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# Rampage School Shootings in Rural America: A Description of the School and Community Environments Where They Occur

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BY

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A doctoral project submitted to the faculty of the Medical University of South Carolina
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in the College of Health Professions

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Abstract of Dissertation Presented to the
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Schools are typically seen as safe community institutions that allow children to develop both educationally and socially. But shootings in schools such as the 1999 massacre at Columbine High School, have cast doubt on the assumption that schools are safe places to learn. And although school shootings remain a very rare event, when they do occur, the public demands answers as to how or why such tragedies happen. In an attempt to satisfy this demand for immediate answers, the media often provides an explanation that the public readily accepts, such as a failing in mental health, gun control or a combination of both. However, research has found that these simplistic explanations, are not scientifically grounded.

Given the rarity of school shootings, concrete and robust data on the causes or predictors of such violence is elusive. In addition, studies of shootings are limited to retrospective analysis and are typically centered on the characteristics of the shooter themselves. In this research dissertation, I seek to fill gaps in research regarding the environmental factors of schools and the communities where shootings have taken place, specifically in a rural setting.

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# 1    CHAPTER I INTRODUCTION

## 1.1    Background and Need

Episodes of public violence in the U.S. have been a topic at the forefront of much political and societal discussion in recent years, and school shootings are a disturbing subset of this public violence. School shootings are widely accepted to have their origin in the late 1990's with several shootings having taken place over a period of three years culminating in the incident at Columbine High School in Littleton, Colorado that killed 15 and injured 23 others in 1999 (Ash, 2016). It is estimated that as of August 13, 2021, a staggering 256,000 children have been exposed to gun violence during school hours since the 1999 Columbine shooting took place (Cox, Rich, Chiu, Muyskens, & Ulmanu, n.d.). When authorities or the public seek a reason for such violent events, the discussion invariably turns to the shooter's mental health, or the formulation of a narrative that mental illness would support, such as disturbing posts social media, a manifesto, or historical accounts of bullying, victimization and prior behavioral issues. But conducting research in the hopes of finding a specific psychological profile of a rampage school shooter diminishes the relationships that shooters may have with their communal or educational environment, thus foreclosing on the opportunity to expose the underlying problems (Shapiro, 2018). Additionally, as if such senseless violence is not disturbing enough on its own, sensationalism of such events by the media amplify the horror and have even been found to motivate others to commit similar acts in what is referred to as a copycat mechanism (National Research Council, 2002). Thus, a society distraught at seeing children gunned down at school, an otherwise assumed safe place, demand a reason and a solution to such violence, and mental illness easily satisfies for both. The news media has a significant influence on society's

perception of mass shootings, often giving a simple explanation that implies that the shooter is insane, and that as Knoll and Annas state, "Such simplistic explanations are easier for the media to report, as well [are] as easier for the public to accept" (2016, p. 83).

Since guns are used to inflict mass violence, especially when occurring in schools, much of the public also calls for gun control. According to Hamlin (2021), although state gun ownership rates have been declining over the last 40 years, school-related incidents involving guns have almost tripled; a finding which bolsters the argument that access to guns is a significant contributory factor in school shootings. Poor firearm legislation as the root of school shootings is further strengthened particularly when it comes to preventing those with mental illness from owning or possessing guns. This can be a problematic approach however, as Knoll and Annas caution:

> Gun restriction laws focusing on people with mental illness perpetuate the myth that mental illness leads to violence, as well as the misperception that gun violence and mental illness are strongly linked. Stigma represents a major barrier to access and treatment of mental illness, which in turn increases the public health burden. (2016, p. 82)

The logic that a mass shooting event was due to mental illness of the perpetrator further perpetuates the notion that mental illness is no longer just a medical condition, but rather a sign of violent threat (Metzl & MacLeish, 2015). In an anecdotal sense, school shooters may be deranged at the time of the event, but from a population perspective, those with mental illness are more likely to be victims of violence than perpetrators of it (Kalesan, et al., 2017). Knoll and Annas assert that less than 1% of mass shootings overall are committed by someone with mental illness (2016). The purported causal relationship that is often repeated and speculated in the

media, leads to further political and societal discourse around gun control laws and guns for school personnel as a measure of safety and defense to active shooter situations (Teasley, 2018).

Certainly, some school shooters have a diagnosed mental illness prior to engaging in such severe violence, however, many more do not, and some shooters at age 11 or 13, are too young to technically meet the DSM-5 criteria to be diagnosed with certain psychiatric disorders (American Psychiatric Association, 2013). Sigel, Mattson and Mercado found that youth between the ages of 10-17 who had potential access to firearms through family members demonstrated a higher risk for violence and behavioral issues than those youth without access to firearms (2019). This sentiment is echoed in other research that examined the relationship between gun violence and mental health: "Counter to public beliefs, the majority of mental health symptoms examined were not related to gun violence. Instead, access to firearms was the primary culprit" (Lu & Temple, 2019, p. 1).

Quite a bit of research exists on school shootings that examines the characteristics of the individual shooter themselves, with detailed case studies of the few perpetrators with a known and quantifiable psychological pathology (Langman, 2009b), but attempts at sketching a predictive profile of a mass school shooter have been relatively scant, with most literature only able to state the common denominators of the perpetrator to be white and male (Newman, Fox, Harding, Mehta, & Roth, 2004). In a report by the U.S. Secret Service National Threat Assessment Center however, the profile of a school shooter is even more camouflaged:

> There is no accurate or useful profile of the school shooter. The personality and social characteristics of the shooters varied substantially. They came from a variety of racial and ethnic backgrounds and varied in age from 11 to 21 years. Family situations ranged from intact families to foster homes. Academic performance ranged from excellent to

failing.  Few had been diagnosed with any mental disorder prior to the incident, and less

than one-third had histories of drug or alcohol abuse.  (2002, p. 12)

A significant amount of research has focused on more sociological factors and such as bullying

and social marginalization in schools, as well as sensitization to violence through video games,

movies and social media (Newman, Fox, Harding, Mehta, & Roth, 2004).

In researching the predictors or reasons for school shootings at a more macroscopic level,

mental health screenings, educational and school discipline policies, school security spending,

and certain other epidemiological factors are heavily examined in the literature (Kalesan, et al.,

2017).  The data is difficult to quantify and interpret however, since schools vary widely across

states, jurisdictions and even amongst singular school districts (DeAngelis & Barnard, 2021).

Another problem in researching school shootings is the state of the data itself.  According to an

editorial in the Journal of Adolescent Health, several disparate factors add to the disjointed data

on the topic of school shootings, which further complicates research:

Difficulties in foundational research on school shootings begin with definitional

challenges.  Disagreements on how to define a school shooting have resulted in the

absence of a widely-accepted definition and in turn led to the creation of different

databases.  It is estimated that school shooting data have been collected by more than 20

different entities.  (2019, p. 683)

Defining school shootings is an important matter because there are several

distinguishable types such as targeted, revenge, school-targeted, rampage, random and accidental

(Newman, Fox, Harding, Mehta, & Roth, 2004).  Clarifying definitions within and among

databases is more than a matter of semantics, it assists in defining the intent, the danger, the

purpose, and other crucial elements around a shooting.  But there is more to defining the type of

school shooting that must be captured in a database and researched; other elements such as environmental and social predictive and protective factors can and should be studied.

However, research into the social community and the educational environment where school shootings occur is severely lacking in scholarly literature. Several researchers have conducted field-level case studies where shootings have occurred but those data have yet to be further examined in peer-reviewed literature (National Research Council, 2002; Newman, Fox, Harding, Mehta, & Roth, 2004), rather they primarily exist in chapter books that look at the sociological aspects of school shootings. Further, some of the prominent writings are more than 15 years old, and school shootings have significantly evolved since then, especially with the rise of real-time communication of social media and the prominent political and social divide of American society in general. In addition, some of the many databases have begun to show interesting information that should be further explored.

In response to a Congressional request, the Government Accountability Office (GAO) compiled a report using the Naval Postgraduate School's K-12 School Shooting Database that compared school shootings between 2009 – 2019 and examined the link between discipline and shootings, and included other descriptive characteristics of the schools as well (2020). Although the GAO found no link between discipline and shootings, an incidental finding stood out to me as significant: Though more overall shootings occurred at urban schools, school-targeted, sometimes referred to as rampage shootings, occurred more often at rural schools (GAO, 2020). Further, the school-targeted rampage school shootings have increased in the last 50 years as noted by Shapiro, "from six occurring the 1970s, to 11 in the 1980's, 36 in the 1990s, to 57 between 2000 and 2013" (2018, p. 10).

## 1.2 Problem Statement

According to data from the GAO report, rural school shootings, though less frequent than urban school shootings, have the propensity to be more lethal since the school as an institution is typically the target of the shooting, rather than a specific individual (2020). Further, school-targeted shootings have more indiscriminate versus specific victims, and are often classified as rampage shootings (Gun Violence Archive, 2021). There is a gap in scholarly literature in examining the characteristics of rural communities and schools where rampage shootings occur, and I seek to fill that gap with this research thesis.

## 1.3 Research Questions and Research Hypotheses

The research question is, "What are the characteristics of a rural school where a rampage shooting has occurred and how is the community described?" Using a multiple-case study approach, the objective of this research project is to describe the characteristics of rural schools where school-targeted shootings have occurred, and the communities in which those schools exist, to discern patterns or commonalities amongst the sites and environments. Identifying common environmental themes can contribute significantly in determining what characteristics make those areas more at risk for violent and random, indiscriminant school shootings.

## 1.4 Population

This research is intended for a variety of populations including public health experts, epidemiologists, psychologists, sociologists, and health policymakers, but more broadly, this research is for every student, parent and member of the greater U.S. society on whom the burden of school gun violence rests.

# 2 CHAPTER II SCOPING LITERATURE REVIEW

In reviewing existing literature around the topic of rural school shootings, there is a dearth of scholarly research that focused on the urbanicity and environmental aspects of school shootings, and even less research that examined school-targeted or rampage shootings in rural areas. Moreover, much of the published research is not recent, with the majority of it occurring in the early 2000's, which may not be relevant in 2022. This is a significant point as schools were seen as relatively safe until a spillover effect of gang violence permeated urban schools in the early 1990s (Fox & Fridel, 2018), and by the late 1990's, rampage style shootings like the one that took place at Columbine High School were increasing in number (Shultz, Cohen, Muschert, & Flores de Apodaca, 2013). The rise of social media since the late 1990's also introduced unique communication platforms that began to influence peer interactions between school-aged children, and continues to do so today.

Due to the limitations of relevant and timely available research, search terms and categories needed to be expanded beyond the rural locale and school shootings to include a more overarching issue of school violence, and the sources of information needed to be expanded beyond those typically used in a literature review such as peer-reviewed journals. One research source which was widely cited in the peer-reviewed articles was a book written by a professional practitioner and her colleagues, which describes in-depth case studies of rural and suburban communities that experienced rampage shootings. Due to the nature of this work and significant citation of it in scholarly literature, it is included in this review, even if only to give credit to the emerging research on the topic of school violence. In addition, widening the search returned results that fell into several tangential yet critical categories which are summarized in this review.

School shootings are not a simple phenomenon, rather they are a confluence of many

components involving internal and external individual factors, as well as environmental factors

of both school and community.  Because of the complexity of school violence and the limited

literature around school shootings in rural communities, this literature review explores research

on school shootings, rural school environments including violence and violence prevention,

shooter characteristics and mental illness, media attention and the copycat phenomenon, and

youth exposure or accessibility to firearms.  What will be evident from this review is that there is

scant literature that specifically examines the characteristics of the rural environment of both

community and school, where rampage, school-targeted shootings have occurred.

## 2.1    School Shootings

In June 2020, the Government Accountability Office (GAO) released a report that

analyzed all K-12 school shootings in the United States from the 2009/10 academic year through

2018/19, in response to a Congressional request.  The report included a literature review and

analysis of school shooting data maintained by the Naval Post-Graduate School's Center for

Homeland Defense and Security, with the aim of identifying a clear and direct correlation

between disciplinary methodologies and school shootings (GAO, 2020).  Although the report did

not find evidence supporting a link between educational discipline practices and shootings, it did

show that out of the 318 shootings examined, 14% (n=46) were school-targeted, where the most

prevalent type of shooting, 31% (n=99) were dispute-related, such as gang-inspired activity or

gun violence associated with a specific grievance between individuals (GAO, 2020).  The

researchers found that half of all school shootings took place in urban schools, but that rural and

suburban schools more often experienced deadliest type of shootings -- those where the school as

a community institution was the target, versus a specific individual or group being the target

(GAO, 2020).  According to the GAO (2020), the most of the school shootings (29%) that took

place in rural schools were school-targeted, a type of shooting that is also referred to as a

rampage shooting, which can be defined as an attack by a current or former student, on multiple

and indiscriminate parties or the school itself, as a representation of the community (Newman,

Fox, Harding, Mehta, & Roth, 2004).  The GAO (2020) noted the significance of school-targeted

shootings in that such shootings resulted in almost triple the number of victims per incident,

compared to all other shootings overall.  The most common type of school shooting that took

place in an urban environment between the 2009/10 and 2018/19 academic year was dispute-

related (36%), followed by accidental (16%) according to the GAO's report (2020).  Shapiro

further notes that the frequency of rampage school-targeted shootings is increasing, having

increased almost 10-fold from the decade of the 1970's compared to the 2010's (2018).

Several case studies have been conducted around rampage shootings, which provide in-

depth coverage of various characteristics about the shooter and his home, school and community

environment.  In *Rampage: The Social Roots of School Shootings*, Newman et al. (2004)

examine rampage school shootings that have occurred in rural or suburban areas via six in-depth

case studies.  Two of the case studies from Newman et al. were contributed to the National

Research Council's, *Deadly Lessons: Understanding Lethal School Violence,* a government

report containing seven detailed case studies of school shootings in rural and suburban areas; a

publication which was compiled pursuant to a Congressional request (National Research

Council, 2002).  Newman et al. (2004) assess common explanations for school shootings, and

discuss the validity of each, including, mental illness, spontaneous reactions, family problems,

bullying, peer support of violence, changing communities, a culture of violence, gun availability,

violent media, and the copycat effect.  Beyond these perceptions, the researchers also examined

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the organizational culture of a school from a sociological perspective, and implications of membership and norms within that culture (Newman, Fox, Harding, Mehta, & Roth, 2004). The NRC (2002) report cited limitations of available evidence in their inability to reach scientific conclusions about the causes and effects of school shootings in rural and suburban areas, and recommends that cross-case analysis around policy implications and further scholarly research be conducted to assess factors that might influence rampage school shootings.

In a retrospective analysis of school shootings that occurred between 2013 and 2015, researchers found that the incidence of school shootings had increased over the years studied from 35 in 2013, to 55 in 2014, to 64 in 2015, compared with a total of 44 school shootings overall between the years of 1966 and 2008 (Kalesan, et al., 2017). Kalesan et al. go on to analyze other factors that were present from 2013 to 2015, and found that states with background check laws, higher K-12 education expenditure per capita, higher mental health expenditure per capita and a greater percentage of urban population were protective factors against school shootings (2017).

## 2.2    Rural School Violence and School Violence Prevention

Urbanicity is an important component to consider when examining school shootings, and several sources have taken note of the propensity for rampage shootings to happen in rural and suburban areas more often than in urban areas. Though rampage school shootings can be dated back to 1974, the NRC committee was unable to find evidence of one taking place in an urban area (National Research Council, 2002). Though the relationship between rural/suburban schools and rampage shootings is recognized to exist, no scientific conclusions could be reached regarding the causes or consequences of those shootings, only that the youth perpetrators tended

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to have hyperbolic and/or institutional grievances, according to the NRC's report to Congress. (National Research Council, 2002).

The link between the rurality of schools has been noted in other research beyond that described in the GAO and NRC reports.  Livingston, Rossheim, and Stidham Hall (2019) found that fatal shootings were more likely to happen in schools whose students were primarily of white race, and in rural or suburban areas.  Livingston et al. (2019) recognize that there is a gap in literature examining associations between the characteristics of schools and school shooters, and that more epidemiological research is necessary to formulate proper prevention strategies. The authors further assert that their research, as of its publishing, was the first piece of literature to examine the relationship between school characteristics, shooter characteristics, and gun-related factors as they relate to shooting severity (Livingston, Rossheim, & Stidham Hall, 2019).

The sub-topic of school violence prevention is often returned during literature searches relating to school shootings.  When referring to school violence, it is important to recognize that school violence can take many forms including physical assault, bullying, cyberbullying as well as assault with a weapon, and more particularly to this research subject, guns.  Slovak found in a survey study of adolescent and teenage students (n=162) in a rural environment, that students with increased access to guns and with limited parental monitoring, were at significantly increased risk of exposure to gun violence, subsequently leading to trauma in response to the exposure (2002).

Kalesan et al. (2017) examined certain factors associated with school shootings, and found that the shootings are less likely to occur in states with the following three components: background check requirements for gun purchases, higher mental health expenditures, and greater urban percent population (Kalesan, et al., 2017).  Thus, the authors provide quantitative

support that shootings occur more often in rural or suburban areas, at least for shootings that took place from 2013-2015 (Kalesan, et al., 2017). Certainly, the three-year period studied is not a robust representation of all school shootings dating back to the late 1990's, so the study is limited in that regard, but it does open up the dialogue for examining factors that are predictive or protective regarding school shootings. Conversely, Flores de Apodaca, Brighton, Perkins, Jackson and Steege conducted a quantitative analysis of environmental factors associated with all school shootings from 1966 – 2009 and found that enrollment size, urban or suburban location, non-white majority student body and public funding were all predictive of fatal school shootings (2012). One limitation of this study is that the types of shootings are limited to a narrow typology, categorizing the shootings as random or targeted, allowing for confounding results when determining which shootings could be classified as rampage shootings.

School violence prevention is a broader research area that emerges when examining school shootings in scholarly literature. The most prominent work specific to school violence is the 2004 U.S. Secret Service Safe School Initiative Report, which outlines predictive factors and warning signs that can be acted upon to thwart school shooting plans (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2004). The U.S. Secret Service's National Threat Assessment Center built upon their 2004 work, and in 2019 released a report of additional key findings from the original study, as well an analysis of more recent shootings, both actual and averted (U.S. Department of Homeland Security, 2019). The report focuses on its recommendation to implement a threat assessment plan in schools, which was outlined briefly in their 2004 report, as well as instructions on creating a targeted violence prevention plan in an educational setting (U.S. Department of Homeland Security, 2019). According to Bonanno and Levenson (2014), violence prevention and security in schools takes four main forms: limited school access, weapon

prohibition, surveillance, and reaction to an event or crisis.  Scholarly research is prolific on

examples of plans that have been implemented and their effectiveness, an example of which is

illustrated by Thakore et al., who found a statistically significant reduction in violence among

middle school students after the implementation of a conflict resolution program (2015).

At the other end of the discipline spectrum from conflict resolution is the zero-tolerance

approach, which has also been widely studied in scholarly literature.  Zero tolerance was borne

out of the enactment of the Gun-Free Schools Act of 1994 by Congress, which required any

school receiving federal aid to expel any student for one year, who entered school property with

a firearm (Fox & Fridel, 2018).  The pendulum continued to swing with that momentum,

however, and as Fox and Fridel note, mandatory suspensions and expulsions were more broadly

applied to include even minor offenses, resulting in an overall increase in punishment of

students, and even juvenile incarceration (2018).  The increase of child and adolescent

incarceration perpetuated what social science researchers call the school-to-prison pipeline,

which essentially predisposes a child from punishment in school, to juvenile incarceration, to

adult incarceration, if the focus on problematic behavior is treated in a punitive fashion, rather

than rehabilitative (Mallett, 2015).  Further, some researchers argue that the zero-tolerance

discipline approach does not deter problematic behavior, rather it creates a hostile environment

where academic achievement declines and misbehavior increases (Fox & Fridel, 2018).

## 2.3    Shooter Characteristics, Sociological Factors and Mental Illness

Social determinants of health are inclusive of many factors, including community support

programs or lack thereof, as well as other services or institutions that create the fabric of a

community.  Certainly, characteristics of the individual perpetrators of mass school violence

factor into the greater picture of the reason the violence occurs, but the shooters themselves are

not siloes however, as they are shaped and formed by many factors including family, social, community and societal. The shooter characteristics, sociological factors and mental health are well-researched areas in scholarly literature.

The examination of shooter characteristics is very often initiated when the media reports the occurrence of a mass shooting, school shooting or otherwise. But the media often sensationalizes this information, and the source of the information cannot be regarded as guided by rigid research standards. Psychologists and mental health professionals have weighed in heavily on dissecting the personality traits and disorders of school shooters in scholarly literature. According to Langman, in a study of 10 rampage school shooters ages 11 – 23, the perpetrators were categorized as psychotic, psychopathic or traumatized, and some shooters also had personality disorders and family or social situations that inherently contributed to the background of the attacks (2009a). As Vossekuil et al. found in the Safe School Initiative, most shooters did not have a history of mental illness, nor did they just "snap" and commit the crime, rather they took time to plan their attack with painstaking detail (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2004). Further, the authors found that the shooters saw the attacks to serve as solutions to their problem of low self-esteem or inability to fit in with others (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2004). Bonanno and Levenson (2014) posited that narcissism was most likely a causal personality disorder in some cases, since society has placed such great emphasis on amassing physical things and wealth, and that in other words, the shooters took out their resentment for what others had in the form of a shooting. Similarly, in his study of 11 school shooters, Langman assigns narcissistic or grandiose delusions to five of the shooters (2009a).

In a 2017 report from the National Academies Press, members of a nationally-convened workshop examining mental health and violence described how each can influence the other, particularly with regards to school shootings, and that the social determinants of health were important in developing interventions to violence (National Academies of Sciences, Engineering, and Medicine, 2018). Other works examine the connectedness a student feels towards their school culture, and as Cuellar, Coyle and Weinreb found, students who felt more connected to their schools had better academic performance and reported less victimization, indicating that there can be a protective value in the connection established between the individual and the institution (2021). In a review by the FBI of 14 school shootings and four foiled attempts, a list of 47 descriptors were established to be most prevalent shooter characteristics such as anger control problems, low self-esteem, narcissism and a preoccupation with violence (O'Toole, 2000). The report goes on to describe a four-prong assessment approach recommended for schools and mental health professionals to use when evaluating the threat potential of school children which includes individual, family, school, and social dynamics (O'Toole, 2000). Other interesting research includes a 2003 explanatory study that applied semi-structured interviews to qualitatively examine the community view of the reasons for a cluster of San Diego school shootings (Palinkas, Prussing, Landsverk, & Reznik, 2003). The results of the study were divided, attributing the shootings to characteristics of the individual shooters and/or family unit, an overarching preoccupation with violence in society, and ease of access to firearms within the local community (Palinkas et al., 2003).

The school environment itself presents its own sociological factors which can commonly include bullying in the physical and/or cyber form, and in episodic or chronic occurrences can have both a cumulative and lasting effects on adolescents, especially in the rural environment

(Smokowski, Evans, & Cotter, 2014). In the 2-year longitudinal study of 3,127 middle school children, chronic victimization was positively associated with poor self-esteem and low school satisfaction, depression and anxiety, and in some instances, resulted in violent externalized behavior (Smokowski, Evans, & Cotter, 2014). The fact that the study was conducted in a rural area highlighted stressors specific to rural living, such as the lack of community resources, which also contributed to the cycle of negative sociological issues that can consume adolescents (Smokowski, Evans, & Cotter, 2014). The unique composition of rural living again underscores the reason for the present research project to be undertaken, so that the many facets of it can be understood against the general backdrop of the numerous other factors at play behind mass school violence.

One interesting theme in research around school shootings and mental health has been around the notion of failed masculinity, and that school shooters, who are typically males, use the mass shooting as a representation of the ultimate make-up for any failings in their masculinity such as failed love interests or failed physical feats (Farr, 2018). According to Farr (2018), when adolescent and teenage boys continue to fail to measure up to normative gender standards and are bullied or made fun of by their peers, they maintain pent up rage that culminates in a rampage shooting to make up for their perceived injustices. Additionally, this can also happen when a male is teasingly accused of being homosexual by classmates and tries desperately to prove his heterosexuality, which further complicates the issue of not just proving masculinity norms but sexual norms as well (Farr, 2018). In a related study about social and individual characteristics of school shooters, Thompson and Kyle (2005) examined the individual's fit in the environment, and marginalization by caregivers or peers which later hinder social and ethical development. The authors further contend that the specific competitiveness of

a rural or suburban environment present greater pressure than urban environments, so that without this moral foundation on which to make decisions, students turn to primal violence in response to stressors (Thompson & Kyle, 2005). Newman et al. reference social marginalization as an important characteristic of shooters in the cases in their study, and especially in a rural or suburban setting, where boys often straddle being marginal members of both mainstream and fringe groups in a strained effort to fit in (Newman, Fox, Harding, Mehta, & Roth, 2004).

## 2.4   Youth Exposure and Accessibility to Firearms

The one common characteristics among school shootings with which all researchers can agree is access to guns, and without the guns, the shootings would not have occurred. It is therefore critical to examine the scholarly research available on youth exposure to firearms, and their accessibility to them. In a large cross sectional survey conducted in a community of children aged 10-17 along with their parents, Sigel, Mattson and Mercado (2019) found that 20% of the youth had access to firearms, and that being aggressive physically increased the youths' odds of access to a firearm by almost three times (OR 2.7). Additionally, marijuana use increased the odds of access to firearms by almost 10-fold for youth (OR 9.9), and that parental possession of firearms is also predictive of youth access to and/or possession of firearms (Sigel, Mattson, & Mercado, 2019). Another interesting point that the authors note in this study is that youth with easier access to firearms show a higher prevalence of mental health factors and other violent behaviors (Sigel, Mattson, & Mercado, 2019).

Another important type of youth exposure to firearms, especially in rural communities, is through hunting and target shooting. Several school shooters were hobby hunters, and one rampage shooter was given his first gun at age 6, and at age eleven was considered a skilled marksman who had won several awards, and whose parents were both officers of the local

shooters' association (Newman, Fox, Harding, Mehta, & Roth, 2004).  Target range shooting is a

common pastime in the US, and even more common in rural areas where there are less other

activities available.  Moreover, hunting is sometimes done in rural areas for population control of

wildlife in certain seasons, and some communities and cultures rely on it as a food source.

## 2.5    Media Attention and the Copycat Phenomenon

In more recent years, it appears that the media has been covering school shootings

differently, perhaps in response to some literature that has blamed additional school shootings on

the copycat factor and the fame that the media crowns the perpetrator with after the event.  Some

shooters expect the media attention and even look forward to books and films being made about

them (Langman, 2018).  In a comprehensive qualitative analysis of mass shooters that were

fame-seeking from 1966 – 2018, Silva and Greene-Colozzi found that fame-seekers indeed were

likely to receive more media coverage (95.6%) than their counterparts (74.1%) (2019).  The

authors go on to note that fame-seekers are fulfilling the needs of grandiosity, (Silva & Green-

Colozzi, 2019), consistent with narcissism, which other researchers have argued motivates

school shooters (Langman, 2009a).  Another point worth noting from this study was the

increased incidence of fame-seeking mass-shooters over the decades: with 1 in the 1960s, 1 in

the 1970s, 2 in the 1980s, 12 in the 1990s, 11 in the 2000s, and 18 from 2010-2018, with 52

shootings overall (Silva & Green-Colozzi, 2019).  It should be noted that these shootings were

not all school shootings, rather they were labeled fame-seeking mass shootings, which is a

distinct typology.  The authors also discuss the media's duty to avoid glorifying the mass

shooters by taking a "no notoriety" approach to reporting where the perpetrator's name is used

only once per article, and that neither the article nor the photo ever appear in the headline "above

the fold" of the newspaper, or in the most prominent area of the media (Silva & Green-Colozzi,

2019).  Researchers have also taken to redacting names of shooters when discussing specific cases in scholarly literature as well.  But media attention can serve more than an avenue to gain fame and notoriety however, it can also provide fodder for other perpetrators to replicate.

One of the cases explored by the National Research Council (2002) examined a copycat shooting, which occurred one month after the Columbine shooting in 1999, where the perpetrator became fascinated with the Columbine shooting, and kept talking about it with his peers.  But time is not the only factor when determining that the copycat factor is at play in a school shooting, there are many other manifestations such as copied clothing, sayings, quotes and references to prior perpetrators as idols or even Gods (Langman, 2018).  Langman (2018) further explains in his analysis of 32 copycat or fame seeking mass shooters that the shooters find justification in their shootings by deeming their inspirational shooter a God and that by copying the shooting they are "doing God's will." In a study using a spatio-temporal model, Schweikert, Huth and Gius found that after a school shooting takes place, there is a higher risk for another one to take place in adjacent states or the same state within a year (2021).  The authors also found a minimum of 21 copycat shootings inspired by the 1999 Columbine shooting along with 53 attempted shootings in the 15 years following the massacre (Schweikert, Huth, & Gius, 2021).

## 2.6 Conclusion

From the literature available, there is a difference between shootings that happen at urban schools and those that happen at non-urban schools, which supports the need for further research. Specifically, research is scant regarding the environmental elements of the schools and the communities where rural rampage schools occur.

# 3    CHAPTER III METHODOLOGY

## 3.1    Research Design or Method

A multiple case-study approach was used to analyze the environmental factors describing the school and the communities where rural rampage school shootings took place.  A qualitative method such as the multiple case study is appropriate for this topic since the number of cases are relatively small, and that the data collected needed to be detail and descriptive in nature.  Shi (2019) notes that qualitative research is used when detailed descriptions are required in research, which is applicable in this multiple case study.

## 3.2    Sample Selection

Schools were purposively sampled based on rurality and whether a rampage shooting had taken place since 2000, and for which sufficient primary, secondary and documentary data were available to be analyzed.  A total of four rural communities and schools where rampage shootings occurred were analyzed.

## 3.3    Data Set Description

Several open sources were available from which to pull data to be analyzed.  To ensure balance and the most robust descriptions, data was retrieved from multiple sources until a level of saturation was achieved.  The data set included the schools to be analyzed and their rurality as defined by the National Center for Education Statistics Common Core of Data, which was also used for the K-12 School Shooting Database, on which the GAO report was based (GAO, 2020). The factors included in the analysis of the environments are included in the table 1 below:

Table 1:   Enviromental Factors

| School-Level Factors | Community-Level Factors |
|---|---|
| Student enrollment | Population |
| Reading proficiency scores | Town website adjectives |
| Math proficiency scores | Community services available |
| School website adjectives | Recreational activities |
| Student descriptors of school culture | Community activities and clubs |
| After-school activities | Average parental commute time to work |
| Reduced / free lunch program available | Unemployment rate |
| Teacher-to-student ratio | Demographics, race, ethnicity, age, children per household, household income |
| High school graduation rate | Employers within the community |
| Employment available to minors | Recreational gun culture |
| Vocational training options | Known drug / alcohol abuse within community |
| Booster clubs or other semi-formal parental involvement in student activities | |
| Percentage of students that enter college within a year of graduating high school | |
| School security measures in place | |

## 3.4    Data Collection/Procedure

Data to describe the schools and the communities was collected from a wide variety of resources including newspapers, media publications, formal studies, internet news sources, case studies, websites, personal writings of school shooters, and school shooting databases. Table 2 describes additional resources.

Table 2: Additional Resources and Databases

| Name | Website | Database Source |
|------|---------|-----------------|
| School Shooters. Info | www.schoolshooters.info | Peter Langman, PhD |
| K-12 School Shooter Database | www.chds.us/ssdb/ | Center for Homeland Defense and Security Naval Post Graduate School |
| Gun Violence Archive | www.gunviolencearchive.org | Gun Violence Archive (non-profit, non-advocacy) |
| National Center for Education Statistics Common Core of Data | https://nces.ed.gov/ccd/ | Institute of Education Sciences |
| Niche | www.niche.com | US Census Bureau, US Department of Education, American Community Survey results as well as individual reviews |

## 3.5   Data Analysis

Inductive analysis of the data was performed using coding, categorization and memoing. By employing memoing throughout the data analysis, I could react to the research in real time (Birks, Chapman, & Francis, 2008), contemporaneously developing themes, which is one of the strengths of qualitative research. Using the inductive approach, extensive descriptions were condensed into themes using a method of coding.  Thomas notes that the purpose of qualitative data collection and analysis is "…data reduction, data display, and conclusion drawing…" (2006, p. 239).  The data were separated into a category of either the school environment or that of the community, then coded into subtopics and themes using Nvivo software.

Additionally, Braun and Clarke's 6-step method of Reflexive Thematic Analysis was employed (Braun & Clarke, 2021).  Using this method, I performed the following steps to

develop themes from my research:

1. Familiarization – After carefully reviewing information from the literature review, I was able to discern what types of data would be required to fully describe the school and community environments. I familiarized myself with the data I collected by reviewing it several times before coding.

2. Coding – Codes were developed organically as the data were reviewed. Parent and child relationship codes were established to form a hierarchy of categorization.

3. Initial Theme Generation – Qualitative descriptions and quantitative demographics were combined to develop conceptualized meaning behind organizational ideas. Especially important in this stage was a careful review of available writings by school shooters, and current or former students, to assess for support of thematic analysis.

4. Reviewing Themes – In reviewing the data from a wider perspective, codes were dispersed amongst themes they supported, and some codes were included in more than one theme.

5. Defining Themes – This stage involved further defining the themes and describing the reaction that I as a researcher had to the ideas that were being generated. Responding to my own reflex as a researcher was very important as it allowed me to string together concepts to begin telling a story of how the ideas related, and how the research supported them.

6. Reporting – This stage allowed me to tell the story that the themes were forming, and those themes were related back to research from the literature review.

**3.6    Strengths and Weaknesses**

Qualitative research has inherent strengths and weaknesses which must be addressed. The biggest strength of the case study method employed in this study is the amount of data that the research yields. The number of descriptors, categories and codes support the richness of the data, and can be useful for other researchers. Additionally, the research can support quantitative research that could be undertaken in the future. Limitations of this research is that the reliability could be a problem since the sample size of the schools was small, and that there was only one researcher coding the information, thus an inter-rather reliability score could not be calculated. In addition, the sensitivity of this specific research topic is high, so research should be conducted with care if the victims and families involved. An important limitation to consider is the subjective nature of qualitative research in general, especially in the formation of codes and themes. Braun and Clarke stress the importance of this limitation, but also note the value of the subjective nature: "Coding is recognised as an inherently subjective process, one that requires a reflexive researcher—who strives to reflect on their assumptions and how these might shape and delimit their coding" (2021, p. 39).

# 4 JOURNAL MANUSCRIPT (Journal of School Violence)

**Rampage School Shootings in Rural America:**

**A Description of the School and Community**

**Environments Where They Occur**

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**Abstract**

*This article describes the environments of rural schools and their communities where secondary school shootings have occurred. A literature review of various aspects of school shootings is described, which identifies literature gaps in examining environmental factors related to school shootings. The review is followed by a qualitative multiple case study using Reflexive Thematic Analysis whereby commonalities and patterns in the data are identified and conceptualized into greater overarching themes.*

**Introduction**

Episodes of public violence in the U.S. have been a topic at the forefront of much political and societal discussion in recent years, and school shootings are a disturbing subset of this public violence. School shootings are widely accepted to have their origin in the late 1990's with several shootings having taken place over a period of three years culminating in the incident at Columbine High School in Littleton, Colorado that killed 15 and injured 23 others in 1999 (Ash, 2016). Since the Colorado shooting, Muschert states that "Columbine has become a keyword for a complex set of emotions surrounding youth, risk, fear, and delinquency in 21st century America" (2007, p. 365). It is estimated that as of August 13, 2021, a staggering 256,000 children have been exposed to gun violence during school hours since the 1999 Columbine shooting took place (Cox, Rich, Chiu, Muyskens, & Ulmanu, n.d.). When authorities or the public seek a reason for such violent events, the discussion invariably turns to the shooter's mental health, or the formulation of a narrative that mental illness would support, such as disturbing posts social media, a manifesto, or historical accounts of bullying, victimization and prior behavioral issues. But conducting research in the hopes of finding a specific psychological profile of a rampage school shooter diminishes the relationships that shooters may have with their communal or educational environment, thus foreclosing on the opportunity to expose the underlying problems (Shapiro, 2018). Additionally, as if such senseless violence is not disturbing enough on its own, sensationalism of such events by the media amplify the horror and have even been found to motivate others to commit similar acts in what is referred to as a copycat mechanism (National Research Council, 2002). Thus, a society distraught at seeing children gunned down at school, an otherwise assumed safe place, demand a reason and a solution to such violence, and mental illness easily satisfies for both. The news media has a

significant influence on society's perception of mass shootings, often giving a simple explanation that implies that the shooter is insane, and that as Knoll and Annas state, "Such simplistic explanations are easier for the media to report, as well [are] as easier for the public to accept" (2016, p. 83).

Since guns are used to inflict mass violence, especially when occurring in schools, much of the public also calls for gun control. According to Hamlin (2021), although state gun ownership rates have been declining over the last 40 years, school-related incidents involving guns have almost tripled; a finding which bolsters the argument that access to guns is a significant contributory factor in school shootings. Poor firearm legislation as the root of school shootings is further strengthened particularly when it comes to preventing those with mental illness from owning or possessing guns.

The logic that a mass shooting event was due to mental illness of the perpetrator further perpetuates the notion that mental illness is no longer just a medical condition, but rather a sign of violent threat (Metzl & MacLeish, 2015). In an anecdotal sense, school shooters may be deranged at the time of the event, but from a population perspective, those with mental illness are more likely to be victims of violence than perpetrators of it (Kalesan, et al., 2017). Knoll and Annas assert that less than 1% of mass shootings overall are committed by someone with mental illness (2016). The purported causal relationship that is often repeated and speculated in the media, leads to further political and societal discourse around gun control laws and guns for school personnel as a measure of safety and defense to active shooter situations (Teasley, 2018).

Certainly, some school shooters have a diagnosed mental illness prior to engaging in such severe violence, however, many more do not, and some shooters at age 11 or 13, are too young to technically meet the DSM-5 criteria to be diagnosed with certain psychiatric disorders

(American Psychiatric Association, 2013). Sigel, Mattson and Mercado found that youth between the ages of 10-17 who had potential access to firearms through family members demonstrated a higher risk for violence and behavioral issues than those youth without access to firearms (2019). This sentiment is echoed in other research that examined the relationship between gun violence and mental health: "Counter to public beliefs, the majority of mental health symptoms examined were not related to gun violence. Instead, access to firearms was the primary culprit" (Lu & Temple, 2019, p. 1).

Quite a bit of research exists on school shootings that examines the characteristics of the individual shooter themselves, with detailed case studies of the few perpetrators with a known and quantifiable psychological pathology (Langman, Why kids kill: Inside the minds of school shooters, 2009b), but attempts at sketching a predictive profile of a mass school shooter have been relatively scant, with most literature only able to state the common denominators of the perpetrator to be white and male (Newman, Fox, Harding, Mehta, & Roth, 2004). A significant amount of research has focused on more sociological factors and such as bullying and social marginalization in schools, as well as sensitization to violence through video games, movies and social media (Newman, Fox, Harding, Mehta, & Roth, 2004).

In researching the predictors or reasons for school shootings at a more macroscopic level, mental health screenings, educational and school discipline policies, school security spending, and certain other epidemiological factors are heavily examined in the literature (Kalesan, et al., 2017). The data is difficult to quantify and interpret however, since schools vary widely across states, jurisdictions and even amongst singular school districts (DeAngelis & Barnard, 2021). Another problem in researching school shootings is the state of the data itself. "It is estimated

that school shooting data have been collected by more than 20 different entities" (Journal of Adolescent Health, 2019, p. 683).

Defining school shootings is an important matter because there are several distinguishable types such as targeted, revenge, school-targeted, rampage, random and accidental (Newman, Fox, Harding, Mehta, & Roth, 2004). Clarifying definitions within and among databases is more than a matter of semantics, it assists in defining the intent, the danger, the purpose, and other crucial elements around a shooting. But there is more to defining the type of school shooting that must be captured in a database and researched; other elements such as environmental and social predictive and protective factors can and should be studied.

However, research into the social community and the educational environment where school shootings occur is severely lacking in scholarly literature. Several researchers have conducted field-level case studies where shootings have occurred but those data have yet to be further examined in peer-reviewed literature (National Research Council, 2002; Newman, Fox, Harding, Mehta, & Roth, 2004), rather they primarily exist in chapter books that look at the sociological aspects of school shootings. Further, some of the prominent writings are more than 15 years old, and school shootings have significantly evolved since then, especially with the rise of real-time communication of social media and the prominent political and social divide of American society in general. In addition, some of the many databases have begun to show interesting information that should be further explored.

In response to a Congressional request, the Government Accountability Office (GAO) compiled a report using the Naval Postgraduate School's K-12 School Shooting Database that compared school shootings between 2009 – 2019 and examined the link between discipline and shootings, and included other descriptive characteristics of the schools as well (2020). Although

the GAO found no link between discipline and shootings, an incidental finding stood out to me as significant: Though more overall shootings occurred at urban schools, school-targeted, sometimes referred to as rampage shootings, occurred more often at rural schools (GAO, 2020). Further, the school-targeted rampage school shootings have increased in the last 50 years as noted by Shapiro, "from six occurring the 1970s, to 11 in the 1980's, 36 in the 1990s, to 57 between 2000 and 2013" (2018, p. 10).

According to data from the GAO report, rural school shootings, though less frequent than urban school shootings, have the propensity to be more lethal since the school as an institution is typically the target of the shooting, rather than a specific individual (2020). Further, school-targeted shootings have more indiscriminate versus specific victims, and are often classified as rampage shootings (Gun Violence Archive, 2021). There is a gap in scholarly literature in examining the characteristics of rural communities and schools where rampage shootings occur, and I seek to fill that gap with this research thesis.

**Literature Review**

In reviewing existing literature around the topic of rural school shootings, there is a dearth of scholarly research that focused on the urbanicity and environmental aspects of school shootings, and even less research that examined school-targeted or rampage shootings in rural areas. Moreover, much of the published research is not recent, with much of it occurring in the early 2000's, which may not be relevant in 2022. This is a significant point as schools were seen as relatively safe until a spillover effect of gang violence permeated urban schools in the early 1990s (Fox & Fridel, 2018), and by the late 1990's, rampage style shootings like the one that took place at Columbine High School were increasing in number (Shultz, Cohen, Muschert, & Flores de Apodaca, 2013).

School shootings are not a simple phenomenon, rather they are a confluence of many factors involving internal and external individual factors, as well as environmental factors of both school and community. Because of the complexity of school violence and the limited literature around school shootings in rural communities, the literature review explores research on school shootings, rural school environments including violence and violence prevention, shooter characteristics and mental illness, media attention and the copycat phenomenon, and youth exposure or accessibility to firearms. What will be evident from this review is that there is scant literature that specifically examines the characteristics of the rural environment of both community and school, where rampage, school-targeted shootings have occurred.

*School Shootings*

In June 2020, the Government Accountability Office (GAO) released a report that analyzed all K-12 school shootings in the United States from the 2009/10 academic year through 2018/19, in response to a Congressional request. The report included a literature review and analysis of school shooting data maintained by the Naval Post-Graduate School's Center for Homeland Defense and Security, with the aim of identifying a clear and direct correlation between disciplinary methodologies and school shootings (GAO, 2020). Although the report did not find evidence supporting a link between educational discipline practices and shootings, it did show that out of the 318 shootings examined, 14% (n=46) were school-targeted, where the most prevalent type of shooting, 31% (n=99) were dispute-related, such as gang-inspired activity or gun violence associated with a specific grievance between individuals (GAO, 2020). The researchers found that half of all school shootings took place in urban schools, but that rural and suburban schools more often experienced deadliest type of shootings -- those where the school as a community institution was the target, versus a specific individual or group being the target

(GAO, 2020). According to the GAO (2020), most of the school shootings (29%) that took place in rural schools were school-targeted, a type of shooting that is also referred to as a rampage shooting, which can be defined as an attack by a current or former student, on multiple and indiscriminate parties or the school itself, as a representation of the community (Newman, Fox, Harding, Mehta, & Roth, 2004). The GAO (2020) noted the significance of school-targeted shootings in that such shootings resulted in almost triple the number of victims per incident, compared to all other shootings overall. The most common type of school shooting that took place in an urban environment between the 2009/10 and 2018/19 academic year was dispute-related (36%), followed by accidental (16%) according to the GAO's report (2020). Shapiro further notes that the frequency of rampage school-targeted shootings is increasing, having increased almost 10-fold from the decade of the 1970's compared to the 2010's (2018).

Several case studies have been conducted around rampage shootings, which provide in-depth coverage of various characteristics about the shooter and his home, school and community environment. In *Rampage: The Social Roots of School Shootings*, Newman et al. (2004) examine rampage school shootings that have occurred in rural or suburban areas via six in-depth case studies. Two of the case studies from Newman et al. were contributed to the National Research Council's, *Deadly Lessons: Understanding Lethal School Violence,* a government report containing seven detailed case studies of school shootings in rural and suburban areas; a publication which was compiled pursuant to a Congressional request (National Research Council, 2002). Newman et al. (2004) assess common explanations for school shootings, and discuss the validity of each, including, mental illness, spontaneous reactions, family problems, bullying, peer support of violence, changing communities, a culture of violence, gun availability, violent media, and the copycat effect. Beyond these perceptions, the researchers also examined

the organizational culture of a school from a sociological perspective, and implications of membership and norms within that culture (Newman, Fox, Harding, Mehta, & Roth, 2004). The NRC (2002) report cited limitations of available evidence in their inability to reach scientific conclusions about the causes and effects of school shootings in rural and suburban areas, and recommends that cross-case analysis around policy implications and further scholarly research be conducted to assess factors that might influence rampage school shootings.

In a retrospective analysis of school shootings that occurred between 2013 and 2015, researchers found that the incidence of school shootings had increased over the years studied from 35 in 2013, to 55 in 2014, to 64 in 2015, compared with a total of 44 school shootings overall between the years of 1966 and 2008 (Kalesan, et al., 2017). Kalesan et al. go on to analyze other factors that were present from 2013 to 2015, and found that states with background check laws, higher K-12 education expenditure per capita, higher mental health expenditure per capita and a greater percentage of urban population were protective factors against school shootings (2017).

### *Rural School Violence and School Violence Prevention*

Although rampage school shootings can be dated back to 1974, the NRC committee was unable to find evidence of one taking place in an urban area (National Research Council, 2002). The relationship between rural/suburban schools and rampage shootings is recognized to exist, however, no scientific conclusions could be reached regarding the causes or consequences of those shootings, only that the youth perpetrators tended to have hyperbolic and/or institutional grievances, according to the NRC's report to Congress. (National Research Council, 2002).

The link between the rurality of schools has been noted in other research beyond that described in the GAO and NRC reports. Livingston, Rossheim, and Stidham Hall (2019) found

that fatal shootings were more likely to happen in schools whose students were primarily of white race, and in rural or suburban areas. Livingston et al. (2019) recognize that there is a gap in literature examining associations between the characteristics of schools and school shooters, and that more epidemiological research is necessary to formulate proper prevention strategies.

Kalesan et al. (2017) examined certain factors associated with school shootings, and found that the shootings are less likely to occur in states with the following three components: background check requirements for gun purchases, higher mental health expenditures, and greater urban percent population (Kalesan, et al., 2017). Thus, the authors provide quantitative support that shootings occur more often in rural or suburban areas, at least for shootings that took place from 2013-2015 (Kalesan, et al., 2017). Certainly, the three-year period studied is not a robust representation of all school shootings dating back to the late 1990's, so the study is limited in that regard, but it does open up the dialogue for examining factors that are predictive or protective regarding school shootings.

School violence prevention is a broader research area that emerges when examining school shootings in scholarly literature. The most prominent work specific to school violence is the 2004 U.S. Secret Service Safe School Initiative Report, which outlines predictive factors and warning signs that can be acted upon to thwart school shooting plans (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2004). The U.S. Secret Service's National Threat Assessment Center built upon their 2004 work, and in 2019 released a report of additional key findings from the original study, as well an analysis of more recent shootings, both actual and averted (U.S. Department of Homeland Security, 2019). The report focuses on its recommendation to implement a threat assessment plan in schools, which was outlined briefly in their 2004 report, as

well as instructions on creating a targeted violence prevention plan in an educational setting (U.S. Department of Homeland Security, 2019).

At the other end of the discipline spectrum from conflict resolution is the zero-tolerance approach, which has also been widely studied in scholarly literature. Zero tolerance was borne out of the enactment of the Gun-Free Schools Act of 1994 by Congress, which required any school receiving federal aid to expel any student for one year, who entered school property with a firearm (Fox & Fridel, 2018). The pendulum continued to swing with that momentum, however, and as Fox and Fridel note, mandatory suspensions and expulsions were more broadly applied to include even minor offenses, resulting in an overall increase in punishment of students, and even juvenile incarceration (2018). The increase of child and adolescent incarceration perpetuated what social science researchers call the school-to-prison pipeline, which essentially predisposes a child from punishment in school, to juvenile incarceration, to adult incarceration, if the focus on problematic behavior is treated in a punitive fashion, rather than rehabilitative (Mallett, 2015). Further, some researchers argue that the zero-tolerance discipline approach does not deter problematic behavior, rather it creates a hostile environment where academic achievement declines and misbehavior increases (Fox & Fridel, 2018).

***Shooter Characteristics, Sociological Factors and Mental Illness***

Certainly, characteristics of the individual perpetrators of mass school violence factor into the greater picture of the reason the violence occurs, but the shooters themselves are not siloes however, as they are shaped and formed by many factors including family, social, community and societal. The shooter characteristics, sociological factors and mental health are well-researched areas in scholarly literature.

According to Langman, in a study of 10 rampage school shooters ages 11 – 23, the perpetrators were categorized as psychotic, psychopathic or traumatized, and some shooters also had personality disorders and family or social situations that inherently contributed to the background of the attacks (2009a). As Vossekuil et al. found in the Safe School Initiative, most shooters did not have a history of mental illness, nor did they just "snap" and commit the crime, rather they took time to plan their attack with painstaking detail (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2004). Further, the authors found that the shooters saw the attacks to serve as solutions to their problem of low self-esteem or inability to fit in with others (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2004). Bonanno and Levenson (2014) posited that narcissism was most likely a causal personality disorder in some cases, since society has placed such great emphasis on amassing physical things and wealth, and that in other words, the shooters took out their resentment for what others had in the form of a shooting. Similarly, in his study of 11 school shooters, Langman assigns narcissistic or grandiose delusions to five of the shooters (2009a).

Other works examine the connectedness a student feels towards their school culture, and as Cuellar, Coyle and Weinreb found, students who felt more connected to their schools had better academic performance and reported less victimization, indicating that there can be a protective value in the connection established between the individual and the institution (2021). In a review by the FBI of 14 school shootings and four foiled attempts, a list of 47 descriptors were established to be most prevalent shooter characteristics such as anger control problems, low self-esteem, narcissism and a preoccupation with violence (O'Toole, 2000).

### Youth Exposure and Accessibility to Firearms

In a large cross sectional survey conducted in a community of children aged 10-17 along with their parents, Sigel, Mattson and Mercado (2019) found that 20% of the youth had access to firearms, and that being aggressive physically increased the youths' odds of access to a firearm by almost three times (OR 2.7). Additionally, marijuana use increased the odds of access to firearms by almost 10-fold for youth (OR 9.9), and that parental possession of firearms is also predictive of youth access to and/or possession of firearms (Sigel, Mattson, & Mercado, 2019).

Another important type of youth exposure to firearms, especially in rural communities, is through hunting and target shooting. Several school shooters were hobby hunters, and one rampage shooter was given his first gun at age 6, and at age eleven was considered a skilled marksman who had won several awards, and whose parents were both officers of the local shooters' association (Newman, Fox, Harding, Mehta, & Roth, 2004).

### Media Attention and the Copycat Phenomenon

In a comprehensive qualitative analysis of mass shooters that were fame-seeking from 1966 – 2018, Silva and Greene-Colozzi found that fame-seekers indeed were likely to receive more media coverage (95.6%) that their counterparts (74.1%) (2019). The authors go on to note that fame-seekers are fulfilling the needs of grandiosity, (Silva & Green-Colozzi, 2019), consistent with narcissism, which other researchers have argued motivates school shooters (Langman, 2009a). Another point worth noting from this study was the increased incidence of fame-seeking mass-shooters over the decades: with 1 in the 1960s, 1 in the 1970s, 2 in the 1980s, 12 in the 1990s, 11 in the 2000s, and 18 from 2010-2018, with 52 shootings overall (Silva & Green-Colozzi, 2019). It should be noted that these shootings were not all school shootings, rather they were labeled fame-seeking mass shootings, which is a distinct typology.   But media

attention can serve more than an avenue to gain fame and notoriety however, it can also provide fodder for other perpetrators to replicate.

One of the cases explored by the National Research Council (2002) examined a copycat shooting, which occurred one month after the Columbine shooting in 1999, where the perpetrator became fascinated with the Columbine shooting, and kept talking about it with his peers. But time is not the only factor when determining that the copycat factor is at play in a school shooting, there are many other manifestations such as copied clothing, sayings, quotes and references to prior perpetrators as idols or even Gods (Langman, 2018). Further, Langman (2018) explains in his analysis of 32 copycat or fame seeking mass shooters that the shooters find justification in their shootings by deeming their inspirational shooter a God and that by copying the shooting they are "doing God's will." In a study using a spatio-temporal model, Schweikert, Huth and Gius found that after a school shooting takes place, there is a higher risk for another one to take place in adjacent states or the same state within a year (2021). The authors also found a minimum of 21 copycat shootings inspired by the 1999 Columbine shooting along with 53 attempted shootings in the 15 years following the massacre (Schweikert, Huth, & Gius, 2021).

From the literature available, there is a difference between shootings that happen at urban schools and those that happen at non-urban schools, which supports the need for further research. Specifically, research is scant regarding the environmental elements of the schools and the communities where rural rampage schools occur.

**Materials and Methods**

A multiple case-study approach was used to analyze the environmental factors describing the school and the communities where rural rampage school shootings took place. A qualitative method such as the multiple case study is appropriate for this topic since the number of cases are

relatively small, and that the data collected needed to be detail and descriptive in nature.

Schools were purposively sampled based on rurality and whether a rampage shooting had taken place since 2000, and for which sufficient primary, secondary and documentary were available to be analyzed.  A total of four rural communities and schools where rampage shootings occurred were analyzed.

To ensure balance and the most robust descriptions, data was retrieved from multiple sources until a level of saturation was achieved.  The data set included the schools to be analyzed and their rurality as defined by the National Center for Education Statistics Common Core of Data, which was also used for the K-12 School Shooting Database, on which the GAO report was based (GAO, 2020).  The factors included in the analysis of the environments are included in data dictionary found in Table 1.

Data sources used to describe the schools and the communities can be found in Table 2, and represents a variety of resources including newspapers, media publications, formal studies, internet news sources, case studies, websites, personal writings of school shooters, and school shooting databases.

Inductive analysis of the data was performed using coding, categorization and memoing. By employing memoing throughout the data analysis, I could react to the research in real time (Birks, Chapman, & Francis, 2008), contemporaneously developing themes, which is one of the strengths of qualitative research.  Using the inductive approach, extensive descriptions were condensed into themes using a method of coding.  The data were separated into a category of either the school environment or that of the community, then coded into subtopics and themes using Nvivo software.

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employed (Braun & Clarke, 2021).  Using this method, I performed the following steps to develop themes from my research:

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3.  Initial Theme Generation – Qualitative descriptions and quantitative demographics were combined to develop conceptualized meaning behind organizational ideas. Especially important in this stage was a careful review of available writings by school shooters, and current or former students, to assess for support of thematic analysis.

4.  Reviewing Themes – In reviewing the data from a wider perspective, codes were dispersed amongst themes they supported, and some codes were included in more than one theme.

5.  Defining Themes – This stage involved further defining the themes and describing the reaction that I as a researcher had to the ideas that were being generated.  Responding to my own reflex as a researcher was very important as it allowed me to string together concepts to begin telling a story of how the ideas related, and how the research supported them.

6.  Reporting – This stage allowed me to tell the story that the themes were forming, and those themes were related back to research from the literature review.

**Results**

The four schools analyzed differed in numerous ways, and when the qualitative and quantitative data were combined and analyzed at a more macrocosmic level:

School 1: Red Lake Secondary School, Red Lake, Minnesota. On March 21, 2005, a 16 year-old male student used stolen guns to pre-plan an attack where he shot and killed his grandfather and grandfather's girlfriend, then proceeded to his high school where he killed 9 people and wounded 6 as he fired a shotgun and two handguns into a crowded hallway before turning the gun on himself (U.S. Department of Homeland Security, 2019).

School 2: Chardon High School, Chardon, Ohio. On February 27, 2012, a 17 year-old male student who had been remanded to the affiliated alternative school, used a handgun in a planned attack and shot and killed 3, wounding 3 in the school cafeteria before surrendering to authorities (U.S. Department of Homeland Security, 2019).

School 3: Madison High School, Madison Township, Middletown, Ohio. On February 29, 2016, a 14 year-old male stole a handgun from his grandmother and shot 2 students his high school cafeteria, fled the scene and was later apprehended (U.S. Department of Homeland Security, 2019).

School 4: Marshall High School, Benton, Kentucky. On January 23, 2018, a 15 year-old planned to carry out a school shooting as an experiment to see how his victims would react, subsequently killing 2 and wounding 7 as he shot into a common area early during the school day, before being apprehended by police (U.S. Department of Homeland Security, 2019). According to the Department of Homeland Security, the teenager believed that human life had no purpose, but was careful not to shoot his fellow band members (2019).

From the data associated with these school shootings, three primary themes were developed.

***Theme 1: Importance of Teachers and the Support of the Community***

A word frequency report of the top 100 words associated with community included words associated with a familial bond including family, close-knit, fathers and grandfather, along with words such as support, character, opportunities, everyone, academics, needs, drive and friendly. By expanding the context around these words, thoughts were expanded to determine the positive or negative valence of the association. In this way, the school as the primary institution in the community for children, represents an extension of the family, or fills a familial void. The perception of the support that the school receives from the community in terms of participation in activities, funding and attendance at events can be seen as representational of the students' views of their importance within the greater community.

The community provides support to students through taxes and levies, and provides support for reduced and free lunch programs. In addition, the community offers employment, and the average commute time to places of employment directly relates to time away from children, and can translate abstractly into the loss of time with family for the student. Other factors within the community such as the availability of broadband internet can also be seen as representations of support for students, just as the unemployment rate or poverty rate can be seen as strains on students and families.

School faculty engagement and academics were important in student perceptions of their schools, as were funding for supplies and facility maintenance. Notable statements from students support this theme:

"My experience at Madison High school has been outstanding…the school is like a family. The best part about the school is it's culture. We have a saying, 212, that pushes us to go above and beyond in everything we do. It is revolved around a steam engine that went through Madison and the degree at which water turns to steam. They teach us that we have to go that extra degree to achieve great things. Madison is a great school and community to be apart [*sic*] of." (Madison High School Niche review, 2021)

"Some of the teachers really care about their students, but… the school, in general, is severely underfunded. The textbooks haven't been replaced in years and are falling apart, the air conditioner and heating systems are always broken, and non-sports programs rely almost exclusively on donations." (Madison High School Niche review, 2021)

"In a quaint lonely town, sits a man with a frown. No job. No family. No crown. His luck had run out. Lost and alone." (Chardon Shooter, 2011)

"I have been apart [*sic*] of Marshall County High School for 2 years now. The community is involved in sports, our performing arts center, and volunteer work. The school has given us students many opportunities to influence our future, whether that be attending college or picking a trade because of our trade school. I couldn't think of a better school." (Marshall High School Niche review, 2020)

"Buildings are in disrepair. School was closed several times for MRSA infection outbreaks. The desks are always dirty and are rarely cleaned every day." (Madison High School Niche review, 2013)

### Theme 2: Isolation Created by Cliques and Lack of Diversity

The presence of cliques in a high school is a rather routine occurrence, but in the greater context of the data analyzed and when paired with a lack of diversity in schools, can foster a

feeling of isolation in students. A feeling of not belonging, or having nowhere to fit in is especially hurtful if layered atop a broken family or unstable home. Although some Niche.com reviews by students described their school as diverse, the majority of the comments about diversity described the lack of it. Further, race and ethnicity demographics of the school and community were more reliable in terms of the diversity of the student body. The lack of diversity was used in the context not of just race and ethnicity though, it was also used to describe economic disparities and privilege. Bullying, fighting and discipline were child-codes related to the parent-codes of cliques and diversity, as they can occur due to conflict between groups and cliques. The Marshall High School shooter made references to ensuring that those in his own clique, "band members" were spared being shot. Quotations from students supported this theme as well.

"The teachers at my school are all white (besides the Ojibwe language teacher) yet the times I have brought up that Native Women and Black men, or White women and Native men shouldn't be together to keep their blood pure, I've been called a racist." (Red Lake Shooter, 2005)

"Not diverse racially or economically." (Chardon High School Niche review, 2014)

"Chardon High School could, however, use a little more diversity. As one of the few American Asians, I feel a little out of place." (Chardon High School Niche review, 2018)

"Also, we have next to no diversity in our school besides the foreign exchange students." (Chardon High School Niche review, 2019)

"The educational experience was better than some other schools in the surrounding area, but I felt that the school itself is your basic definition of privileged white people. Very bigoted

and even racist student body that was not even addressed by school officials." (Marshall High School Niche review, 2020)

"Bullying problems (that staff does nothing about,) especially homophobia and transphobia-based. Racism is an occasional issue with students frequently using slurs." (Marshall High School Niche review, 2020)

***Theme 3: Seeking Change***

Students expressed the desire to seek change, whether that was represented by achieving better economic positioning, exposure to quality academics or through special interest groups or clubs.  Students also wanted to seek change in a safe and supportive environment.  Demographic descriptors that relate to this theme include reading and math proficiency scores, high school graduation rates, the number of local employers, and the local poverty rate.  Codes used to develop this theme included direct references to change, clubs and activities, sports, home life, and even writings of the shooters themselves.

"I would change the environment because sometimes it isn't as welcoming as it should be. Kids are scared to come into the upper ranks of the floor education chain. They shouldn't have to be, they should want to come into the upper ranks and make new friends and further their education to the furthest." (Marshall High School Niche review, 2017)

"Things I would like to see change is the little attention girls sports have compared to boys sports and also the administration needs to get better at letting the community know about events, schoolarships [*sic*], games and etc."  (Madison High School Niche review, 2020)

"Nothing ever gets done."  (Madison high School Niche review, 2019)

"An under-staffed, under-funded brick building with teachers doing the best they could with the little supplies they were given. Madison High School was pathetically vanilla and

oppressively conservative. I would like to see a true attempt to fix any real problems such as favoritism, sexism, and the overproduction of waste." (Madison High School Niche review, 2018)

"The instrument of my resurrection was supposed to be freedom. But there isn't an open sky or endless field to be found where I reside, nor is there light or salvation to be discovered. Right about now I feel as low as I ever have. I don't think it's a big secret why, really. My biggest disappointment and downfall came from what was supposed to be the one thing to lift me from the grave I'm continually digging for myself. Nah, never. Only the worthy are saved, y'know. I don't know, but what I do know is I'm a retarded fuck for ever believing things would change for me. I'm starting to regret sticking around, I should've taken the razor blade express last time around… Well, whatever, man. Maybe they've got another shuttle comin' around sometime soon? Ciao. Current Mood: drained." (Red Lake Shooter, 2005)

**Discussion**

Although the schools reviewed in the study differed in socioeconomic status and racial/ethnic diversity, all schools had two common factors: They experienced a school shooting in a rural community.  The similarities did not stop with those variables however, since the student reviews and writings expressed many concerns that were categorically unified.  These categorical similarities cannot be overlooked.

Students spend the majority of their waking hours in the school institution, away from home and family.  By virtue of the time commitment of traditional public school, students are exposed to non-familial adults who can serve as proxy guardians and mentors for 7-8 hours per day.  The time spent in school exposes students to positive influences such as teachers,

potentially, and negative influences such as bullying and exclusion due to cliques or a lack of diversity.

The themes that were generated in this study overlap and influence one another, as the student experience in the meso level that is the school institution is a complex one, especially when paired with the microcosm of home life, and the greater macrocosm of the greater community. Therefore, even seemingly unimportant information like the age and wear of textbooks, the reliability of the internet connection, and the attendance at school events by members of the community, when viewed comprehensively, can have a great impact in how students view their value in society. Although school shootings are rare events, they do occur and for a reason, and have a lasting impact on student victims who later grow into adults. Whether those adults remain victims is yet another area of further research. Rural communities have unique characteristics, as do suburban and urban ones, but the closeness of small, rural communities can be seen as a positive one in terms of an extension of family, or a negative one in terms of a place that never changes, and from which once cannot escape.

Limitations of this research is that the reliability could be a problem since the sample size of the schools was small, and that only one researcher coded the data. In addition, the sensitivity of this specific research topic is high, so research should be conducted with care if the victims and families involved. A particularly important limitation to consider is the subjective nature of qualitative research in general, especially in the formation of codes and themes. Braun and Clarke stress the importance of this limitation, but also note the value of the subjective nature: "Coding is recognized as an inherently subjective process, one that requires a reflexive researcher—who strives to reflect on their assumptions and how these might shape and delimit their coding" (2021, p. 39).

**Conclusion**

The findings in this small-scale study offer a wide range of opportunities for further research to discern commonalities or patterns of rural communities that contribute to the incidence of rampage shootings that occur at rural schools versus the lower incidence at suburban and urban schools. Student surveys of school culture should be conducted to validate the themes presented here. Additionally, a larger cohort could be researched in a detailed ethnographic case study of rural schools that have experienced rampage shootings, similar to the study that Newman et al published in 2004.

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**Appendices**

**Table 1**

*Data Dictionary*

| School Level Factors | | |
|---|---|---|
| Variable | Variable Type | Data Source |
| Student enrollment | Numerical | National Center for Educational Statistics |
| Spending per student | Numerical | Niche.com |
| Percent of Single Parent Households with School-Aged Children | Numerical (%) | National Center for Educational Statistics |
| Reduced / Free Lunch Program Usage Rate | Categorical (Yes/No) | National Center for Educational Statistics |
| Average Class Size | Numerical | National Center for Educational Statistics |
| High School Graduation Rate | Numerical (%) | U.S. News & World Report on Education |
| Vocational School Availability | Categorical (Yes/No) | National Center for Educational Statistics |
| Public School | Categorical (Yes/No) | National Center for Educational Statistics |
| Secondary School | Categorical (Yes/No) | National Center for Educational Statistics |
| Math Proficiency | Numerical (%) | U.S. News & World Report on Education |
| Reading Proficiency | Numerical (%) | U.S. News & World Report on Education |

(Continues)

Community Level Factors

| Variable | Variable Type | Data Source |
|---|---|---|
| Community Population | Numerical | National Center for Educational Statistics |
| Median Home Value | Numerical | US Census Bureau |
| Total Employers | Numerical | US Census Bureau |
| Unemployment rate for parents of public school children | Numerical (%) | National Center for Educational Statistics |
| Race / Ethnicity | Numerical (%) | National Center for Educational Statistics |
| Median Household Income | Numerical | National Center for Educational Statistics |
| Percent Households with Boradband Internet | Numerical (%) | National Center for Educational Statistics |
| Percent of Households with Health Insurance in School District | Numerical (%) | National Center for Educational Statistics |
| Known alcohol / drug abuse within community | Categorical (Yes/No) | |
| Rural per NCES Definition | Categorical (Yes/No) | National Center for Educational Statistics |
| Poverty Rate | Numerical | US Census Bureau |
| Average Commuting Time to Work (Minutes) | Numerical | US Census Bureau |

Table 2

*Data Sources*

| Name | URL | Database Source |
|------|-----|-----------------|
| School Shooters. Info | www.schoolshooters.info | Peter Langman, PhD |
| K-12 School Shooter Database | www.chds.us/ssdb/ | Center for Homeland Defense and Security Naval Post Graduate School |
| Gun Violence Archive | www.gunviolencearchive.org | Gun Violence Archive (non-profit, non-advocacy) |
| National Center for Education Statistics Common Core of Data | https://nces.ed.gov/ccd/ | Institute of Education Sciences |
| Niche | www.niche.com | US Census Bureau, US Department of Education, American Community Survey results as well as individual reviews |

Table 3

*School-Level Variables*

| School Variable | Red Lake Secondary School | Madison High School | Marshall High School | Chardon High School | Mean |
|---|---|---|---|---|---|
| Student enrollment | 320 | 405 | 1345 | 1182 | 813 |
| Minority enrollment | 100% | 11% | 4% | 6% | 30 |
| Economically disadvantaged | 68% | 32% | 42% | 12% | 39 |
| Reduced / Free Lunch Program Eligibility | 68% | 32% | 42% | N/A | 47 |
| Student-Teacher Ratio | 19:1 | 14:1 | 21:1 | 21:1 | 19:1 |
| High School Graduation Rate | 43% | 92% | 97% | 96% | 82 |
| Public School | Yes | Yes | Yes | Yes | N/A |
| Secondary School | Yes | Yes | Yes | Yes | N/A |
| Grade Span | 7-12 | 9-12 | 9-12 | 8-12 | N/a |
| Math proficiency | 9% | 63% | 35% | 76% | 46 |
| Reading proficiency | 28% | 75% | 47% | 83% | 58 |
| Spending per student | $21,327 | $9,605 | $10,860 | $12,761 | $13,638 |
| Percent of Single Parent Households with School-Aged Children | 55% | 15% | 19% | 17% | 27% |
| Parents with Bachelor's Degree or Higher | 4.80% | 19.20% | 28.70% | 45.70% | 25 |
| Parents in Labor Force | 80.30% | 89.60% | 79.70% | 84.40% | 84 |
| Children with Health Insurance Coverage | 74.90% | 92.10% | 96.80% | 96.90% | 90 |
| Median Household Income of parents of Children in Public School System | $43,295 | $94,559 | $85,063 | $108,807 | $82,931 |

Table 4

*Community-Level Variables*

| Community Variable | Red Lake, MN | Madison Township, Middletown, OH | Benton, KY | Chardon, OH | Mean |
|---|---|---|---|---|---|
| Community Population | 3935 | 50,987 | 4756 | 5242 | 16230 |
| Median Home Value | $116,000 | $97,700 | $133,600 | $190,200 | $134,375 |
| Total Employers | 95 | 3540 | 691 | 742 | 1267 |
| Families with Income Below Poverty Level | 30.60% | 2.80% | 14.70% | 7.50% | 13.90 |
| Race/Ethnicity | | | | | |
| White | 2.00% | 98.00% | 96.00% | 95.00% | 72.75 |
| Black | 0.00% | 1.00% | 1.00% | 1.00% | 0.75 |
| Hispanic/Latino | 2.00% | 0.00% | 2.00% | 3.00% | 1.75 |
| Asian | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 |
| American Indian/Alaska Native | 95.00% | 0.00% | 0.00% | 0.00% | 23.75 |
| Hawaiian/Pacific Islander | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 |
| Other | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 |
| Two or more races | 1.00% | 1.00% | 1.00% | 1.00% | 1.00 |
| Median Household Income of Community | $58,576 | $40,347 | $49,043 | $65,262 | $53,307 |
| Percent Households with Boroadband Internet | 59.90% | 85.20% | 79.30% | 86.30% | 77.68 |
| Rurality | Remote Rural | Fringe Rural | Distant Rural | Town Fringe | N/A |
| Poverty Rate | 10.50% | 25.20% | 15% | 11.40% | 15.53 |
| Average Commuting Time to Work (Minutes) | 24.4 | 24.2 | 17.4 | 22.8 | 22.2 |

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