic strain does not always lead to illegitimate coping mechanisms (Baird et al., 2017). Both anomie and strain theory explain how mistreatment, shame, humiliation, anger, and frustration can be criminally yielding. Durkheim laid the foundation for how a lack of social or ethical norms can lead to deviant behavior. Merton expanded on this theory, suggesting that society puts pressure on individuals to achieve socially acceptable goals whether they have the means to achieve these goals or not.

Anomie and strain theory are frequently seen together in explaining criminal behavior. In Durkheim's book on suicide, he explained anomie as a condition where society does not provide moral guidance to members, causing chaos, rejection, and a loss of self. The term *anomie* is used when referring to those experiencing personal frustration and alienation because of an unstable environment/society (Agnew, 2013; Smith, 2014). Researchers studying mass murder have suggested that the perpetrator, especially in

school shootings, usually has experienced isolation and/or bullying (Baird et al., 2017; Gerard et al., 2016; Johnston & Jay, 2016). Victims of bullying or isolation are likely to experience anomie and retaliate because of the strain.

Merton was one of the first to research deviant behavior for personal gain. He cited that when individuals do not achieve their desired levels of success, they are likely to engage in deviant, even criminal behavior to obtain their goals. Durkheim suggested that cultural norms emphasize success through means of obtaining said success. Success and the means to achieving success are not equally distributed, and as a result, crimes happen (Agnew, 2013). Lack of fitting in creates a strain on an individual, which may result in deviant behavior. Strain theorists explain how one may cope with strain via violence and thus predict violence. When an individual perceives victimization, discrimination, and anger, their strain levels increase (Baron, 2019; Broidy & Santoro, 2018). To lessen this strain, one without proper support and resources may act to reduce social control by acting out on society (Baron, 2019; Broidy & Santoro, 2018). This allows those perceiving that they have lost social status to feel as if they have regained it (Johnston & Joy, 2016).

Broidy and Santoro cited others in suggesting that strains such as those that are unjust, that are associated with low self-control, or that create pressure for a criminal response prove more criminogenic than others. Researchers correlate anger with violence and other negative coping responses that are all linked with strain (Broidy & Santoro, 2018). However, not all people who are stressed are going to illegitimately act out. People perceive and deal with stressors differently. Baron suggested that those who are



angered by a strain are more likely to opt for illegitimate coping mechanisms. Individuals who are angered or frustrated by a strain are often closed to talking and ready for revenge while not caring about the consequences of their actions (Baron, 2019).

One can see examples of strain theory in research conducted on media contagion and mass murder. Johnson and Joy suggested that the media vindicates potential offenders for acting out on their experienced or perceived internal losses. Mass media provides the promise of power and fame to the shooter by negating the experienced or perceived strain put on the offender's psyche (Johnston & Joy, 2016; O'Toole et al., 2014). Evolutionary psychologist Buss suggested that about 90% of the population have had a murder fantasy. The differences between those who act on those fantasies and those who do not may be in part determined by the amount of strain put on the individual. Isolation, rejection, and loss of status quo, experienced or perceived, are all potential strains that the media repeatedly blames for a (mainly school) shooter's behavior, vindicating in the offender's mind their actions (Johnston & Joy, 2016). Johnston and Joy suggested using a "don't name them" policy, thereby taking away that power, fame, and validation while still informing the public of what is going on. This would take away the validation of loss with sensationalized power and just leave the revenge and power.

Strains come in many varieties and vary from individual to individual. What one perceives as a strain another may not. Some may even be more predisposed to acting violently when under strain (Levin & Madfis, 2009). Levin and Madfis explained that long-term strains can build up and lead to isolation and lack of socialization. This makes short-term current strains seemingly that much worse, such that they can even become

catalysts for violence. Levin and Madfis proposed this to be the planning stage where fantasies are born. They suggested that in the fantasy, the at-risk individual regains their lost feelings, whether that loss be real or imagined (Levin & Madfis, 2009). However, according to Levin and Madfis, it takes other stages for mass violence offenders to make the jump from fantasy to reality. The planning stage must occur before the massacre stage can conclude (Levin & Madfis, 2009).

Researchers have indicated that strains increase the likelihood of crime (Broidy & Santoro, 2018). Examples of such strains may include, but are not limited to, harsh parental discipline, criminal victimization, and discrimination (Baron, 2019). Baron suggested that multiple variables may influence strains on crime. Given the multitude of coping strategies and influences over those strategies, it makes sense that multiple strains must converge before criminal coping is likely (Baron, 2019). Agnew and Baron suggested that the person must already be at risk for offending, experience or perceive an injustice, and have access to weapons and an environment to commit crime. Strains heighten emotional response and anger; emotions create pressure, which crime elevates for some (Baron, 2019). Agnew stated that objective strain is subjected to internal review for evaluation and emotional reaction, which leads to coping mechanisms. All of that is influenced by conditioning variables (Agnew, 2013). A common characteristic of offenders, whether they are school shooters, workplace avengers, family annihilators, or any mass shooters, is strain, perceived or experienced.

## **Mass Shootings**

It is with greater frequency that days cannot pass without learning of several mass shootings. Enger (2015) reported that between December 2000 and 2013 there were 160 active shooter situations in the United States where 1,043 people were either killed or wounded. The average number of active shooter situations rose from six incidents a year from 2000 to 2007 to 16 from 2008 to 2015 (Enger, 2015). Johnston and Joy reported mass shootings in the United States to be occurring on average every 12.5 days, with school shootings occurring once every 31.6 days. In late 2017, *The New York Times* ran an article titled “511 Days. 555 Mass Shootings. Zero Action from Congress.” *The New York Times* used the Gun Violence Archive’s definition of mass shootings: an event involving four or more people injured or killed in a single event at the same time and location (Board, 2017). This article was published right after one that was titled “477 Days. 521 Mass Shootings. Zero Action from Congress” (Lello, 2017). Researchers have noted mental illness and gun control laws to be at the center of the controversy (Baird et al. 2017). While Gerard et al. agreed that mental illness and access to guns are indeed offender characteristics, many individuals suffer from mental illness, have access to guns, and do not commit mass murder. The fact that mass shootings continue to occur at alarming rates demonstrated the need for this study.

### **Mass Shooting Offender Demographics**

Mass shootings in public places that are not domestically related are usually the result of the perpetrator having a real or perceived sense of loss that they want to set right via revenge, usually on a group or type of group of individuals (Johnston & Joy, 2016).

An example of this would be most workplace shootings. The profiles of these types of offenders are worth carefully considering. A profile would allow a better understanding of a potential suspect, and of what may work in preventing such attacks in the first place. However, there will always be outliers, and slimming down the selection pool may eliminate who is being looked for. This study provided correlations between those who post on social media for help and those who post for fame.

Meloy et al., (2004) examined 30 adult mass murderers and 34 adolescents who committed their crimes between 1949 and 1999, though most crimes were committed after 1985 (Meloy et al., 2004). In all the cases, the perpetrators were male; 75% of the perpetrators were Caucasian; and the perpetrators had a mean age of 38.3 for adults and 17 for adolescents (Meloy et al., 2004). Seventy percent of the adolescents and 94% of adults had social relation difficulties (Meloy et al., 2004). Forty-eight percent of the adolescents and 63% of the adults had a fascination with violence up to and including owning and using weapons or exhibiting military-like behaviors (Meloy et al., 2004). Forty-two percent of adolescents and 43% of adults had a history of violent behavior, whether against a person, an animal, or property (Meloy et al., 2004). Sixty-two percent of the adolescents had a history of substance abuse, while the adults were only abusing alcohol in 10% of the cases. Twenty-three percent of adolescents and 50% of adults had mental health issues (Meloy et al., 2004). The higher percentage of adult mass shooter offenders with mental illness is not surprising because the American Psychological

Association's guidelines on diagnosing mental illness limit the diagnosis of youths until a certain age.

Profile characteristics combined with FBI and U.S. Secret Service data are used in threat intervention strategies (Meloy et al., 2004). In most cases, there is a precipitating or triggering event. A lot of mass shooters see themselves as victims of injustice and want to right that wrong (Johnston & Joy, 2016). Whether the triggering event is loss of relationship status, perceived or imagined; a family or school issue; and/or a financial or personal issue, there is usually a precipitating event that triggers the offender from fantasy to action. Meloy et al. (2004) suggested this happens at least 90% of the time with adult offenders and 59% among adolescents. Millennials use social media at an alarming rate (Domasneanu-Miulescu, 2019). It was not surprising to see posts regarding such losses or imagined revenge online. Further studies regarding this phenomenon may further aid intervention efforts when it comes to minimizing violent crime.

Adolescents seem to have a much higher fantasy rate. Fantasy compensates for the failure, rejection, and humiliation sustained up to this point and drives their motivation for mass violence (Murray, 2017). These adolescents are thought to be loners, have attachment issues, and are heavily interested in violence (Meloy et al., 2004). This leads to careful planning of crimes, though many adolescents do not exhibit any violent behaviors until triggered by rejection or disciplinary action (Meloy et al., 2004). This research showed whether these types of individuals post about their feelings or intentions

online, but further research should be conducted solely focusing on adolescent social media posts.

Considering that there are some mass shootings that involve Native Americans on Tribal Reservations in this study, it may be worthy to note their background. According to Kutner (2015), Native American's lead the country in heroin related deaths per group and experience more violence than any other group in the United States. Between 2003 and 2007, Native American's were twice as likely to die from an injury related death versus a Caucasian, and three times more likely to be involved in a car accident (Kutner, 2015). Native American youths are victims or witness of domestic violence, gang violence, sexual assault, and/or bullying (Kutner, 2015). According to The Department of Justice, too much exposure to violence can lead to altered neurological development, poor physical and mental health, poor school performance, substance abuse and a lot of youth in the justice system. Post-Traumatic Stress Disorder (PTSD) rates among Native Americans are comparable to that of someone who fought in war (Kutner, 2015). Seventy-five percent of Native American's deaths are attributable to violence with suicide rates also being higher than any other group (Kutner, 2015). Most of the cases in this study came at a time when the administration was presenting reform. Native Americans make up a very small percentage of the mass murdering population.

The composition of most mass shooters is white, heterosexual, men, between 20 to 50 years of age, depressed, socially isolated, and narcissistic with a tendency to blame others for their short comings and failures (Johnston & Joy, 2016; Meloy et al. 2004; Roque, 2012). Greene-Colozzi & Silva (2019) found young, Caucasian, males who

perceived themselves as the victim were more likely to target schools. Greene-Colozzi & Silva said this group also is likely to suffer mental illness, suicidal tendencies, exhibit grandiose behaviors, and use a combination of weapons. There is and should be hesitation when attempting to profile a mass shooter. Not all are going to fit the profile and a profile may slim the perspective perpetrator pool creating a possibility for there to be inadequate prevention services or worse, allowing an offender to go free by being overlooked simply because he did not fit the bill (Johnston & Joy, 2016). As much as a profile may help, it could hurt and should be followed with caution.

### **See Something, Say Something and Leakage**

In 1999, the Leesburg Symposium offered some ideas in hopes of strengthening the school threat response program. One of those ideas was for the community to take a “See Something Say Something” approach to violence as well as with “leakage” (FBI, 1999). Too often communities seem to evoke the “code of silence” when it comes to “See Something Say Something”. This may be from a feeling of “this can’t or won’t happen in my neighborhood” or “someone else will say something”, or most commonly, “they didn’t mean it” (Gerard et al. 2016).

Leakage was described by Silver, Horgan, and Gill (2018) as intentions of violence advertised to another party before committing acts of violence. These intentions may be intentionally leaked or accidentally via essays, poems, drawings, videos, letters, etc. (Gill, Horgan, & Silver, 2018). Leakage is higher among adolescents. In 80% of adult mass murders studied by Meloy et al. (2004) there was no communication before the act. One adolescent reported threatening “*Don’t be in school tomorrow*” while an adult was

reported saying, *“I’m going hunting”* (Meloy et al., 2004, p.298). In a study performed by Gerard et al. (2016), 43% of the offenders had made previous threats. Examples of this can be seen in the cases of Nikolas Cruz, Estebas Santiago, Dylann Storm Roof, Jaylen Fryberg, Thomas McIlvane, Wesley Neal Higdon, Douglas Williams, Jared Loughner, Nidal Malik Hasan, and Omar Mateen.

Nikolas Cruz, the February 14<sup>th</sup>, 2018, Marjory Stoneman Douglas High School shooter, had been seen by his brother walking around their home with a shotgun listening to music that sang about becoming a school shooter (Washington Post, 2019). Five months before the shooting, Cruz claimed he aspired to be “a professional school shooter” (CNN, 2018). Zach, Nikolas Cruz’s brother, read such messages on Cruz’s phone about shooting everybody at a school, but never told anyone (Washington Post, 2019). It was also reported to the FBI that Nikolas Cruz posted threats on social media before the shooting, yet authorities were never notified (CNN, 2018). Not only did Cruz advertise his intentions, but there were also plenty of instances that could have been reported and some indeed were just never to the right people. A math teacher at Stoneman Douglas reported that an email had gone out identifying Cruz as a potential threat; warning teachers that Cruz should not be allowed at school with a backpack (Kennedy, 2018). This case illustrates what is meant by “leakage”.

Estebas Santiago was 26 years old when he killed five people in the Ft. Lauderdale airport on January 6, 2017 (Alvarez, Pérez-Peña & Robles, 2017). Santiago believed the CIA was encrypting his computer with ISIS propaganda to control his mind and went to the FBI in Anchorage to report it, leaving his infant son in the car with a



9mm gun while having the clip in his pocket (Alvarez, Pérez-Peña & Robles, 2017).

After listening to Santiago's rant, the FBI sent him for psychological evaluations (Alvarez, Pérez-Peña & Robles, 2017). A few days later, Santiago was released and given his gun back (Alvarez, Pérez-Peña & Robles, 2017). This was the same gun used in the shooting spree (Alvarez, Pérez-Peña & Robles, 2017). "See Something Say Something" should be especially poignant when the individual saying something is themselves.

In the six months prior to the Emanuel AME Church shooting in Charleston, South Carolina that killed nine people, shooter Dylan Storm Roof told friends over a liter of Vodka that he planned to start a race war (Payne, 2016). He told friends that he planned on doing something crazy (Payne, 2016). His friends hid his gun that night but gave it back the next day thinking he was just drunk, not serious (Payne, 2016). This is another instance where "leakage" and "See Something Say Something" could have saved lives.

There have been numerous cases like the ones illustrated above. Family, FBI, friends, co-workers are alerted to a person's violent ideations and do not act. Most of the time, not acting is blamed on discrediting the severity of the suspect's character. Every "leak" or threat needs immediate attention. Often, would be offenders leak their attentions onto a social media platform where it could have been noticed and action taken in preventing a heinous act. These cases illustrate not only why we should act, but why we should further research the role social media does and can play in mass shootings. By further understanding the types of offenders that post on social media before committing

a crime of mass violence and the types of posts they write can help to prevent mass shootings from occurring if they do not go ignored.

### **Social Media**

This study looked at social media in the United States, fame seeking behavior versus attention seeking behavior, media contagions and the role they played on mass shootings. The internet has made it even easier to glorify crime, learn how to make weapons of mass destruction, and spread personalized agendas or ideas to whatever audience is interested in reading or watching it. Media continually rehashing mass shootings and flashing the perpetrator's image(s) at every anniversary just drives home the fame one can achieve if they too act on their fantasies. There are social networking groups dedicated just for school shooting fans. The fact that sites like this and others like it exist underscores why posts on social media regarding gun violence and acts of mass violence need to be investigated. Further research is needed to learn why posts pertaining to acts of mass violence are not taken seriously.

### **Social Media in the United States**

Fame-seeking incidents have increased since 2000 (Greene-Colozzi & Silva, 2019). In 2005, about 5% of American adults used at least one form of social media (Pew Research Center, 2018). By 2011, that number had increased to 50% and in 2019 it is over 69% (Pew Research Center, 2018). Millennials (a group of individuals born between 1981 and 1996) are almost completely reliant on the internet and social media. According to Pew Research Center (2018), Facebook is the most widely used form of social media followed by others such as: Snap Chat, Pinterest, YouTube, Instagram, WhatsApp,

LinkedIn, and Twitter. Young adults are more active on social media than adults (Pew Research Center, 2018). The problem is, social media posts are read, but go ignored until after a mass casualty event is experienced (Aronsen, Follman, & Pan, 2019). A lot of these posts are a gateway into the next mass event.

In 2019, social media was being used to post whatever rant, feeling, or desire a person has. This includes circulation of extreme topics dedicated but not limited to death, murder, massacres, and /or sexual violence (Oksanen & Raitanen, 2018). The internet today has allowed individuals with like minds or similar interests to come together (Oksanen & Raitanen, 2018). Tree of Life synagogue shooter, Robert D. Bowers used the internet to freely express his virulent anti-semitic views and opinions on things such as the migrant caravan ‘invaders’ before taking the lives of 11 worshipers (Shortell, 2019). With the evolution of social media comes the possibilities of early interventions. By studying how would be offenders use social media could help stop heinous crimes before they happen. Had the posts of Nikolas Cruz, Estebas Santiago, Dylann Storm Roof, or Jaylen Fryberg, to name a few, not gone ignored or rendered as “talk”, lives could have been saved.

Social media has been used preemptively by offenders in hopes of attaining fame. Perpetrators who see themselves as the victim use media attention to reinforce their grandiose behaviors that motivate them to kill for fame (Greene-Colozzi & Silva, 2019). Columbine is still glorified by pseudo copycat offenders who just want the attention that has been given to Columbine. The internet has been used in school shootings since at least Columbine in 1999 (Oksanen & Raitanen, 2018). Harris had a website that was full

of violent rants, videos, and threats against everyone he did not like (Biography.com Editors, 2019; Oksanen & Raitanen, 2018). Before Jared Loughner's rampage, killing six and wounding 13, he said, "*I'll see you on National T.V.* (Cbs/Ap, 2014)." Given the events that transpired before the shooting, the social media posts, being pulled over and crying because he was let go without issue makes it unclear to determine if his behavior was for fame or attention, but one thing is clear, it warranted action (Cbs/Ap, 2014). Instances such as these highlight why posts glorifying mass violence should be flagged and further investigated. Looking into previous cases that used social media before committing acts of violence illustrated pathways to prevention of such heinous acts before they happen.

Garcia-Bernardo et al. (2015) analyzed fifty-seven billion tweets and extracted those with the word "shooting". Then they searched "school shooting" or "mass murder" yielding about two million. They then compared the social media data with that of mass shootings. They found when tweets about school shootings were over ten per million, the likelihood of a school shooting occurring over the next eight days increased by 50% (Garcia-Bernardo et al., 2015). Nineteen days following a shooting if tweets were above ten per million, the probability of another shooting rose to 85% (Garcia-Bernardo et al., 2015).

Lastly, if tweets were above ten per million in the thirty-five days after a shooting, it was almost 100% likely that another shooting occurred (Garcia-Bernardo et al., 2015). Garcia-Bernardo et al. demonstrated that school shootings were more influenced by social media than other types of mass shootings. Social media was still able to predict

that within the first ten days after an attack, a subsequent attack was eminent especially if tweets about mass shooting were over forty-five million and the fatalities were likely to be larger over the next few incidents (Garcia-Bernardo et al., 2015). The Jonesboro shooting was in March of 1998 followed by the Thurston High School shooting in May. Then Columbine was in April 1999. Mark Burton went on his rampage in July 1999. Later there was the Dallas Cop Killing followed ten days later by the Baton Rouge Cop Killer. Sensationalizing violence, specifically mass shootings, increases the likelihood of a similar crime occurring to the point of predictability (Garcia-Bernardo et al., 2015). Research such as this needs to be replicated to include more than just tweets.

Social media has been used to recruit, influence, and isolate individuals (Oksanen & Raitanen, 2018). Mateen was known to have searched Jihadist propaganda extensively and watch ISIS beheading videos before attacking an Orlando Nightclub in the name of ISIS (Fantz, Hume, & McLaughlin, 2016). There are many ways in which social media is used when it comes to mass shooting. Identifying how it is used either by at risk individuals or soon to be perpetrators can help in this war against mass casualty events.

An idea raised at the Leesburg Symposium in 1999 was to provide training to parents on how to track their children's use of the internet and to raise awareness to the disturbing effects extensive viewing of violent videos can have on some children (FBI, 1999). Mass shooters will forever keep the world on message via social media because mass media will forever spread their words (Johnston & Joy, 2016). In New Zealand, public officials and news media no longer advertise the offender's names and actions after an attack (Follman, 2019). They take away the offender's fame. In the United States,

every anniversary Columbine and attacks like Columbine are memorialized with all the perpetrators on display, just like the perpetrators wanted, leaving the door wide open for copycats (Follman, 2019).

### **Fame-Seeking Behavior**

Fame may be sought for many different reasons. The need for publicity is nothing new in the United States. Lankford (2016) dated the first fame-seeking rampage shooter back to 1966. Robert Benjamin Smith shot five women at a small college in Arizona claiming, *“I wanted to get myself a name”* (Lankford, 2016, p.126; Time, 1966). American’s preoccupation with fame can be seen in television shows such as daytime talk shows, reality shows, and news programming (Lankford, 2018). Twenty-five years of magazine covers document the apparent cultural shift where criminal behavior is now met with fame (Lankford, 2016). The ‘accomplishments’ of rapists, child abusers, drug addicts, and murderers now grace the covers of the most prominent magazines such as People (Lankford, 2018). People magazine editor commented, *“We haven’t changed the concept of the magazine; we’re just expanding the concept of star”* (Levin, & Madfis, 2008, p.187). It is no wonder that such desire for celebrity status carries over into crime. After all, it has become well known that most crime, especially homicide, peaks the public’s curiosity to the point of overreporting in the media (Lankford, 2016). Therefore, it is important to continually study fame-seeking behavior and its relationship to violence.

Oksanen and Raitanen sought to understand those interested in school shootings and used social media to fuel this interest. What they found was four subgroups of vastly different individuals all sharing a common interest: school shootings (Oksanen &

Raitanen, 2018). These types of accounts may very well fuel future perpetrators as they offer fame to the offender, a strong motivating factor to an at-risk individual (Gerard et al. 2016; Oksanen & Raitanen, 2018; Vossekuil et al. 2002). Dylan Klebold and Eric Harris obtained fame. They have a whole integration group consisting of researchers, fans, Columbiners, and copycats created because of them. Adam Lanza had spreadsheets of school shooters saved on his computer under the name “Columbine Game” (Langman, 2015b).

The desire to attain fame has been around for a very long time. From historical assassins to present day mass shooters, attaining fame is a great way of regaining dominance after one experienced or perceived an acute strain (Fein, 2014). Lankford examined 225 shooters’ statements using their direct quotes. He found that since 1966 a minimum of 11% were clearly fame-seeking. The need for fame feeds into the narcissistic personality that many mass shooters exhibit (Johnston & Joy, 2016). Through writings, videos, and violent actions, offenders are insisting people pay attention to them as a “legacy to kin” (FBI, 2012). In other words, these offenders feel as if they are leaving something behind for them to be remembered by. Even negative attention is attention.

Murray talked about how fantasies of fame are a crucial part of what makes up the psychological identities of mass shooters. He explained how the writings and other belongings of mass shooters are filled with references of past murderers. Eric Harris talked about hating school and the ‘jock image’ in a diary he kept expressing his desire to kill hundreds and achieve lasting fame (Biography.com Editors, 2019). Harris was quoted

saying, *“Isn’t it fun to get the respect that we’re going to deserve”* (Lankford, 2016, p.124). The Columbine shooters also hoped Steven Spielberg and Quentin Tarantino would fight over the rights to their life stories (Lankford, 2016).

Murray concluded her research suggesting that offenders may commit suicide after their mass shooting mayhem as part of their fame seeking agenda. By committing suicide, shooters whose motive was to regain status essentially get the last word by not having to hear societies judgements cast down on them (Johnston, & Joy, 2016). The motives of Adam Lanza, the 2012 Sandy Hook Elementary School shooter have been under debate and often thought of as a mystery. Adam Lanza explained motives in one of his blogs as he debated over which was *“the most famous school shooting”* and why: *“One of the major reasons why Columbine is still a (relatively) popular topic in recent years is because of the potential it allows for speculation. This would not exist if they had lived because their actual thoughts and experiences. . . would probably be well-known”* (Lankford, 2016, p.126). *“Just look at how many fans you can find for all different types of mass murderers. . . and beyond these fans are countless more people who can sympathize with them”* (Lankford, 2016, p.126). Lanza apparently followed his own theory of what we can only speculate to be for fame. He destroyed his computer, deleted many posts, and committed suicide after his attack, leaving tremendous speculation about his motives (Lankford, 2016).

Understanding the role fame plays in mass shootings is key to understanding why there are so many youth shooters and pivotal in identifying posts made on social media that should be flagged and further investigated. Among school shooters, seeking special



attention or recognition is a strong motivator (Murray, 2017). A motivator that is advertised daily in the media. To an individual who is high-risk for offending, the end justifies a means which aligns with Merton's (1938) theories. We learn so much about a crime from social media after a crime is committed. Robert Hawkins is remembered for saying, "Just think tho, I'm going to be fuckin' famous [sic] (CBS News, 2007)" before killing eight inside a department store at Westroads Mall in Omaha, Nebraska then killing himself. Seung Hui Cho wrote in his manifesto *"I die, like Jesus Christ, to inspire generations of the Weak and Defenseless people. . . I set the example of the century for my Children to follow"* (Lankford, 2016, p.126). Chris Harper Mercer wrote about rampage shooters, *"when they spill a little blood, the whole world knows who they are. . . A man who was known by no one, is now known by everyone. His face splashed across every screen, his name across the lips of every person on the planet, all in the course of one day. . . seems the more people you kill, the more you're in the limelight"* (Lankford, 2016, p.126). These offenders were seeking fame. They wanted to be remembered. To them, this was their legacy. If a legacy could be found before it became one, this could reduce mass shootings. These cases illustrate how this is more than possible to do with research such as this one.

After 1999, law enforcement agencies reevaluated their threat assessments especially where school shooters were concerned. Because of those changes, more potential rampages were diverted, and high-risk individuals were put back on the right path (Follman, 2015; Guy, 2018). There was a junior in Keizer, Oregon who was "mad at preps and wanted to bring a gun into the school (Follman, 2015). The responding officer

thought of the student as quiet, and depressed (Follman, 2015). Two months later, the student tried to kill himself and was admitted to a mental health facility for having mental disorders (Follman, 2015). This rightfully set off the right bells and whistles for a specialized team of psychologists, and cops who were in the early stages of their local programing created in response to Columbine (Follman, 2015). They began interviewing friends, family, and teachers of this student and uncovered additional warning signs such as raged filled writings regarding being considered an outsider, being rejected by a girl, despising preps, and his desire to “just go out and kill a few of them (Follman, 2015)”. Officials learned that he tried to go online and buy a gun and had created a hit list (Follman, 2015). With this information, professionals launched an intervention that included counseling, tutoring, and helped pursue his positive interests in things like music and computers (Follman, 2015). Law enforcement is continually evolving to match its task force with the prevention of crime. This study helped in understanding offenders that posted on social media for fame or attention by means of deadly force. This research provided insight on preventing death by cop and how to minimize the number of mass shootings.

### **Attention-Seeking Behavior**

Paradice suggested that ten percent of school shootings are for attention. Gill, Horgan, & Silver suggested warnings of mass shootings and acts of violence are often communicated via written or verbal communications with friends, family and/or the public. Nikolas Cruz advertised on social media that he would kill with an AR-15, along with YouTube videos and Instagram pictures of knives and guns (CNN, 2018). Jaylen

Fryberg texted and tweeted his on and off again girlfriend ad nauseum regarding his feelings and intentions. Some examples included: *“Might as well die now”*, *“Your’re gonna piss me off. . . and then some shits gonna go down and I don’t think you’ll like it”*, *“Bang, bang I’m dead (Kutner, 2015).”* She quit responding and his friends were there for him, but they did not take the messages too seriously as one minute he was tweeting and the next minute he was “fine” (Kutner, 2015). The day before the shooting, Jaylen posted his last tweet: *“It won’t last. . . It’ll never last. . . (Kutner, 2015)”* and then texted his ex-girlfriend, telling her to read the messages the next day and re-texted her the next morning. Fourteen minutes before the first 911 call was made, Jaylen tried again to reach his ex (Kutner, 2015). He even sent a photo of a gun on his lap to one of her relatives saying, *“Have her call me before I do this (Kutner, 2015).”* She did call him, and he told her that he had been thinking of doing this before their breakup saying, *“I don’t want to be here anymore (Kutner, 2015).”* Jaylen then texted his father, *“Read the paper on my bed. Dad. I love you (Kutner, 2015).”* Attention seeking behavior is a cry for help. These offenders acted out in a need for attention and when they did not get the attention they sought; their behaviors escalated.

Others post on social media to seek attention for their cause. In the cases of Micah Xavier Johnson and Gavin Long, both wrote extensively on social media regarding social justice and white cop on black perpetrator crime. Long commented on social media regarding Johnson’s rampage and how protests do not work (Berlinger, 2016). He went on to say that the only way to a 100% success rate when it comes to eradicating bullying is with brute force (Berlinger, 2016). He made YouTube videos about protests at that

time and cop shootings. These videos were made to seek attention for both Johnson and Long regarding their cause. Between Long's commenting regarding Johnson's rampage and how protesting does not work and calling for "brute force" an alarm should have gone off somewhere and these posts should have been investigated before allowing the crimes to be committed. These examples are why this study was performed.

### **Media Contagion**

Media contingency was originally coined by sociologist David Phillips in 1992. He identified media influence to have a significant effect on suicides after airing celebrity suicides (Lesyna, Paight, & Phillips, 1992). He then applied this theory to homicide and the media and found that murder increases with media attention (Johnston & Joy, 2016). It was not until years later this theory was taken seriously enough to reinvestigate. Now, there is a lot of evidence that the media coverage of shootings has a profound influence in the way those most at-risk manage their urges (Baird et al. 2017). Johnston and Joy suggested that the media focuses more on the shooter, and the impact it had on society than it does on the victims. When it comes to school shootings, there tends to be a ceremony surrounding it, bringing fame intended or not. Offenders preemptively send their writings, pictures, and videos directly to the news organization before going on their rampage (Johnston & Joy, 2016). The Virginia Tech massacre is an example of this. Twenty-five minutes before the massacre, Seung-Hui Cho sent packages containing videos, manifestos, photos of him holding weapons, and a DVD to NBC News (Johnston

& Joy, 2016; Tikkanen, n.d.). Jiverly Wong also sent photos of himself holding handguns to TV stations (Fernandez & Schweber, 2009).

The constant media coverage of shootings offers national recognition and gives individuals most at-risk a means in releasing social strains and achieving craved recognition (Baird et al. 2017). Baird et al. reported offenders having feelings of anonymity or “stardom” as well as media coverage after committing their crimes. The term ‘media’ is meant to cover far more than just the news. When ‘media’ contagion is talked about, it refers to movies, video games, books, music, and so on. It is believed that Micah Xavier Johnson was triggered by videos on social media depicting police encounters with black men (Gaouette & Visser, 2016). It was shortly after videos surfaced on social media that Johnson went on his rampage (Gaouette & Visser, 2016). There were a lot of postings on his Facebook regarding black power and African Americans dying at the hands of the police (Gaouette & Visser, 2016). Ten days later, Gavin Long followed in Johnson’s footsteps only in Baton Rouge claiming the lives of 3 officers (Berlinger, 2016). Further research is needed on how media effects copycat offenses, and mass shootings. Looking at social media surrounding an area where a mass shooting just occurred could help us to understand where similar crime is likely to occur next.

When a mass murder event occurs, the news is so relentless and extensive on details that it hands at risk individuals a blueprint to fame by giving them something and someone they can relate to (Elsass & Schildkraut, 2016). Identifying with or copying an admired behavior of others is a typical action of a narcissistic individual (Meloy et al.,

2015). This and social media posts used to sensationalize mass murder give those at risk for offending the tools they need to become copycat killers. This is what happened post Columbine and still happens over ten years later and has been coined the Columbine Effect (Aronsen, Follman, & Pan, 2019).

The Columbine Effect refers to the phenomenon that surrounds the tragedy that was Columbine and the impact it has had on future shootings. Those that were not even born yet during the 1999 shooting became inspired and are still inspired by the actions of Eric Harris and Dylan Klebold (Follman, 2019). Just over two months after the Parkland shooting, on the 19<sup>th</sup> anniversary of Columbine, a gunman opened fire on a school in Ocala. The anniversaries of Columbine draw a lot of anniversary related attacks or plots (Follman, 2019). This was a day where schools nationwide had planned a walkout and protest gun violence in remembrance of Columbine (CBS/AP, 2018). The gunman was heard saying, *“I’m thinking about doing my school the same way (Follman, 2019).”* *“Everybody will know my name (Follman, 2019).”* The Parkland shooter had also researched Columbine (The Associated Press, 2018). Furthermore, the Santa Fe shooter in 2018 wore a trench coat and other Columbine attire before killing 10 and wounding 10 others (Follman, 2019; MSN, 2018). The list of those influenced by the Columbine Effect could go on. In 2019, there were thought to be more than 100 plots influenced by Columbine (Follman, 2019). Data from the news, public records, and interviews all showed the offenders desire or media attention (Follman, 2019). Many identify with the

Columbine shooters. They consider them, heroes, martyrs, and even gods relishing Denver, Colorado as if it were Graceland (Follman, 2019).

Kipland Kinkel and some friends responded to the media coverage on the Jonesboro School Shooting as, “*This is cool* (Frontline, n.d.)” just two months before his rampage. The Virginia Tech Shooter compared himself to the Columbine shooters, calling them “*martyrs*” and saying “*Like Eric and Dylan [we] will sacrifice our lives to fuck you. . . I am the anti-terrorist of America* (Tikkanen, n.d.)” The Columbine shooters were inspired by the Oklahoma City bombers in 1995 (Belknap & Greathouse, 2016). Johnston and Joy found that for every four to five school shootings a new incident is copied within 13 days. It can only be assumed that one mass murderer learned of another via social or mass media, which gives validity to the idea of the copycat effect and Columbine Effect essentially influencing new massacres by preceding ones.

### **Independent Variables**

There has been a great deal of research done on mass shooting risk factors. It is important to discuss the profiles of mass killers because of the relationship between motive, victims, and prevention methods (Johnston & Joy, 2016). Belknap and Greathouse compiled such data and concluded that social and romantic rejection, bullying, the availability of guns, consumption of violent media, and mental illness are all risk factors of school shooters. Baird et al. agreed and further added that the school shooter may also suffer family instability and abuse by peers. Swanson found 98% of mass shooting to be committed by males of which most having mental health problems. In the 28 cases analyzed by Gerard et al., most of the offenders to be Caucasian, US

citizens, and suffered from depression. The researchers suggested that these attacks are well planned, involving more than three deaths, and end in the offender committing suicide (Gerard et al. 2016). Belknap and Greathouse added that most offenders are of the middle class, Caucasian, and live in a suburban or rural area. Johnston and Joy similarly concluded that mass shooter offenders are white, heterosexual, males between the ages of 20 and 50, victims of an injustice, may suffer depression, and have a motive of power/vengeance. However, no combination of risk factors can definitively predict whether a violent incident will occur (Baird et al. 2017). While all offender characteristics including bullying and rejection are valid, many people hold these characteristics and do not offend (Baird et al. 2017). It may be helpful in identifying potential perpetrators by knowing what characteristics and warning signs to look for. This study added to previous studies by looking at an offender's relationship to location, whether there were issues with rejection, the role social media played, mental health and criminal history, how perpetrators obtained the weapons they used and how they were apprehended, their household status, education levels, and whether family members were murdered.

### **Offender Relationship to Location of Offense**

Most offenders have a relationship to the location that they are attacking. Follman pointed out that mass murder is not an impulsive crime. Those found to be high risk for offending are more likely to act out when environmental contexts exacerbate preexisting personal factors (Baird et al. 2017). Johnston and Joy argued that the setting plays a larger role than the profile of the criminal in that it often triggers the perpetrator and their intra-individual characteristics to act on once previously was just imagined. This can be



seen in most workplace related shootings, school shootings, religious shootings, as well as in certain other scenarios as illustrated below. The perpetrator has a reason for attacking where he or she is attacking.

The workplace seems to be a very common venue for mass murder. Historically, mass murder was thought more of a work/public place occurrence (Levin & Madfis, 2009). Adults that go on rampage at work are often habitually victimized resulting in chronic strain (Levin & Madfis, 2009). These “workplace avengers” have been known to go from job to job, or not received a promotion, or advancement in which they thought they were entitled (Levin & Madfis, 2009). Typically, the workplace offender is a middle aged, depressed man who is not where he perceives he should be at this stage in his life (Levin & Madfis, 2009). Case examples can be seen in the following: Lottery worker, Matthew Beck gunned down four bosses over a salary dispute before committing suicide (Rabinovitz, 1998). Arturo Reyes Torres opened fire after he was fired killing five and injuring two (WPVI, 2015). Arthur Wise also opened fire in retaliation for being fired killing four and injuring three (WPVI, 2015). After failing a drug test, Clifton McCree killed six and injured one (WPVI, 2015). Nathan Dunlap was fired from Chuck E. Cheese’s before he killed four and injured one (Ng, 2013), The workplace is a common stressor.

It was not until the 1990’s mass murder took on a broader definition as shootings became the regular in suburban and rural areas (Levin & Madfis, 2009). Baird et al. (2017) examined twenty-two middle/high school shootings between January 1995 to June 2014 to determine if larger enrollment sizes and student to teacher ratios played a role in

the likelihood of mass violence. The researchers found that schools where mass shootings occurred had higher enrollments for their state's average (Baird et al. 2017). Gerard et al. found that school shooters who were eighteen or under had a link to the school they attacked. Among all educational venues, Paradise found high schools to have the most shooting events. Mitchell Scott Johnson and Andrew Douglas Golden were thirteen and eleven, respectively when they killed five people at Westside Middle School in Arkansas (Keneally, 2016). Johnson's mother told a teacher that Golden told her son to kill all the teachers (Keneally, 2016). Kipland Kinkel was a freshman at Thurston High School when he was expelled for having a gun in his locker (Frontline, n.d.). The next day, five classmates wrestled him to the ground after killing 2 students and injuring 25 others (Frontline, n.d.). Jeffrey Weise killed a total of 10 people on March 21, 2005, reportedly over being bullied (Enger, 2015). These students all had a relationship to the location in which they attacked.

College campuses in the United States were being attacked with greater frequency over the past 50 years (Paradice, 2017). In 1991, Gang Lu, a doctoral candidate at the University of Iowa shot and killed four people, critically wounding two others, and then killed himself because of an academic award he did not receive (Myers, 1991). Virginia Tech Shooter, Seung-Hui Cho, was a student who killed 32 students and faculty (CNN Library, 2019). Although there is no clear motive as to why Cho did what he did, he did refer to the Virginia Tech students as "brats/snobs" and referred to Eric and Dylan of Columbine as "martyrs (Tikkanen, n.d.)." Although the motive for the attack appears less clear, these offenders also had a relationship with where they attacked.

In some instances, the location where an offender attacks is also linked to their motivation for their attack. Paradise suggested that five percent of school shootings are racially motivated. Religious, and other types of mass shootings that do not fall under the workplace or school occur more randomly and are usually symbolically motivating (Murray, 2017). An example of a symbolically motivating mass shooting can be seen with the Amish school shooting. On October 2, 2006, Charles Carl Roberts, 32, shot ten young girls in a 1 room Amish school inside of Bart Township, Pennsylvania because he was still mad at God for the loss of his first daughter and wanted revenge (LancasterPA.com, n.d.). Micah Xavier Johnson was infuriated over the deaths of blacks at the hands of police when he took the lives of 5 Dallas officers wounding 7 others and 2 civilians at a Black Lives Matter protest (Gaouette & Visser, 2016). He told negotiators that he wanted to kill white officers (Gaouette & Visser, 2016). Ten days after Micah Xavier Johnson killed 5 Dallas officers, Gavin Long, also former military, killed 3 officers responding to a 911 call and wounded 3 others (Berlinger, 2016). In many instances, location triggers a stressor in the offender, creating the motivation for the attack. This is the relationship between the offender and the location. Location is an important variable to study to see if a relationship exists between social media usage and where the crime was carried out. In other words, if an individual is posting on social media about Black Lives Matter and an attack is carried out in that location, investigators may want to watch for other like posts in that area.

## Rejection

There can be many forms of rejection, including experienced and perceived. This is especially seen in instances of school shootings. In schools, students hold varying positions of social status. In these social status perceptions, some excel, and others (such as Eric Harris and Dylan Klebold) are often isolated outside of their own cliques (Johnston & Joy, 2016). Johnston and Joy claimed this to be the trademark of narcissistic behavior.

Belknap and Greathouse suggested both social rejection and romantic rejection played a role in shootings. A perfect illustration of this is the Marysville-Pilchuck High School shooting. This case was unique in that Fryberg did not murder for vengeance, he murdered so that he would not die alone. Peer-to-peer conflicts are particularly impactful for middle to high school students as adolescents begin to shift their focus from parent to peer networks (Baird et al. 2017). Columbine is an example of the mass shooters known to have experienced or perceived rejection. Harris' only friend was Dylan Klebold (Biography.com Editors, 2019). Even in the "Trench Coat Mafia", the two were only barely members and considered outcasts (Biography.com Editors, 2019). Dylan Klebold was constantly pushed into lockers, grabbed in common areas, and verbally harassed (Larkin, 2007). Right before the incident, Harris was rejected from the US Marine Corps because he was on Luvox for depression (Biography.com Editors, 2019).

Gerard et al., found that 54% of their offenders reported being victims of bullying, abuse, or neglect while Vossekui et al., found that most offenders are subjected to being bullied, rejected, or victimized at some point before acting out. Three quarters of the

offenders Vossekuil et al., studied reported being rejected: including romantically. Although research is limited in those bullied or rejected who do not offend, it must be mentioned that plenty of adolescents are bullied, rejected, and victimized and do not go on to violently offend. It cannot go unnoticed that those who have preexisting risk factors may offend when the strain of being bullied, rejected, or victimized is added (Gerard et al. 2016).

McGee and DeBernardo studied 16 cases of US school shootings where their primary focus was on offenders who were rejected, bullied, or humiliated making their primary motive revenge (Gerard et al. 2016). Eighteen ‘classroom avengers’ reported feeling loss, rejection, and/or frustration, real or imaginary (Gerard et al. 2016).

Verlinden, Hersen, and Thomas reported 50% of their sample to have also experienced a loss whether it be in a relationship, or status that provoked strain. School shooting incidents may be used by offenders to send a message to those who made them feel a sense of loss (Murray, 2017).

The Stoneman Douglas shooter, Cruz was reportedly rejected, picked on, and beat up according to his brother, Zach, who in response started up “We Isolate No-One” (WIN) an anti-bullying organization where students can call 24 hours a day to report bullying (Fausset, & Kovaleski, 2019; Washington Post, 2019). Baird et al., added that students who have moved from a smaller school to a larger school were also more likely to experience episodes of rejection or isolation by 50% (Baird et al. 2017). Belknap and Greathouse suggested any form of bullying; verbal or physical cause humiliation inclusive of mocking masculinity and are all risk factors for shootings. Johnston and Joy

reported these types of offenders are looking to reclaim dominance or status quo. The feeling of rejection and acting out goes beyond the school setting. Omar Mateen reported feeling rejected over being Muslim (Fantz, Hume, & McLaughlin, 2016). Rejection is a stressor that may motivate individuals to act out. This has been seen in the cases illustrated above. This research shows how rejection correlates with social media in two ways; those who posted for attention and those who posted for fame committing a mass shooting.

### **Mental Health History**

Mental health in mass shooters seems to vary depending on age and type of offense (i.e. school shooting, workplace, religious, or other). Gerard et al., study found that 93% of school shooters under the age of 18 suffered from depression. Dr. Lipman, an expert on the psychology of violence, has been following mass killers since 1998. He found that mass killers fall into one of three categories (Kraft, 2018; Lipman, n.d.). Males between the ages of 16 to 25 who are both depressed and have a fascination with violence is the first category, and the “psychotic individual” and/or are a socio/psychopath are the second and third (Kraft, 2018; Lipman, n.d.). Dr. Lipman has not reported a minor offender that did not have a preoccupation with violence. Nikolas Cruz, Eric Harris, and Kip Kinkel all had previous fascinations with violence. Johnston and Joy found being bullied/rejected to also be linked to depression. Nikolas Cruz was allegedly rejected and suffered from depression and other mental illnesses, but went untreated (CNN, 2018). His public defender described him as “a broken child who suffered brain development problems and depression” (Jansen, 2018). Eric Harris was also rejected and medicated for

depression (Biography.com Editors, 2019). Kip Kinkel was diagnosed with Major Depressive Disorder in January of 1997 and put on Prozac the following summer (Frontline, n.d.). The therapist said Kip had difficulty learning, managing anger, acting out, and depression (Frontline, n.d.).

Dr. Lipman labeled the second category of mass killers as “the psychotic individual” (Kraft, 2018; Lipman, n.d.). Psychosis is defined as losing contact with reality and includes spectrum disorders such as schizoid personality disorder, and schizophrenia (Kraft, 2018). Seung-Hui Cho thought people were out to get him (Belknap & Greathouse, 2016). Esteban Santiago believed there was a CIA plot against him and reported hearing voices in his head that were tormenting him (Alvarez, Pérez-Peña, & Robles, 2017). Jared Loughner wrote about strange dreams and told a psychic that he heard voices telling him to do things (Cbs/Ap, 2014). The Diagnostic Statistical Manual, 5th edition (DSM-5), does not include a definition for ‘psychosis’ though it does expand upon spectrum disorders such as schizoid personality disorder, schizophrenia, and antisocial personality disorder. The DSM-5 characterizes someone as having schizoid personality disorder by a lack of interest in social relationships, a tendency towards being alone, secretive, emotionally cold, detached, and apathetic (APA, 2013). It further defines someone as suffering schizophrenia if they have two or more of the following for a month or longer: delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior (APA, 2013). Last, the DSM-5 defines a person suffering antisocial personality disorder as individuals who habitually disregard or violate the rights of others without remorse (APA, 2013). By looking at an individual’s mental health we can put

reason to why one feels or perceives rejection. This study examined the link between mental health and social media usage. By identifying posts created by someone suffering from a mental health crisis we can provide relief and slow violence.

Dr. Lipman defines the third category of mass killers as a sociopath or psychopath as someone who is suffering from antisocial personality disorder and therefore disregards the rights of others, has little to no conscience, no regards for social values and norms, and lacks remorse (Kraft, 2018; Lipman, n.d.). A sociopath will appear charming though they are manipulative, reckless, aggressive, not responsible, antisocial, emotional, and prone to fits of rage (Kraft, 2018). Stephen Paddock, the Las Vegas Shooter, fits the criteria and antisocial personality disorder was found to run in his family (Kraft, 2018). There is speculation to whether Dylan Storm Roof was a sociopath. He refused anything to be the matter with him and claimed to be a sociopath (Bever, 2017). Other professionals such as Dr. Eric Hickey suggest true psychopathology to be rare. In either case, it would be of value to identify these characteristics when advertised to stop acts of mass violence before they occur. This study aided in doing so by examining the connection between social media posts and risk factors of violence.

Johnston and Joy argued that narcissism is a common trait shared among mass shooters. Narcissism leads to social isolation as those that suffer from narcissism tend to blame others and thus maintain themselves (Delateur & Fox, 2013). According to the DSMV-5 (APA, 2013.), narcissism is a sense of specialness that diminishes empathy for others. As can be seen by the findings of multiple other researchers, narcissism is not necessarily a stand-alone trait. Often it is recognized only after it feeds into feelings of



grandiosity, making society's acts of unfairness seem even more significant (Meloy et al. 2004). One could argue that this is a strain and catalyst that changes fantasy into reality.

Paradice analyzed US school shootings from 1840-2015, which included 343 shooting events. In the study, Paradice suggested that most school shooters were mentally unstable and angry about something. However, only 25% of the cases were the offenders mentally ill (Paradice, 2017). Individuals may have a predisposition to the amount of strain one can tolerate before one strain becomes a catalyst to violence or triggering an underlying psychosis (Kraft, 2018; Levin & Madfis, 2009). This can be seen in a lot of cases and is usually linked to the motive. For example, Cruz and Kinkel were both expelled from school before going on their rampage.

As with any variable in any study, we must take into consideration what definitions or parameters are being worked within. Juvenile offenders may not be diagnosed with any mental illnesses. Most mental illnesses, or personality disorders require the individual to have symptoms for at least six months to a year if not longer and be above the age of 18 (APA, 2013). De Bernardo and McGee suggested that if a juvenile mass shooter were to be diagnosed, they would likely suffer from atypical depression, and mixed personality disorders with paranoid, antisocial, and narcissistic features. A juvenile is not above the age of 18 and they simply have not been alive long enough to meet criteria set forth by the APA to be properly diagnosed.

Researchers at the 1999 Leeburg Symposium recommended students receive training in mental health issues (FBI, 1999). This would help in the identification of individuals most at risk for offending. It is also important to note that mental health issues

really did not even factor into the mass shooting equation until after Seung-Hui Cho perpetrated the Virginia Tech shooting (Jansen, 2018). Cho had been treated at a Virginia hospital for psychological issues yet, still passed a background check to purchase a firearm (Jansen, 2018). It was after that gun laws became a bit stricter regarding mental illness and the purchase of firearms. Knowing mental illness is a risk factor for violence helps law makers create laws such as this. This research can further aid the cause in keeping guns out of the hands of those with mental illness and further illustrates how firearms are obtained by those who perpetrate.

### **Criminal History**

A lot of school shooters do not have a criminal history so much as a delinquent history. Eric Harris threw an ice ball at his friend's windshield because he was angry at him and later threatened to kill him on his website (Biography.com Editors, 2019). During Harris' and Dylan Klebold's Junior year, both were arrested and charged with theft, criminal mischief, and trespassing after they broke and entered a van stealing some contents (Biography.com Editors, 2019). They received a diversion program that consisted of community service and counseling (Biography.com Editors, 2019). They were released one month early and two months before committing their rampage with Harris being remarked on by his counselor as "A bright young man who is likely to succeed in life" (Biography.com Editors, 2019).

In eighth grade, Kipland Kinkel got caught shoplifting CD's, throwing rocks off a highway overpass striking a car below, suspended 2 days for kicking another student in the head, then suspended for throwing a pencil (Frontline, n.d.). On May 20<sup>th</sup>, 1998, Kip

was arrested for possession of a firearm in a public building, and receiving a stolen weapon (Frontline, n.d.).

Other than having an interest in crimes, Gerard et al., found that most school shooters did not have a criminal history or violent past. In Vossekuil et al., study of adults, 31% of offenders were found to have had a violent past, 27% being arrested previously. Esteban Santiago was previously charged with domestic violence and violated the terms and conditions of his release (Alvarez, Pérez-Peña & Robles, 2017). Those not found to have a criminal history had either not been caught previously but admitted to previous crimes or were juveniles when previous crimes were committed, and their records sealed.

### **How Weapons Were Obtained**

Shootings are as lethal as they are because of the weapon of choice (Ingraham, 2016). A gun is chosen because it allows the offender to kill as many people as possible in a short amount of time (Ingraham, 2016). Guy found 67% of school shooters obtained their weapons from their homes. Also, 68% of offenders had a history of using weapons previously (Gerard et al. 2016).

In the study conducted by Gerard et al., 57% of school shooters under 18 years of age stole their weapons. Andrew Golden stole the guns he and Mitchell Johnson used from his grandfather who kept them unlocked (Keneally, 2016). Jeffrey Weise's stole his grandfather's guns and squad car to commit his crimes (Enger, 2015). Michael Carneal stole 2 shotguns from his father's closet and 6 guns from a friend's garage along with ammunition (Blanco, n.d.; Cloud, 2001). Kip Kinkel bought a sawed-off shotgun, and a

.22 pistol from a friend that he kept hidden in his room, however Kip's father went with Kip and allowed him to buy a 9mm Glock (Frontline, n.d.). At the end of ninth grade, Kip bought a stolen gun from a friend (Frontline, n.d.). In all these examples, the offender stole at least 1 of the firearms used.

It seems the older the offender was, the more likely they were to have bought their weapons. Patrick West/Purdy, the Stockton Schoolyard shooter, purchased his AK-47 (New York Times, 1989). Seung-Hui Cho bought his guns legally (CNN Library, 2019). It is thought that James Holmes used the money he received on stipend to purchase his guns and armor (CBS/Ap, 2012; Frosch & Johnson, 2012; NBC Chicago, 2012). Sixty days before the shooting, Holmes purchased 4 guns at local shops, 6,000 rounds of ammunition, along with other bomb making equipment, and gear (Frosch & Johnson, 2012). Older offenders can obtain guns more easily because they are of a legal age. This variable is important to this study because would be offenders often post online how they accessed their weapons. This research highlighted the importance of flagging such posts.

### **How Offenders Were Apprehended**

This study considered how offenders were apprehended. Fox and Levin suggested that murder-suicide occurs at a higher rate than suicide alone. According to Johnston and Joy, a percentage of suicides that occur before or upon apprehension are correlated with depression. Adam Lanza, Seung-Hui Cho, Eric Harris, Dylan Klebold, Christopher Harper-Mercer, and Elliot Rodger all committed suicide after their mass shooting (Keanelly, 2016). Paradise reported that those who do commit suicide, are found near the

crime scene. The Stockton Schoolyard shooter killed himself as first responders arrived (New York Times, 1989).

Gerard et al., (2016, p.34) reported that out of 28 cases of school shooters, 75% of their offenders had planned the attack and wanted to “Go out with a bang.” Sixty one percent of offenders were killed by someone other than themselves either during or after their attack (Gerard et al. 2016). Out of the 22 school shootings reviewed by Baird et al., 7 of the perpetrators took their own life during the shootings.

Meloy et al., compared North American adolescent and adult mass murders. They found 53% of adults were found to commit suicide after an attack versus 9% of adolescent. In fact, few are taken into custody alive (Keneally, 2016). Those who are taken alive often wish they were dead such as Michael Carneal and Kipland Kinkel (Blanco, n.d.; Frontline, n.d.). Kip Kinkel was wrestled to the ground by 5 classmates after killing 2 students and injuring 25 others (Frontline, n.d.). Kip wanted to die, but never got the chance. He was apprehended and failed at his attempts to lure a cop into shooting him while in custody (Frontline, n.d.). Michael Carneal surrendered to the school principal begging, “*Kill me, please. I can't believe I did that* (Blanco, n.d.)” after shooting 3 girls in a prayer group and wounding 5 others.

Looking at how offenders were apprehended gives insight into why they committed the crime. Some offenders cannot bring themselves to kill themselves yet, suffer mental illness and want to die. These offenders go on killing rampage hoping to be killed in the process. Research such as this one and the ones illustrated above show the

difference between adolescent and adult reactions. Knowing this helps in aiding police when apprehending a suspect.

### **Household Status**

The status one holds in their family may give insight into why some act the way that they do. Vossekuil et al., studied 41 offenders in the US responsible for 37 incidents where someone at their school was the target. In this sample, 44% lived with both of their biological parents, 19% lived with one biological parent, 19% lived with one biological parent and a stepparent, and 5% lived in a foster/guardian situation (Vossekuil et al. 2002). However, studies have found that the offender's family do not adequately supervise and have no idea what their children are up to activity, school performance, or interest wise (Gerard et al. 2016). Boundaries are either missing or created by children (Gerard et al. 2016).

Nikolas Cruz was adopted. His adopted father died of a heart attack more than a decade before the shooting while his adopted mother died from pneumonia the November prior (CNN, 2018). This seemed to be the beginning of Cruz's downward spiral. A friend from high school's family took him in (CNN, 2018). They knew he had a rifle and allowed him to keep it in a cabinet under lock and key (CNN, 2018; Jansen, 2018). What they were not aware of, reportedly, was of any mental health issues other than some depression over his adoptive mother's death (CNN, 2018). After being expelled from high school for disciplinary issues, Cruz got a job at a Dollar Tree and was attending classes to get his GED (CNN, 2018). The change in Cruz's household status likely affected his decision to offend.

Fifteen percent of the perpetrators in Paradise's study were found to have reported domestic violence. Gerard et al., reported that 36% of their perpetrators come from a broken home. Mitchell Johnson of the Jonesboro shooting felt estranged from his divorced parents to the point where he never told them about the sexual abuse he sustained at the hands of his neighbor (Cloud, 2001). His parents fought over whether Mitchell needed counseling (Cloud, 2001). Mitchell reportedly craved male attention and idealized his tattooed stepdad, "the ex-con" (Cloud, 2001). Mitchell's dad said that his son thought being in prison was cool (Cloud, 2001). Mitchell came from a broken home and was the victim of sexual abuse. Both variables, among others, likely contributed to the mass shooting he committed.

It is important to look at the dynamic of household in understanding the role it plays on an offender. Luke Woodham, the perpetrator in the Pearl, Mississippi shooting reported his mother telling him that he "*wouldn't amount to anything*" (Cloud, 2001). He said, "*She always told me that I was fat and stupid and lazy*" (Cloud, 2001)." Woodham reported his 24-year-old brother to be always picking and beating on him when he was little (Cloud, 2001). His parents were divorced, and police believe Woodham is overstating his abusive relationship with his mother (Cloud, 2001). However, from a psychological standpoint, one does not beat their mother to death with a baseball bat and knife if the attack was not personal.

These cases above illustrate the importance of understanding the dynamics of the household. They show how the household impacts the offender. Examining this variable illustrated where interventions need most to take place.

## Education

Educational backgrounds may vary in contribution to violence. Individuals with high IQ's have committed heinous acts of violence. Likewise, the opposite is also true. Vossekuil et al., found that academic achievements varied. Out of the 41 offenders, Vossekuil et al., found 41% were achieving A's and B's at the time of offense and 5% had failing grades. Mitchell Johnson and Andrew Golden were 13 and 11, respectively. Debbie Spencer, a science teacher at Westside Middle School said that Johnson "*was one of the most polite students I've ever had. Always 'Yes, ma'am, no ma'am'*" but Golden was "*sneaky* (Keneally, 2016)" doing just enough to get by he barely was getting a "B" (Keneally, 2016).

Nikolas Cruz was transferred 6 times in 3 years because of behavioral problems in middle school (CNN, 2018). He wound up in a school for children with emotional or learning disabilities (CNN, 2018). Two years later he was back at Stoneman Douglas High School, but shortly thereafter suspended for disciplinary reasons (CNN, 2018). While in school, Cruz was a member of the Junior Reserve Officers' Training Corps program (JROTC) where he won several awards in 2016 including 1 for straight A's in JROTC, another for B's in other subjects, and an award for outstanding conduct throughout including school (CNN, 2018). He was enrolled in adult classes for his GED at the time of the shooting (CNN, 2018).

James Holmes, the Aurora, Colorado theater shooter, was a PhD student at the University of Colorado in Denver for neuroscience (Frosch & Johnson, 2012). He was in the process of dropping out because of academic problems when he went on his rampage



(Frosch & Johnson, 2012). Holmes received an undergraduate degree in neuroscience with honors from the University of California, Riverside (UCR) in 2010 (Frosch & Johnson, 2012). James Holmes graduated in the top 1% of his class with a 3.949 GPA (NBC Chicago, 2012). In June 2011, Holmes enrolled at the University of Colorado Anschutz Medical Campus in Aurora with a \$21,600 grant from the National Institute of Health (NIH), and a \$5,000 stipend from the University of Colorado, Denver (CBS/AP, 2012). Holmes was accepted to the University of Illinois at Urbana-Champaign (UIUC), with a \$22,600 stipend and free tuition, he declined (NBC Chicago, 2012). Many school shooters were still attending school at the time of offense.

Academic achievement is directly related to delinquency in juveniles (Crosnoe, Dornbusch, & Erickson, 2002). However, as case examples and other studies have shown, individuals of higher academic achievement also commit acts of mass violence. Further research should be conducted to see if there is a correlation between age, education, and mass violence. From the cases illustrated above and, in this research, juveniles with less academic achievement are more prone to violence whereas those who offended violently with having higher levels of education were adults. This is supported by Hart et al., research that found juveniles with better grades were less likely to act out in violence compared to juveniles with lesser grades and/or learning difficulties. This study looked at education levels and how they related to social media posts and acts of mass violence.

### **Family Killed by Offender(s)**

Research on family homicide is limited. Levin and Madfis found that those who take the lives of their spouse and kids usually have been suffering from a strain that has been around for a while as in severe family conflicts or money. Johnston and Joy suggested that it is most likely revenge for perceived wrongs done, attachment issues, witnessing domestic violence, a history of conduct disorders, or as Delateur and Fox described, a twisted belief that the family members are being saved from their existence by being killed (Levin & Madfis, 2009).

George Banks is a good example of someone likely suffering a while, likely had money problems, and believed a higher power would save his family from their earthly existence. Banks, a former prison guard, killed thirteen people in Wilkes-Barre, Pennsylvania. After doing time for armed robbery and prison escape, Banks' sentences were commuted and he was hired by the state first by the Department of Environmental Resources, then by the Corrections Institution at Camp Hill as a correctional guard (Dolinsky, 2017). At a party, he saw a woman with a T-shirt that read "Kill Them All and Let God Sort It Out" (Dolinsky, 2017). He switched shirts with that woman and the next day wore it under Army fatigues and killed 5 of his own children, their mothers, some of their relatives, and a bystander (Dolinsky, 2017). Banks is still on death row.

A few other examples of offenders who killed family would include Mark O. Barton, the day trader, killed 13 including himself, his second wife, 2 children and possibly his first wife and her mother (Montaldo, 2017). Cherie Lash Rhoades killed her brother and 3 others likely because they were trying to evict her from tribal housing

(Chuck & DeFrank, 2015). February 21, 2012, Jeong Soo Paek killed his 2 sisters and their husbands at a family spa before killing himself (Lutz, 2012). John Zawahri killed 5 including his father and brother before being shot dead by police at Santa Monica College (The Associated Press, 2013). Kevin Janson Neal killed his wife stuffing her body under the floorboards of their home before going on his rampage killing 6 including himself (CBS News, 2017).

There are school shooters who kill some or all their family before going on their school rampage. In a lot of cases, the kids seem like they come from intact families, but family problems may not be transparent. Kip Kinkel is a great example of this. He killed both his parents before going to his high school and killing 2 students (Frontline, n.d.). Levin and Madfis suggest that familicide is likely indicative of a less than ideal family dynamic. Jeffrey Weise killed his grandfather and his grandfather's partner before going on his school shooting spree (Enger, 2015). Adam Lanza is believed to have shot and killed his mother before driving to Sandy Hook Elementary where he killed 20 students between the ages of 5 and 10, as well as 6 adults (Biography.com Editors, 2019). There are a lot of reasons offenders kill family members. They may believe that they are saving them from this existence or seeking revenge (Delateur & Fox, 2013; Johnston & Joy, 2016). They may be embarrassed by the offenses they have already committed and not want to leave their family to deal with it or moreover deal with their family dealing with it.

Looking at family members killed by the offender helps in understanding the role strain plays in mass violence. The strains offenders have endured whether physically or

imaginary can also be seen in their social media posts. This study looked at the relationship between social media posts, offenders, and their victims. Further research needs to be conducted to understand why so many violent social media posts are ignored or under minded before senseless tragedy strikes. Examining family members killed in mass murder attacks will give a better understanding of offenders who commit these types of offenses.

### **Overall Number of Risk Factors for Violence**

In this study, an offender's relationship to the scene of the crime, rejection, social media usage, mental health history, criminal history, how weapons were obtained, how offenders were apprehended, household status, education levels, and family members killed by offender(s) were examined. Research shows that the more risk factors someone has, the more likely they are to act out in violence (Hart et al. 2007). This was seen throughout the case examples and research. Hart et al., examined the relationship between marital status of parents, marital conflict, substance abuse use, age of first substance abuse use, learning difficulties, school failure, parenting styles, academic achievements, attitudes toward violence, mentors, relationship with peers, and being involved in extracurricular activities with violent juvenile offending. They found that juveniles coming from homes where parents were having conflicts, or individuals that had substance abuse issues specifically from a younger age on were more likely to commit acts of violence. Juveniles who came from broken homes, or experienced violence in the home, substance abuse, learning difficulties, and/or school failure were more likely to commit acts of violence (Hart et al. 2007). Juveniles that came from an

authoritative parenting style, had positive peer interactions and mentors, were involved in extracurricular school activities, and did not hold violent ideologies were less likely to commit acts violence (Hart et al. 2007). Understanding risk factors for violence is important because it allows the potential for intervention before a violent crime is committed.

An offender's relationship to the location of the offense plays a huge role given the right set of risk factors. Those who offend in the workplace are generally experiencing a great deal of strain, tend to be middle aged, and suffer mental illness (Levin & Madfis, 2009). School shooters tend to be 18 or under have a history of behavioral problems, perceived rejection/being bullied, come from unstable homes, and want to right a perceived social injustice (Belknap & Greathouse, 2016; Gerard et al. 2016). Mental health was harder to ascertain in juveniles due to APA age restrictions in diagnosis but was thought to play a role in most cases (Gerard et al. 2016; Kraft, 2018; Lipman, n.d.). In many cases, an offender commits their crime knowing they will die in or after the process. They cannot bring themselves to commit suicide, so they have someone else, such as a cop, do it for them. This is especially true in juveniles (Keneally, 2016). Criminal history is like mental health history in that it is harder to ascertain in juveniles due to records being sealed and that some juveniles the act of mass murder is their first real offense. However, most juveniles who do offend violently have a history of behavioral problems and a fascination with violence is almost always noted (Guy, 2018; Kraft, 2019). Understanding risk factors is critical for prevention and intervention efforts when it comes to stopping acts of mass violence.

### **Research of Differing Methodologies**

The current study analyzed the role social media played in mass shootings. A quantitative point of view was used while examining pre-existing databases and news media reports. This study differed from that of Oksanen and Raitanen as they used ethnographic interviews. Johnston and Joy used qualitative analysis. The hope of using a quantitative approach in this current study was that it will build on the quantity of offenders advertising their intents on social media before acting on them. This illustrates a way of minimizing crimes caused by this type of offender.

Oksanen and Raitanen analyzed the importance of social media with regards to school shootings via a subcultural theoretical lens. They examined school shootings and social media from a global perspective as the internet is not just limited to the United States. Oksanen and Raitanen found that different people make up groups on social media interested in school shootings. The 4 media groups theorized to make up all populations interested in school shootings to be as follows: researchers, fans, Columbiners, and copycats (Oksanen & Raitanen, 2018). They suggested that these groups may influence perpetrators, but also suggested that copycats are the only group interested in repeating the crime; the rest just contribute the perpetrators fame and reason for the crime (Oksanen & Raitanen, 2018).

Johnston and Joy were also interested in the effects of social media on mass shootings. They argued that identifying with a mass murderer made famous by the media influenced behavior more than access to weapons or having mental health issues (Johnston & Joy, 2016). They concluded that although media contagion alone could not

prove an influence over mass shootings, there was a correlation (Johnston & Joy, 2016). Though their methodology was different from this study, they used strain theory for their framework. Johnston and Joy contended that mass murder provided the offender with the relief of an experienced or perceived strain. This study used strain theory and agreed that mass murder provided a relief to an experienced or perceived strain, but also analyzed the role social media played in relieving experienced or perceived strain.

Identifying risk factors in social media posts will aid in the prevention and intervention efforts. As illustrated throughout this paper, there are no shortages of cases that demonstrate the need for studies such as this one. The purpose of this quantitative study was to compare the similarities between offenders who posted on social media for attention versus those who posted for fame. Understanding the risk factors and all the dependent variables outlined throughout will aid in this process of understanding those who post, what those posts may look like, and allow them to be investigated.

### **Summary**

Studies to date on school and mass shootings have focused on offender profiling, gun control laws, mental illnesses, or some combination thereof. Research on offender characteristics has not helped in preventing these types of attacks. The debate on gun control, laws, and rights is seemingly not the answer either. Looking at completed versus attempted attacks or environmental factors has provided scholars with information but has not slowed the number of events from taking place. In a lot of cases like the Parkland Shooting, third parties are aware of a potential threat and the threat is not being taken seriously. Speculation is broad to why this may occur, but Gerard et al., suggested it may

be due to a “code of silence” held within a community that makes such threats seem harmless. None-the-less the reason for silence, there is no reason today to not report any potential threat. By adopting a terroristic approach of “See Something, Say Something,” mass shooting events may be reduced (Follman, 2015). Posting on social media about mass murder does not make anyone a murderer any more than having a mental illness or possessing a weapon does. However, reading media about mass murder, rationalizing, and normalizing the behavior may begin to look like the answer for individuals already inflicted with a mental illness and/or who are seeking attention or fame especially when they are commiserated on every anniversary (Lankford, 2015). Events such as Columbine, Virginia Tech., Westroads Mall, Pittsburgh synagogue, the movie theater in Aurora, and many more calls for social change. Mass murder is not an impulsive crime which leaves it susceptible to threat assessments (Follman, 2015; Gerard et al. 2016). Understanding more about the similarities among offenders who posted on social media provides better predictive factors when conducting threat assessments as well as implementing preventative treatment plans for those at risk or in need of help. This study helps in the reform of law and education. Paying closer attention to cyber behavior will reduce mass shootings and communities have a responsibility to themselves to pay more attention to web behavior.



## Chapter 3: Research Method

### **Introduction**

The purpose of this quantitative study was to compare the similarities between offenders who posted on social media for attention versus those who posted for fame. I investigated how offenders were linked to the location where the crime was committed via case studies. I determined via case studies and social media usage whether the offender felt rejected or isolated, had a mental health history, or had a previous criminal/discipline record. I also determined how weapons were obtained and whether members of the offender's family were killed before, after, or during the offense through media reports. This study focused on social media posts because of how many posts had been discovered after a crime had been committed and in light of previous studies done on the media contingency effect. It is assumed that these heinous crimes can be thwarted if social media posts are taken more seriously. This study may allow threats to be better identified so that proper intervention protocols can be put into place in hopes of stopping acts of mass violence events before they occur. This chapter includes information on the research design and rationale, methodology, threats to validity, and ethical procedures, concluding with a summary.

### **Research Design and Rationale**

The method used for this study was DFA. I examined the similarities among offenders who posted on social media for attention versus those who posted for fame. In recognizing the differences between offenders who posted for attention and those who posted for fame, appropriate threat assessments and interventions can be created. More

should be learned regarding the role that media contingency plays. This research differed from other research in the field on research design alone. However, there has been very little quantitative research to date on mass murder or shootings regarding social media usage and/or media contingency. This may be in part because the internet is a new social construct dating back not even half a century.

In this study, the independent variables included the offender's relationship to location, rejection, made a video or social media usage, mental health history, criminal history, how weapons were obtained, how offenders were apprehended, household status, education, substance abuse history, number of offenders, and family killed by offenders. These variables were analyzed to see how they predicted the dependent variables: fame-seeking social media usage in the United States and attention-seeking social media usage in the United States.

DFA is a reversed multivariate analysis of variance MANOVA (Smith, 1937). Looking at what would normally be the dependent variables in a MANOVA as the independent variables in a DFA allowed a prediction to be made as to which of the dependent variables these independent variables belonged to. The best way to see which characteristics belonged to which group was by using DFA. The DFA measured the efficiency with which each characteristic occurred within the two groups. The DFA provided an equation that gave maximum separation or discrimination of characteristics between offender groups (Smith, 1937). All characteristics were standardized before running the discriminant analysis. The main characteristics related to DFA in this study were as follows:

- Independent variables (nine measured traits): These are the discriminating variables or “predictors.”
- Dependent variables (two groups): This is the grouping variable that is the object of classification efforts.
- Discriminant function: This is a latent variable that is created as a linear combination of discriminating (independent) variables.

## **Methodology**

### **Research Population**

Constructing a data set that encompasses every mass shooter in every single venue is an impossible task. There were 72 events in this study. Independent and dependent variables were documented and explored in all cases. Any cases that did not clearly define all the dependent or independent variables were excluded.

The target population was active shooters involved in mass shooting events. A mass shooting event was defined as three or more casualties including (or not including) the shooter occurring in a public place (FBI, 2012). All case studies occurred in the United States. There was no age limitation. The timeframe was circa 1997 to 2023. The data were collected via multiple media venues and exported into SPSS for quantitative analysis. The nine independent variables were measured on an interval relationship to the following:

- location: home (1), school (2), work (3), no relation (4)
- rejection: yes (1) or no (2)
- mental health history: yes (1) or no (2)

- criminal history: yes (1) or no (2)
- how weapons were obtained: already had (1), family (2), friend (3), other (4)
- how offenders were apprehended: death by cop (1), alive (2), suicide (3), other (4)
- household status: head of household (1), biological minor (2), adopted minor (3), other (4)
- education: dropout (1), high school (2), college (3), other (4)
- family killed by offender: yes (1) or no (2)

### **Case Study Analysis**

Case studies can be used in any type of research. For this study, using case study analysis was the most appropriate course of action because interviewing mass shooting offenders who posted on social media was not practical. Obtaining data from cases that were already collected and reported was much more efficient. Some challenges that arose from using such an approach were time and sample size. Social media usage is limited to the dawn of its existence circa 1997, though a few precursors could be recognized as social media usage before 1997; finding cases reporting use of it in a mass shooting event led to improper saturation. However, given the use of transparent methodology coupled with an influx of recent mass shooting events, replication of this study should not be an issue.

In this study, secondary data were gathered from an existing public database created by Mother Jones. Founded in 1976, Mother Jones is America's longest established nonprofit, reader-supported investigative news organization (Mother Jones,

n.d.). Mother Jones compiles various criminal activities (including mass shootings) using police reports, news, and media reports into a database for research, scholarly, or operational purposes. Most events have multiple data sources to specific media outlets. The data collected via Mother Jones along with original data collected regarding social media usage were exported into SPSS and analyzed quantitatively. The offender characteristics were then able to be regrouped under social usage for fame or attention.

### **Sampling and Sampling Procedures**

A selection index was created consisting of traits of offenders who posted for attention as well as of those who posted for fame. A selection index refers to a linear combination of characteristics associated with those who posted online. The selection index led to simultaneous manipulation of several characteristics possessed by offenders who posted for attention versus fame. This technique helped determine which type of offender possessed which characteristics.

Effect size is an important calculation in an empirical quantitative study. Effect size allows the researcher to know by what margin the results of a study are significant. Effect size is also used to determine the sample size of a potential study. For this study, a medium effect size of 0.25 was used (Cohen, 1988).

Power is used to avoid making a type II error. Howell (2010) suggested using a power of 0.80 for social science studies. G\*Power analysis was used to determine sample size, which came to 72 (Faul et al. 2007). Considering that this sample size was relatively small, using a power of 0.80 was justified.

## **Participant Selection**

Case study research involved looking through and pulling out information related to a case and the study. The original data for this research were collected by looking at case studies for offenders who preemptively used social media. To keep within ethical boundaries and still access as much information as possible, public cases citing multiple sources were used. As a secondary data source, Mother Jones made this very easy.

Mother Jones already had all the cases compiled on a data spreadsheet that was updated daily. However, looking at public information had limitations, such as validity and continuity (Patton, 2015). To address this concern, I looked at cases that had national attention and where the information regarding the cases was more well known.

Secondary sources, such as public interviews with the offender or those who knew the offender, helped in understanding which characteristics that offender likely possessed.

For a case study to be chosen, specific criteria had to be met. Patton suggested outlining important information that each case should have. For this study, each case included information on each of the variables, and only cases including social media usage were used. Lastly, in hopes of limiting external influences, only cases occurring in the United States were included.

With no shortage of mass shootings occurring in the United States, it was difficult to determine which ones best fit the study. One of the largest factors in determining if a case was used was whether all variables looked for in this study were present. This meant finding cases that made news headlines. For a case to have been used, social media usage must have been noted along with where the offense took place, any mental health history,

criminal history, how weapons were obtained, how the offender was apprehended, what position they held in the household, education level, and whether the offender killed any family members. Cases that did not hold this information were excluded from the study.

Using secondary data for this study had specific limitations, such as going off another researcher's work. However, the multiple sources such as newspapers and court documents available per case helped corroborate validity and continuity. Court documents were only used if they provided valuable information not ascertained elsewhere. By using all available information, I was able to choose cases that fit the criteria previously listed (Patton, 2015).

### **Data Analysis Plan**

All data came from case studies that were mostly collected via Mother Jones. Variables from that data were extracted and run through SPSS. For this study, DFA was used to determine which characteristics (independent variables) discriminate between two groups of offenders. The discriminant function can be thought of as a multiple regression equation. The latent variables, which were created as a linear combination of discriminating (independent) variables, were as follows:

$$D^2 = a + b_1 * X_1 + b_2 * X_2 + \dots + b_n * X_n$$

Where  $D^2$  = discriminant function or the predicted score (discriminant score),  $a$  was an intercept,  $b_1$  through  $b_n$  were the discriminant coefficients (analogous to regression coefficients), and  $X_1$  through  $X_n$  were discriminating variables.

The contribution of each variable to the discrimination between groups was determined by the standardized discriminant coefficients ( $b_1$  to  $b_n$ ) for each variable in

each discriminant function. The larger the coefficient (or standardized coefficient), the greater contribution of the respective variable.

The first statistic from the DFA was the eigenvalues of the discriminant functions. In this study, there is one discriminant function because there are only two groups: Group 1, with social media posts for attention, and Group 2, with social media posts for fame. Only one eigenvalue was displayed that reflected the importance ratio of the measured characteristics, which classified cases of the dependent variable (groups). In other words, they reflected the percentage of variance explained in this variable, cumulating to 100%.

The canonical correlation was the multiple associations between the predictor's independent variables (nine measured characteristics) and the discriminant function. It provided an index of overall model fit, which was interpreted as being the proportion of variance explained. The second statistic was the Wilks lambda statistic that was used to test the significance of the discriminant function as a whole. The value of Wilk's lambda ranges between 0 and 1; when Wilk's lambda value closes to be 0 and significant, it means that the DFA has goodness of fit to differentiate the characteristics in two groups and vice versa. Therefore, it indicates the variance of the dependent variable (two groups) that was not explained by the discriminant function.

Additionally, the DFA output included two important items: the standardized canonical discriminant function coefficients and the structure matrix. The first indicated the relative contribution of each variable to the respective discriminating function. Another way of investigating the relationship between dependent variables (social media groups) and discriminant functions is to look at the structure matrix. Finally, I obtained



discriminant scores that were a weighted linear combination (sum) of the discriminating variables. Based on these discriminant scores, characteristics in this study were ranked (selection index). In conclusion, this study showed which characteristics the offender who posted for attention or fame had.

### **Threats to Validity**

Reliability and validity are important in social science research because researchers want their work to be able to be repeated when and if necessary. In this study, statistical validity was maintained by using case studies that had numerous report sources. Internal validity refers to the relationship between variables. As this study looked at how the variables predicted behaviors, there was no threat to internal validity (Drost, 2011). Risk factors for mass violence may be correlated, but that was not the focus of this study.

External validity problems occur when a researcher generalizes their findings onto other individuals, settings, or future conditions (Creswell, 2014). This may have happened because similarities exist between offenders. External validity concerns of this study included the independent variables; the offender's relationship to location, rejection, social media usage, mental health history, criminal history, how weapons were obtained, how offenders were apprehended, household status, education, substance abuse history, number of offenders, and family killed by offenders. In this study, special care was taken to not project this study's findings onto all mass shooters. Many mass shooting offenders have similarities in the following areas: locations where offenses took place, experienced or perceived rejection, mental health history, criminal history, method of

obtaining weapons, manner of apprehension, household status, education level, substance abuse history, number of offenders, and having killed family members. In this study, I only looked at offenders who had documented social media usage. Other research would have to be conducted to see if mass shooting offenders would share the variables in this study provided that social media usage were not a factor.

Another threat to validity was how variables were measured. An assignment of “other” in some independent variables is vague. Further, as some of the offenders were juveniles, a discipline record may be a more appropriate way to measure criminal history. To account for this, if a juvenile offender had a discipline record, it was counted as a criminal record. Additionally, acknowledging which posts on social media were for attention versus fame was challenging. To account for this, posts by the offender in duplicate/multiples and over a longer period were considered to have been posted for attention versus those who posted singularly and immediately before or during a crime. If it was notated by multiple sources that an offender posted for attention or fame, the posting was considered as such.

### **Ethical Considerations**

After completion of this section, this study was sent to the Walden University Institutional Review Board (IRB) for approval. The purpose of this board is to ensure that the quality and integrity of all federal regulations for human rights protection are upheld as well as to determine any risks a study may pose. This study utilized case studies and did not involve physical human participation. All data gathered was ran through analysis software.

## **Summary**

Chapter 3 has provided background information on the research design of this study. I discussed why a quantitative DFA was the best fit in determining what characteristics belonged most to those offenders who posted on social media for fame versus those who posted on social media for attention. This chapter also focused on methodology, the research population, case study analysis, sampling and sampling procedures, participant selection, threats to validity, the role of the researcher, and ethical considerations. Chapters 4 and 5 provide a detailed look at the results of this study.

## Chapter 4: Results

### Introduction

The purpose of this quantitative study was to compare offenders who posted on social media for attention versus those who posted on social media for fame using DFA. Traits found commonly amongst mass shooters were identified in offenders who preemptively posted on social media. There were nine independent variables included: location where shooting occurred, if the offender perceived or experienced rejection, if the offender had a mental health history, whether the offender had a criminal history, how the weapons used were obtained, how the offender was apprehended, the offender's household status, the offender's education level, and whether the offender killed family members. DFA was used to determine to what degree those variables belong to the dependent variable: offenders who posted for attention versus those who posted for fame. Descriptive and inferential statistics were obtained using SPSS.

This study had one research question and two hypotheses.

RQ1. What characteristics differentiate mass shooting offenders who post on social media for infamy versus those who post for attention?

H<sub>0</sub>: There are no differences in mass shooting offender characteristics between those who post on social media for infamy versus those who post for attention.

H<sub>1</sub>: There is a difference in mass shooting offender characteristics between those who post on social media for infamy versus those who post for attention.

This chapter addresses the process of data collection, analyses, and results. Lastly, this chapter summarizes the findings and leads to the discussion and recommendations.

### **Data Collection**

After a review of approximately 300 mass shooting cases that occurred between 1997 and 2023, 72 cases were found to contain each of the variables implemented in this study. Any cases that did not clearly define all the variables were eliminated. The target population was active shooters in the United States who were involved in a mass shooting event, according to the FBI's definition of a mass shooting, with no age limit. On Tuesday, September 13, 2022, Walden University's IRB approved this study. The study number is 09-13-22-0639469. The timeframe for the data collected in this study was originally 1997–2021. On January 16, 2023, a request was made to expand this timeframe to include cases into 2023 for relevancy purposes. This request was approved on January 18, 2023, keeping the same approval number.

### **Sampling and Sampling Procedures**

A selection index was created consisting of traits of offenders who posted for attention versus those who posted for fame. A selection index refers to a linear combination of characteristics associated with offenders who posted online. The selection index led to simultaneous manipulation of the characteristics possessed by offenders who posted online for attention versus fame. This technique determined which offender type possessed which characteristics. Only cases with no missing data were used.

Effect size is an important calculation to an empirical quantitative study. Effect size allows the researcher to know by what margin the results of a study are significant.

Effect size is also used to determine the sample size of a potential study. For this study, a medium effect size of 0.25 was used (Cohen, 1988). In this study, the effect size was close but not significant with a  $p = .213$  (see Table 1).

**Table 1**

*Eigenvalues and Effect Size*

Function	Eigenvalue	% of variance	Cumulative %	Canonical correlation
1	.270 <sup>a</sup>	100.0	100.0	.461

<sup>a</sup> First 1 canonical discriminant function was used in the analysis.

Power is used to avoid making a type II error. Howell (2010) suggested using a power of 0.80 for social science studies. G\*Power analysis was used to determine sample size, which came to 72 (Faul et al. 2007). Considering that this sample size is relatively small, using a power of 0.80 is justified.

**Participant Selection**

Case studies were found using secondary data sources such as Mother Jones, The Violence Project, FBI databases, and Gun Violence Archives. These sources already had mass shooting cases and a lot of the variables used in this study listed in a spreadsheet. Most cases reported in these secondary data sources had multiple data sources specific to media outlets. The data collected via these secondary data regarding mass shootings and social media usage were exported into SPSS and analyzed quantitatively. Offender characteristics were then regrouped under social media usage for attention or fame.

To keep within ethical boundaries and still access as much information as possible, public cases citing multiple sources were used. As secondary data sources,

Mother Jones, The Violence Project, FBI databases, and Gun Violence Archives made data gathering much easier. However, looking at public information had limitations, such as validity and continuity (Patton, 2015). To address this concern, I looked at cases that had national attention. Thus, the information regarding the cases was more well known. Secondary sources, such as public interviews with the offender or those who knew the offender, helped in understanding which characteristics the offender likely possessed.

For a case study to be chosen, specific criteria had to be met. Patton (2015) suggested outlining important information that each case should have. For this study, each case had to include information on each of the variables included in this study, and only those cases were used. Lastly, in hopes of limiting external influences, only cases occurring in the United States were included (see Appendix A).

Although there is no shortage of mass shootings in the United States, finding those that best fit this study was challenging. The largest factor was finding cases that held no missing data. This meant finding cases that made news headlines, which is the opposite of what professionals want when a mass shooting is heard of. For a case to be used, social media usage needed to be noted, along with where the offense took place, if the offender felt rejected (perceived or real), any mental health history, any criminal history, how weapons were obtained, how the offender was apprehended, what position the offender held in the household, the offender's education level, and whether the offender killed any family members. Cases that did not hold this information were excluded from this study.

Using secondary data for this study had specific limitations, such as going off another researcher's work. However, the multiple sources, such as newspapers and court documents available per case, helped corroborate validity and continuity. Court documents were only used if they provided valuable information not ascertained elsewhere. By using all available information, I was able to choose cases that fit the criteria previously listed and determine if there was enough to appropriately analyze each case (Patton, 2015).

### **Discriminant Factorial Analysis Assumptions**

The dependent variable in this study had two levels: those who posted for fame and those who posted online for attention. The dependent variable was measured categorically. Attention and fame were mutually exclusive categories. Offenders needed to fall into one of these two categories.

The predictor variables were the nine independent variables: location, rejection, mental health history, criminal history, how weapons were obtained, how offender was apprehended, household status of the offender, education level obtained by the offender, and whether the offender killed family. These variables were scaled. Location was measured by (1) home, (2) school, (3) work, or (4) other. Rejection was simply (1) yes or (2) no, as was mental health history, criminal history, and family killed. How weapons were obtained were labeled (1) legally, (2) family, (3) friend, or (4) other. How the offender was apprehended was coded (1) death by cop, (2) alive, (3) suicide, or (4) other. The offender's household status was labeled as (1) head of household, (2) biological relative, (3) suicide, and (4) other. Education levels consisted of (1) dropout, (2) high

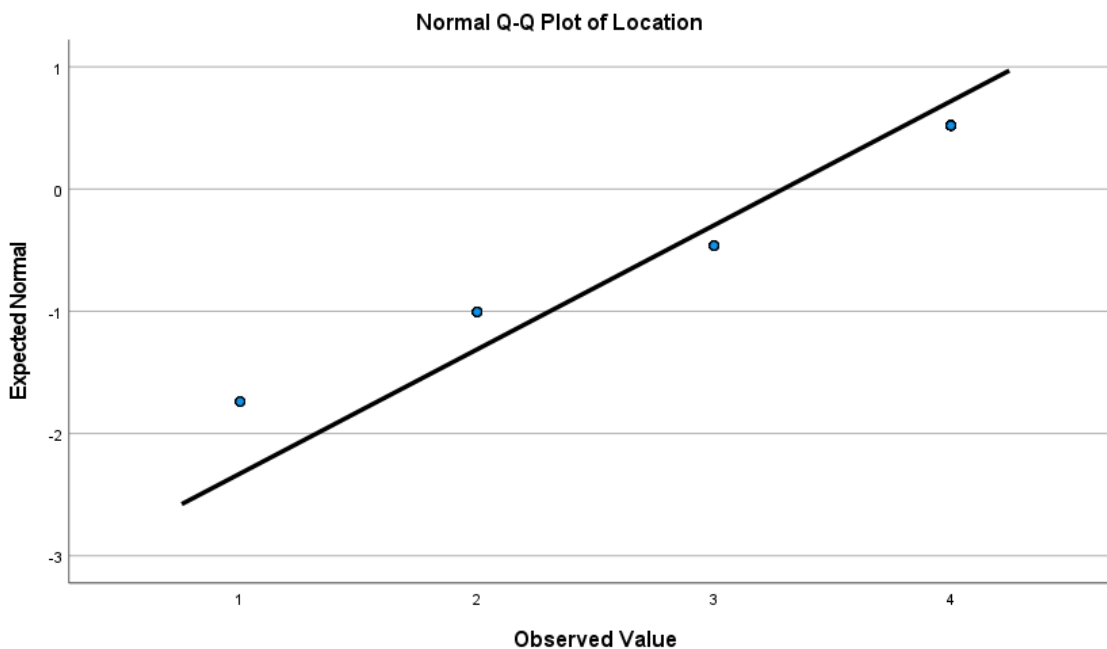


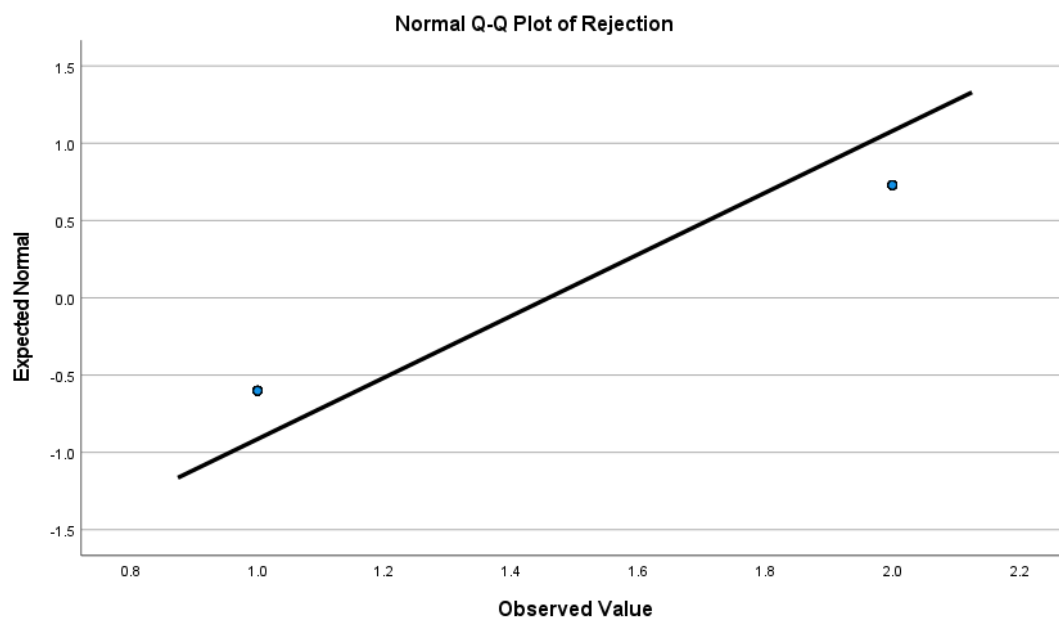
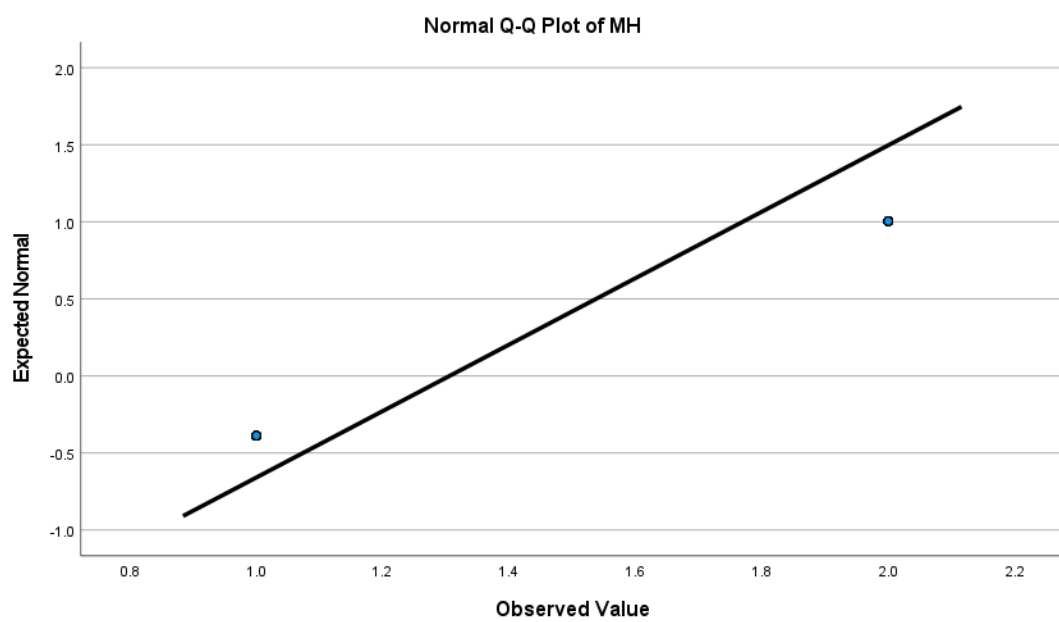
school, (3) college, or (4) other. All predictor variables were independent of one another, were nominally distributed, and should be outlier free.

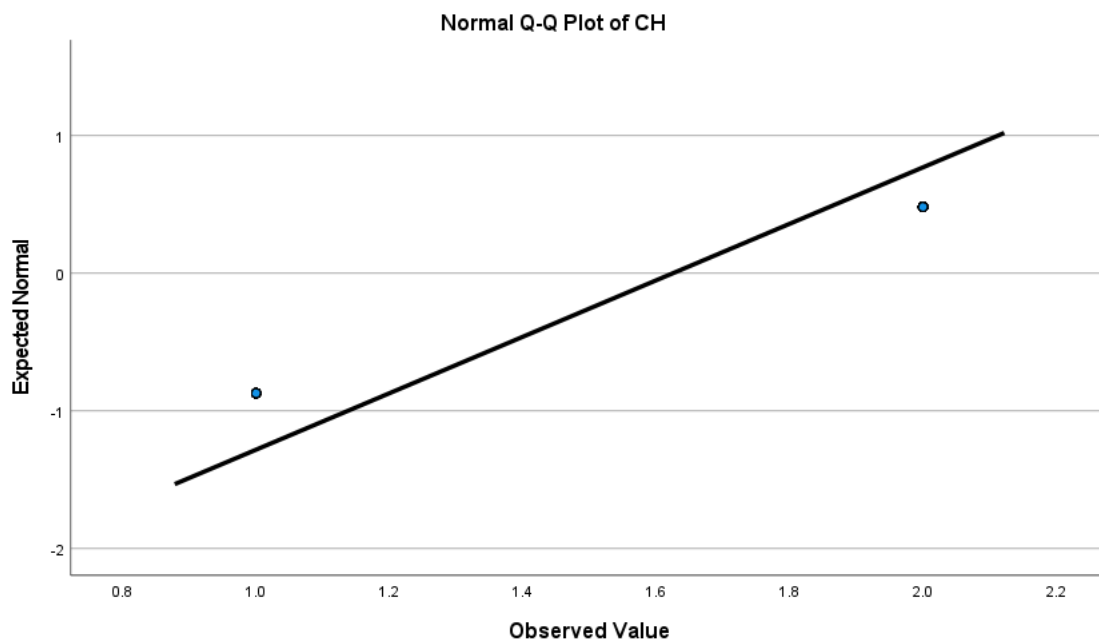
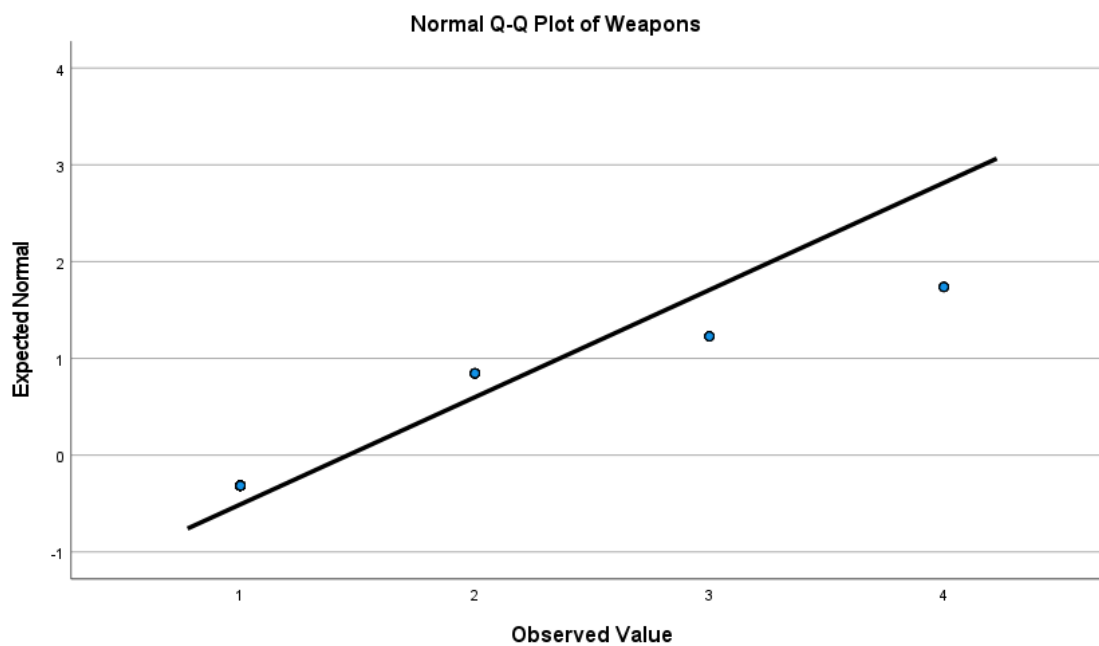
The Shapiro-Wilks test tests for normality. However, for this study, the Shapiro-Wilks test was not reliable because the sample size was greater than 50 (Nam, 2021). Because there were 72 cases in this study, the test for normality was likely to detect trivial departures from normality (Nam, 2021). Grande suggested the sample size to be about 5 times as many observations or cases as there are predictor variables to obtain a valid Shapiro-Wilks test. This study had almost double that amount. The Q-Q plots verify normality (see Figures 1–9). Linearity and no multicollinearity were also confirmed via correlational analysis (see Table 2).

### Figure 1

#### *Q-Q Plot of Location*

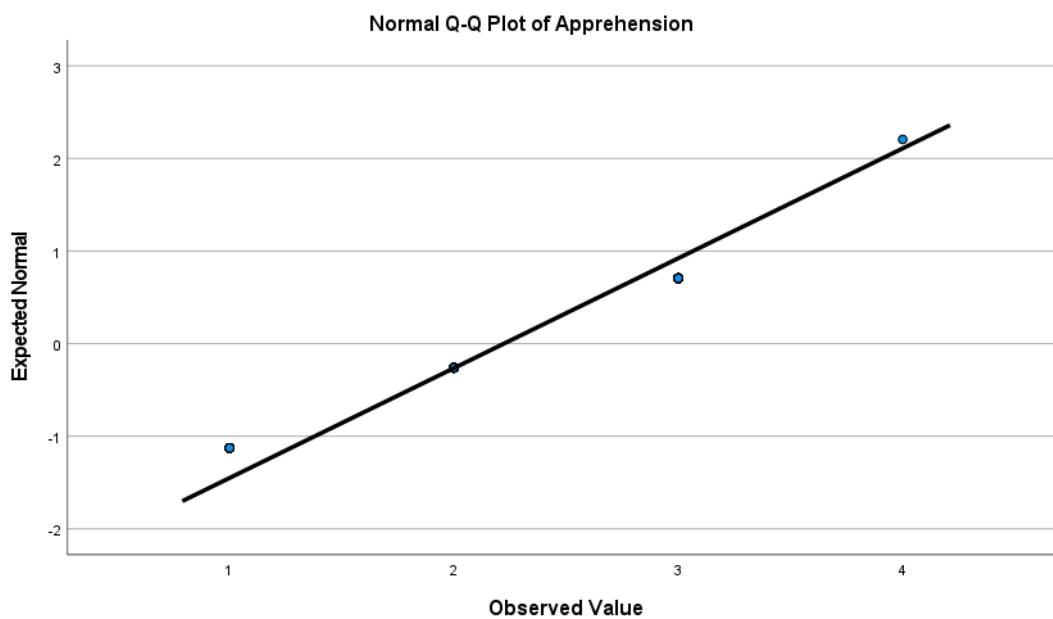


**Figure 2***Q-Q Plot of Rejection***Figure 3***Q-Q Plot of Mental Health*

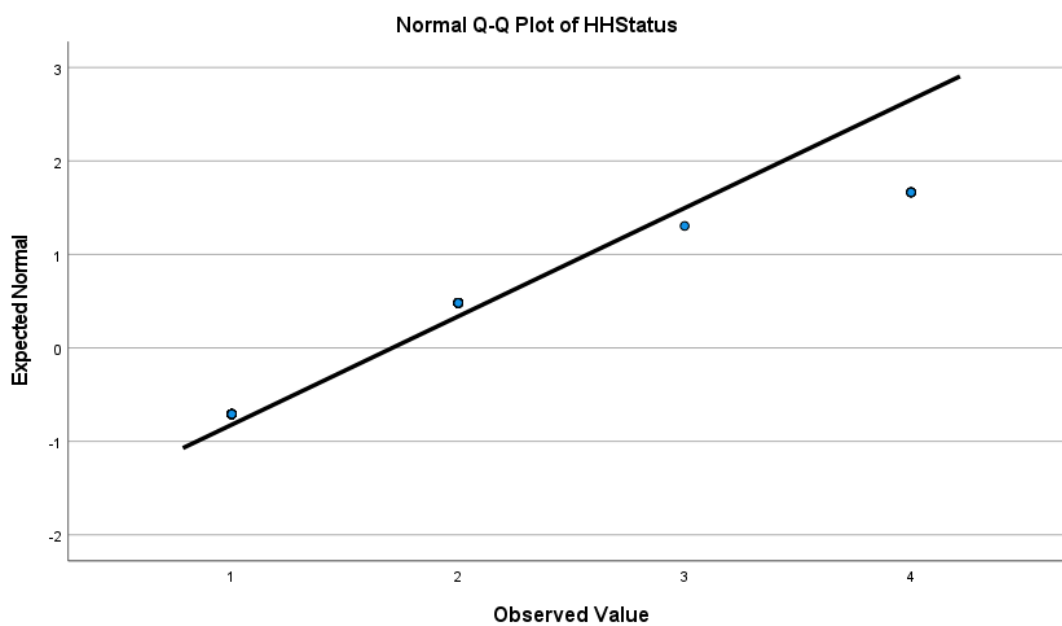
**Figure 4***Q-Q Plot of Criminal History***Figure 5***Q-Q Plot of How Weapons Were Obtained*

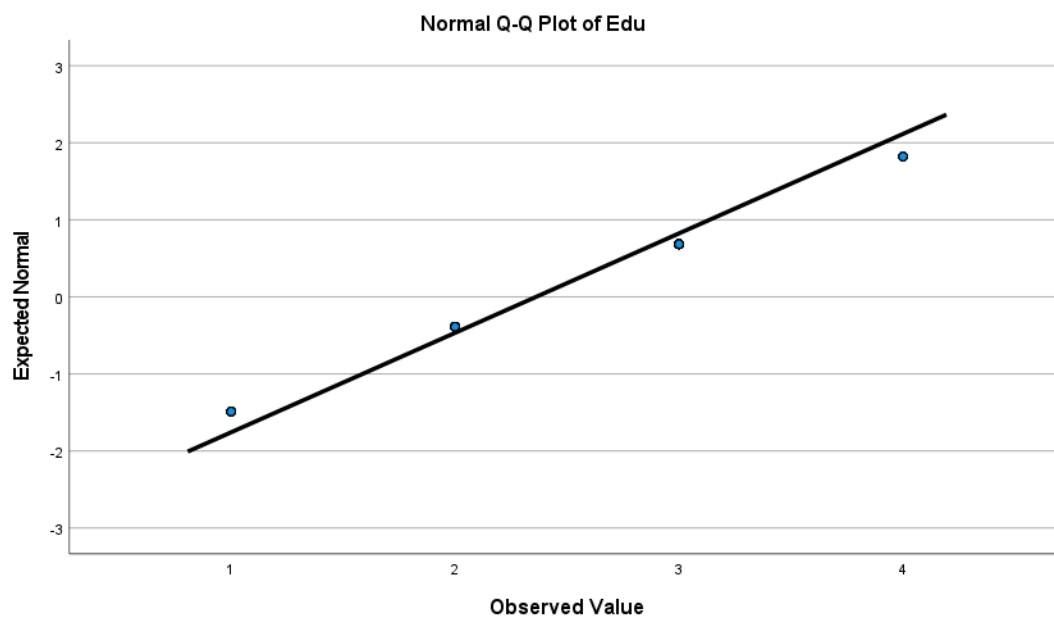
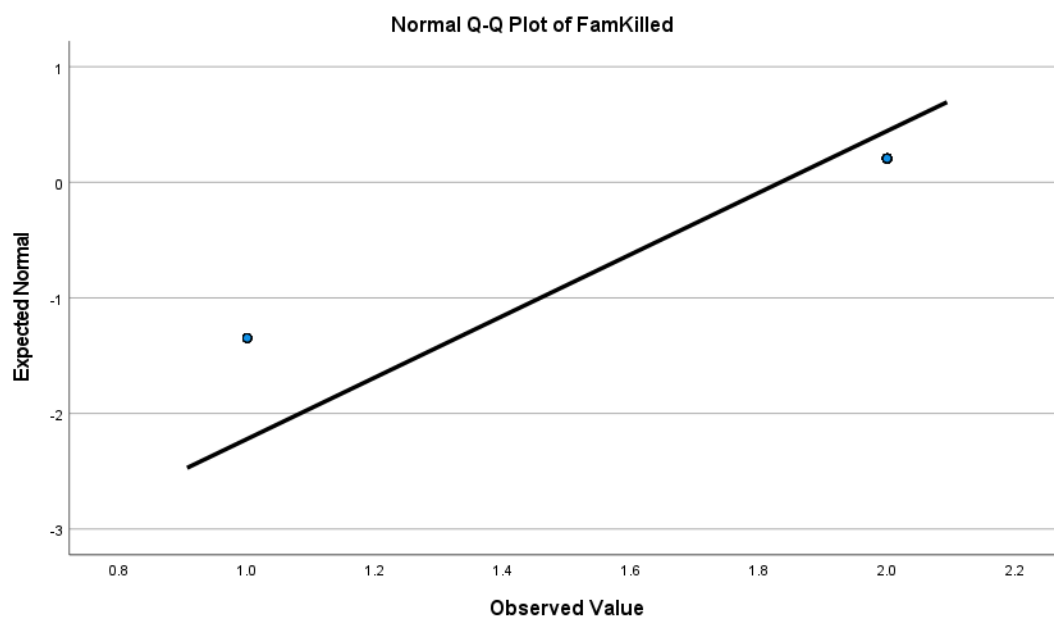
**Figure 6**

*Q-Q Plot of How Offender(s) Were Apprehended*

**Figure 7**

*Q-Q Plot of Household Status*



**Figure 8***Q-Q Plot of Offender Education Level***Figure 9***Q-Q Plot of Family Killed*

**Table 2***Pearson Correlation Coefficients*

		Loc	Rej	MH	CH	Wea	App	HHSSt	Edu	FamKill
Location	Pearson correlation	1	.324**	.080	-.268*	-.105	-.249	-.097	-.122	.362**
	Sig. (2-tailed)		.005	.506	.023	.380	.035	.416	.309	.002
	N	72	72	72	72	72	72	72	72	72
Rejection	Pearson correlation	.324**	1	-.005	-.151	.058	-.111	-.012	.039	-.112
	Sig. (2-tailed)	.005		.966	.205	.627	.353	.919	.743	.348
	N	72	72	72	72	72	72	72	72	72
MH	Pearson correlation	.080	-.005	1	.202	.233*	-.176	.155	.002	.054
	Sig. (2-tailed)	.506	.966		.088	.049	.139	.192	.986	.653
	N	72	72	72	72	72	72	72	72	72
CH	Pearson correlation	-.268*	-.151	.202	1	-.180	.137	-.197	.103	-.038
	Sig. (2-tailed)	.023	.205	.088		.130	.251	.098	.391	.748
	N	72	72	72	72	72	72	72	72	72
Weapons	Pearson correlation	-.105	.058	.233*	-.180	1	-.099	.138	-.139	-.187
	Sig. (2-tailed)	.380	.627	.049	.130		.409	.248	.243	.116
	N	72	72	72	72	72	72	72	72	72
Apprehen	Pearson correlation	-.249*	-.111	-.176	.137	-.099	1	-.065	-.038	-.193
	Sig. (2-tailed)	.035	.353	.139	.251	.409		.590	.749	.104
	N	72	72	72	72	72	72	72	72	72
HHSStatus	Pearson correlation	-.097	-.012	.155	-.197	.138	-.065	1	-.177	-.109
	Sig. (2-tailed)	.416	.919	.192	.098	.248	.590		.136	.363
	N	72	72	72	72	72	72	72	72	72
Edu	Pearson correlation	-.122	.039	.002	.103	-.139	-.038	-.177	1	-.032
	Sig. (2-tailed)	.309	.743	.986	.391	.243	.749	.136		.788
	N	72	72	72	72	72	72	72	72	72
FamKilled	Pearson correlation	.362**	-.112	.054	-.038	-.187	-.193	-.109	-.032	1
	Sig. (2-tailed)	.002	.348	.653	.748	.116	.104	.363	.788	
	N	72	72	72	72	72	72	72	72	72

\*Correlation is significant at the 0.05 level (2-tailed). \*\*Correlation is significant at the 0.01 level (2-tailed).

## Results

All data came from the 72 case studies that were mostly collected via Mother Jones, The Violence Project, FBI databases, and Gun Violence Archives. Variables from that data were extracted and ran through SPSS. For this study, the DFA was used to determine which characteristics (independent variables) discriminate between the 2 groups of offenders; those who posted for attention versus those who posted for fame (dependent variables). The discriminate function can be thought of as a multiple regression equation. The latent variables which are created as a linear combination of discriminating (independent) variables would be as follows:

$$D^2 = a + b * X_1 + b_2 * X_2 + \dots + b_n * X_n$$

Where  $D^2$  = discriminate function or the predicted score (discriminate score),  $a$  is an intercept,  $b_1$  through  $b_n$  are the discriminate coefficients (analogous to regression coefficients), and  $X_1$  through  $X_n$  are discriminating variables (see Table 3).

**Table 3**

*Canonical Discriminant Function Coefficients*

Independent variables	Function 1
Location	.422
Rejection	-.465
Mental health	-.740
Criminal history	1.195
How weapons obtained	1.148
How apprehended	.481
Household status	.166
Education level	.315
Family killed	1.557
Constant	-8.311

The contribution of each variable to the discrimination between groups is determined by the standardized discriminant coefficients ( $b_1$  to  $b_n$ ) for each variable in each discriminate function. The larger the coefficient (or standardized coefficient) the greater contribution of the respective variable (see Table 4).

**Table 4***Standardized Canonical Discriminant Function Coefficients*

Independent variables	Function 1
Location	.419
Rejection	-.234
Mental health	-.346
Criminal history	.583
How weapons obtained	1.008
How apprehended	.406
Household status	.144
Education level	.246
Family killed	.579

In this study, there is one discriminant function because there are only two groups: “group 1” social media posts for attention and “group 2” social media posts for fame. Only one Eigen-values (.270) is displayed that reflects the importance ratio of the measured characteristics, which classify cases of the dependent variable (groups). In other words, they reflect the percent of variance explained in this variable, cumulating to 100%.

The canonical correlation is the multiple associations between the predictor’s independent variables (nine measured characteristics) and the discriminant function. It provides an index of overall model fit which is interpreted as being the proportion of



variance explained. The second statistic is the Wilks lambda statistic that is used to test the significance of the discriminant function as a whole. The value of Wilks lambda ranges between 0 and 1, when Wilks lambda value is  $p = .05$ , it is considered significant. That means that the DFA has goodness of fit to differentiate the characteristics in two groups and vice versa. Therefore, it tells us the variance of the dependent variable (two groups) that is not explained by the discriminant function. This study had a Wilks Lambda value of  $p = .075$ , which is not statistically significant (see Table 5).

**Table 5**

*Wilks Lambda*

Tests of Function 1	Wilks lambda	Chi-square	<i>df</i>	Sig.
1	.788	15.640	9	.075

Also, the DFA output included two important items: the standardized canonical discriminant function coefficients and the structure matrix (see Table 6). The first indicates the relative contribution of each variable to the respective discriminating function. Another way of investigating the relationship between dependent variables (social media groups) and discriminant functions is to look at the structure matrix. Finally, we get discriminant scores where a weighted linear combination (sum) of the discriminating variables. Based on these discriminant scores, characteristics in this study are ranked (selection index). In this study, we can see that weapons, family killed, are the only two variables above a .3.

### **Discriminant Factorial Analysis**

One discriminant function was calculated. The predictors did not significantly predict the groups ( $\chi^2(9) = 15.640, p < .05$ ). The canonical correlation was .461. The structure matrix suggested that criminal history, apprehension, rejection, location, household status, education, and mental health issues were the best predictors for distinguishing between the two groups (see Table 6). In group statistics (see Table 7), the lowest means was between offenders posting on social media for attention and obtaining weapons legally ( $M = 1.25$ ). The greatest means between offenders posting on social media for attention was with location ( $M = 3.25$ ). Similarly, the lowest mean for offenders posting on social media for fame was with those who had a mental health issue ( $M = 1.3125$ ) and greatest for location ( $M = 3.3438$ ). Overall, location had a  $M = 3.2917$  and mental health was  $M = 1.3056$ . Workplace shooting was the favored venue for either offender posting for attention or fame. Those posting online for fame obtained their weapons legally versus those posting for attention. Mental health was more of an issue for offenders posting for attention versus those posting for fame.

The test of equality of group means (see Table 8) is evaluated against an  $\alpha = .001$ . This study has a  $p = .001$  which is statistically significant so, there is no equality of covariance matrices. The log determinant (see Table 9) was close together  $p = .001$ . This is also statistically significant which further verifies that equal population covariance matrices cannot be assumed.

Looking at the Fisher's linear discriminant (see Table 10), the highest values for those who posted on social media for attention are associated with criminal history

(13.246) and family killed (19.141). The lowest values are associated with mental health history (-.779) and location (4.926). Similarly, the highest values for those who posted for fame are also with criminal history (14.478) and family killed (20.746). The lowest values belong to mental health history (-1.542) and location (5.362).

Classification statistics (see Table 11) show most mass shootings happened at the workplace. There is a closer relationship between independent variables with offenders posting for fame except for rejection and mental health. Those two variables seem to fit better with offenders who posted preemptively for attention. Seventy-five percent of the original grouped cases correctly classified, whereas 63.9% of cross-validated grouped cases correctly classified.

**Table 6***Structure Matrix*

Independent variables	Function 1
Weapons	.518
Family killed	.342
Criminal history	.224
How apprehended	.187
Rejection	-.181
Location	.092
How apprehended	.187
Rejection	-.181
Location	.092

*Note.* Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

**Table 7***Group Statistics*

DV	IV	Mean	Std. deviation	Unweighted	Weighted
Attention	Location	3.2500	1.03155	40	40.000
	Rejection	1.5000	.50637	40	40.000
	Mental health	1.3000	.46410	40	40.000
	Criminal history	1.5750	.50064	40	40.000
	Weapons	1.2500	.66986	40	40.000
	Apprehension	2.1500	.86380	40	40.000
	Household status	1.7250	.93336	40	40.000
	Education level	2.3500	.86380	40	40.000
	Family killed	1.7750	.42290	40	40.000
Fame	Location	3.3438	.93703	32	32.000
	Rejection	1.4063	.49899	32	32.000
	Mental health	1.3125	.47093	32	32.000
	Criminal history	1.6875	.47093	32	32.000
	Weapons	1.7188	1.08462	32	32.000
	Apprehension	2.3125	1.08462	32	32.000
	Household status	1.6875	.78030	32	32.000
	Education level	2.3750	.65991	32	32.000
	Family killed	1.9063	.29614	32	32.000
Total	Location	3.2917	.98492	72	72.000
	Rejection	1.4583	.50176	72	72.000
	Mental health	1.3056	.46387	72	72.000
	Criminal history	1.6250	.48752	72	72.000
	Weapons	1.4583	.90285	72	72.000
	Apprehension	2.222	.84290	72	72.000
	Household status	1.7083	.86297	72	72.000
	Education level	2.3611	.77470	72	72.000
	Family killed	1.8333	.37529	72	72.000

**Table 8***Box's Test of Equality of Covariance Matrices*

Test results	
Box's <i>M</i>	92.589
<i>F</i> approx.	1.770
df1	45
df2	14520.488
Sig.	.001

*Note.* Tests null hypothesis of equal population covariance matrices.

**Table 9***Log Determinants*

DV	Rank	Log determinant
Attention	9	-9.292
Fame	9	-11.203
Pooled within groups	9	-8.816

*Note.* The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

**Table 10***Fisher's Linear Discriminant Functions*

IV	Attention	Fame
Location	4.926	5.362
Rejection	5.890	5.411
Mental health	-.779	-1.542
Criminal health	13.246	14.478
Weapons	6.593	7.776
Apprehension	7.093	7.588
Household status	5.744	5.915
Education	6.503	6.827
Family killed	19.141	20.746
Constant	-64.263	-73.110

**Table 11***Classification Results*

		DV	Attention	Fame	Total
Original	Count	Attention	32	8	40
		Fame	10	22	32
	%	Attention	80.0	20.0	100
		Fame	31.3	68.8	100
Cross-validated	Count	Attention	26	14	40
		Fame	12	20	32
	%	Attention	65.0	35.0	100.0
		Fame	37.5	62.5	100.0

*Note.* Seventy-five percent of original grouped cases are correctly classified. Cross-validation is done only for those cases in the analysis. In cross-validation, each case is classified by the functions derived from all cases other than that case. Of cross-validated grouped cases, 63.9% are correctly classified.

### Summary

In this study, 72 cases were identified via secondary data sources. Differential factorial analysis was used to compare the similarities and differences between offenders who posted on social media for attention versus those who posted on social media for fame. I was looking to see what characteristics, differentiate mass shooting offenders who post on social media for attention versus offenders who post for fame? Although some of the analysis showed that some of the independent variables favored one level of the



dependent variable or the other, overall, the data was statistically insignificant. The null hypothesis must be accepted: There are no differences in mass shooting offender characteristics between those who post on social media for infamy versus those who post for attention. Chapter 5 will go into discussion, conclusions, and recommendations of these results.

## Chapter 5: Discussion, Conclusions, and Recommendations

### **Introduction**

The purpose of this quantitative study was to compare offenders who posted on social media for attention versus those who posted on social media for fame using DFA. Traits found commonly amongst mass shooters were identified in offenders who preemptively posted on social media. In this DFA quantitative study, I analyzed how offenders used social media before committing a mass shooting to see if certain attributes such as location, feeling rejected, having a criminal history or mental health history, how guns used were obtained, how the offender was apprehended, what position the offender held in their household, what education level the offender went up to, and whether or not the offender killed family had any relation to whether the offender posted preemptively on a social networking site (SNS) for attention or fame before committing a mass shooting. I hypothesized that there is a difference in mass shooting offender characteristics between those who post on social media for infamy versus those who post for attention. There was no age specified for this study. Mass shootings had to have occurred in the United States between 1997 and 2023. A mass shooting event was defined by three or more casualties including (or not including) the shooter occurring in a public place (FBI, 2012).

Mass shootings have tripled in recent years (Lurie, 2019). In fact, five of the United States' deadliest mass shootings have occurred since 2007 (Lurie, 2019). The fact that mass shootings continue to occur at alarming rates demonstrates the need for a study such as this one. I attempted to discover if some of the characteristics belonging to mass

shooters who preemptively posted on SNS for attention or fame could be further defined as some traits belonging more to one group or another. The thought was that if one group could be discerned from another, then specialized treatment plans could be designed to thwart mass shootings before they occurred.

Seventy-two cases were analyzed, and the results showed that there were no differences in mass shooting offender characteristics between those who post on social media for infamy versus those who post for attention. Therefore, the null hypothesis was accepted. However, the results indicated that workplace shooting happened with greater frequencies amongst offenders who posted preemptively on SNS and that those who posted for fame were more likely to obtain their weapons legally as well as have a criminal history versus those who posted for attention, who were more likely to have higher incidences of mental health issues and rejection. In this chapter, I further discuss the results of this study and what else can be done in the future to further research such as this.

### **Interpretation of the Findings**

The research question was the following: What characteristics differentiate mass shooting offenders who post on social media for fame versus those who post for attention? The question referred to the preemptive use of SNSs that offenders used to post their intentions of mass shootings for either attention to the crime they intended to commit or fame regarding the mass shooting that they were about to commit. All analytical results pointed to accepting the null hypothesis indicating that there were no differences in mass shooting offender characteristics between those who post on social

media for fame versus those who post for attention. The results were obtained by conducting a DFA, which grouped the independent variables into one, two, or both levels of the grouping (dependent) variable.

The results of the DFA were insignificant, showing little relationship between mass shooting offenders who posted on social media for attention versus for fame. Group centroids showed that work was the most popular mass shooting venue for offenders seeking either attention or fame. Classification statistics indicated that offenders posting on SNSs for fame more often obtained their guns legally versus those who posted for attention. They also showed that mental health issues were more of a concern for offenders posting for attention than for those posting for fame. Social media is here and widely used by all age groups, sexes, and cultures (Hawk et al. 2019; Pew Research Center, 2018). SNSs provide media to be expedited without boundaries, often feeding into offender-driven behavior (Parker, 2019). Schweit suggested that people stop looking for a single answer when it comes to understanding mass shootings. A single answer does not work because mass shootings continue to increase without a single reason as to why (Schweit, 2022). Mass shootings have been stopped because word got out before the event could take place (Silva, 2021). Training everyone, including the public, about signs to look for and the need to report what they see is imperative in slowing the continuing rise in mass shootings.

The theoretical base for this study was Durkheim's anomic theory (Smith, 2014) and Agnew's strain theory. These 2 theories are frequently seen together to explain criminal behavior. In Durkheim's book on suicide, the author explained anomie as a

condition where society does not provide moral guidance to its members, causing chaos, rejection, and a loss of self. The term *anomie* is used when referring to those experiencing personal frustration and alienation because of an unstable environment/society (Agnew, 2013; Smith, 2014). This best fits with a culture that prioritizes fame or craves attention to a point where many will take any form of attention, good or bad, to attain it. As most research on mass shootings points out, the perpetrator has usually experienced isolation and/or bullying (Baird et al. 2017; Gerard et al. 2016; Johnston & Jay, 2016). Victims of bullying or isolation are likely to experience anomie and retaliate because of the strain so that a real or perceived assertion of social equality or justice is attained.

Agnew suggested that cultural norms emphasize success through means of obtaining said success. Success is not equally distributed and as a result leads to crime (Agnew, 2013). Lack of fitting in creates a strain on an individual, which then results in deviant behavior. Strain theory explains how one may cope with strain via violence and thus predict violence. When an individual perceives victimization, discrimination, and anger, their strain levels increase (Agnew, 2013; Broidy & Santoro, 2018). To lessen this strain, one without proper support and resources may act to reduce social control by acting out on society (Agnew, 2013; Broidy & Santoro, 2018).

These theories relate to this study because a correlation between the dependent variable and independent variables with regard to social media posts for attention or fame exists. There is a correlation between offenders who posted online preemptively with having a mental health issue or perceived rejection. When someone lives in a culture that

values fame and attention, they may resort to crimes, even to the extent of murder for status or attention (Lankford, 2018). Any combination of chronic and acute stressors may provide a cocktail for mass violence (Baird et al. 2017). Americans have an increasing desire for fame, and some seem to have an unrealistic mindset and sense of entitlement regarding achieving fame (Lankford, 2016). In an age of technology, ideologies can be shared in an instant. This is a generation of social-networking-dependent individuals who can share and embellish upon their own personal traits until everyone is in competition (globally), and the competition may not be healthy.

Shultziner pointed out how mistreatment, shame, or humiliation can lead to acting out. Baron agreed with this, adding that anger/frustration can be particularly criminally yielding. However, as Broidy and Santoro pointed out, acute or chronic strain does not always lead to illegitimate coping mechanisms (Baird et al. 2017). Both anomie and strain theory explain how mistreatment, shame, humiliation, anger, and frustration can be criminally yielding. This study corroborated with that statement. Lack of fitting in creates a strain on an individual, which may result in deviant behavior. Strain theorists explain how one may cope with strain via violence and thus predict violence.

Fisher's linear discriminant functions showed that location, criminal history, how weapons were obtained, how an offender was apprehended, household status, educational level, and whether the offender killed family members were more closely related to offenders who posted preemptively on social media for fame. An offender feeling rejected or suffering a mental health disorder was more closely correlated with offenders who preemptively posted for attention. Social media research has shown that users tend

to try and compensate for whatever they perceive is lacking in their relationships by posting online (Edwards, 2017). Hawk et al. found when adolescents post on social media for attention, it is usually done to recover from a perceived or real social rejection. Overall, results suggest a positive relationship between preemptively posting on social media, whether for attention or fame, and all independent variables, thus showing no difference in mass shooting offender characteristics between those who post on social media for fame versus those who post for attention. Unfortunately, the results cannot be compared to previous studies, due to the lack of peer-reviewed literature and studies conducted on this specific issue. This is the first study conducted on mass shooting offenders who preemptively posted on social media. Therefore, these findings cannot confirm or deny knowledge in the discipline. However, research done by Gill, Horgan, and Silver on leakage found that intentions of violence are often advertised to another party before an act of violence is committed. If a threat is read regardless of the intent, location, mental health, criminal history, household status, or educational level of the person making that threat, it should be investigated thoroughly to avoid future mass shootings. There is a need for further research in this area. Conducting further studies on offenders before, during, and after mass shootings is crucial to slowing a steady upward trend. Social media is not going anywhere and is the new newspaper and television media. Further research can help better generalize social media to the population and help implement social change.

### **Limitations of the Study**

Social media is a relatively new phenomenon in the modern world. While identifying offender traits and creating profiles has been happening for a while now, bringing social media usage into the equation is still new and upcoming. Finding studies related to social media and mass shootings was difficult because very few studies like this one exist, if any. Using case studies was very helpful in that all the data were readily available; however, the data were secondary data, meaning that information from the primary source was not obtained. It also left some questions open to interpretation, such as whether a post was created for attention or fame. For this study, cases were only used when language in the secondary data specifically indicated attention, fame, or a synonym thereof. Another limitation was that not all mass shooting offenders used social media. Likewise, not all posts analyzed were put up by an offender or even a potential offender. Additionally, the tones that articles used regarding polarized topics such as the right to bear arms or mental illness could have skewed the secondary data. In some instances, these articles focused on any social media posts written by the perpetrator solely because the offender was a hunter, or owned a gun or suffered a mental illness. This made it difficult to distinguish the offender's true motive behind the post. In these instances, if a post was created preemptively, it was counted if all other variables were present, and the offender had to have created the post. Lastly, a limitation was found to have occurred in the study size. Seventy-two cases were too high of an amount, which likely caused trivial departures from normality.



## Recommendations

If I were to repeat this study, I would include any shootings that involved social media globally, and if possible, I would not use  $G^*$  to generate the study size. I would suggest, as Grande advised, to use about 5 times as many observations or cases as there are predictor variables to obtain a valid Shapiro-Wilks test. I would also recommend broadening the definition of what constitutes a mass shooting. There is no real consensus on what constitutes one already in place. For this study, the FBI's definition was used. However, if a perpetrator shot 60 people and only two died, is that not still a mass shooting? Several cases such as that were left out of this study because they did not match the FBI's definition yet maintained all the other variables. In a case such as the hypothetical one above, the shot victims may pass later from their injuries, and the case might then be categorized as a mass shooting.

A future study could look at similar posts by individuals who do not offend, or which type of offender seems to offend more; the one who posts for attention, or the one who posts for fame. This study had more female mass shooters than I expected. All mass shootings involving a female occurred in the workplace. I think a future study looking at females in the workplace is worth pursuing. Upon analyzing approximately 300 mass shooting cases, I also noticed that a lot of offenders were of military background. I would strongly recommend a future study analyzing mass shooters with a military background. There is also a need for further research in media psychology so that what drives human behavior regarding posting on SNS can better be understood. Because the findings of this study were not significant, I am more likely to agree with Schweit in that there is not one

variable to analyze when attempting to stop a killing, but instead, it is necessary to analyze what the perpetrator did before, during, and after the crime was committed.

### **Social Change Implications**

Implications for social change include looking more closely at social media as it relates to mass shootings and crime in general. In 2018, 69% of Americans used at least one form of social media (Pew Research Center, 2018). The dawn of social media has created a new era and platform for individuals to speak their minds and disseminate information quickly and vastly while tracking the popularity their posts evoke (Hawk et al. 2019). Social media is the modern-day telephone and newspaper combined. Social networks can now be used to virtually conduct meetings, doctor, or therapist appointments, facilitate educational goals, or just chat with relatives and friends “face-to-face.” By using SNS, the gap in this research area as well as many others can be filled.

Understanding SNS and how it affects mass shootings is of paramount importance in creating social change. Social media is so much a part of today that it can be instrumental in the creation and implementation of prevention strategies when it comes to mass shootings. When someone sees something alarming on a SNS, it should be reported as much as seeing a lone bag in a strange place. SNSs have the potential to be used as a unique type of “neighborhood watch” where users can share information and engage with their community virtually protecting community members (Domasneanu-Miulescu, 2019). In doing so, users can form stronger bonds, and corroborations will be fostered. Using SNS as a type of neighborhood watch could help establish a network of information sharing, better communication, and reduce feelings of rejection and isolation.

A virtual community watch made possible with social media usage could aid in the fight against mass shootings and in the apprehension of potential offenders.

### **Conclusion**

Mass shootings are a growing problem and occur more frequently when posted about on SNS (Garcia-Bernardo et al. 2015). There is a need for a public “call to action” to aid in the prevention of mass shootings and the invention of strategies to stop them from continuing. Having the public’s assistance via SNS is a safe, inexpensive way to fight against mass shootings. When posts are reported and taken seriously, mass shootings have been prevented. However, all too often, posts, cries for help, or claims to fame have a blind eye turned, and an event like Parkland or Uvalde occurs (Pan et al. 2019). Everyone must be vigilant when on social media sites. A single characteristic is not going to differentiate a future mass shooter from someone just spouting off words or images.

The media, society, and professionals in the field are all quick to claim new gun control, mental health reform, further education, or new antibullying legislation is the answer for reducing mass shootings. The results of this study were not significant, which indicates that there is no single answer concerning what makes up the mass shooting offender who posts preemptively online for attention or fame. What is of significance is the fact that perpetrators are posting preemptively online.

By engaging on social media platforms, individuals can be a part of prevention strategies. Such applications can be promoted and explained to civilian and noncivilian groups to demonstrate benefits, showcase successful cases, and educate people in the use

of the application or social platform. If people perceive the application and networks to be easy to use, they will be more likely to engage in them. The only way that this will work is if members of the public report what they see, and their reports are taken seriously and investigated. Mass shootings are not spontaneous events (Follman, 2019). If members of society believe that they are making a difference, alarming posts will be reported, sites that breed this type of propaganda may be disrupted, and future attacks may be thwarted.

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## Appendix: Case Studies

1. **Oxford High School Shooting**: Ethan Crumbley, 15
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