Exploring the Risk Factors for Becoming a Mass Shooter in the United States: A Literature Review

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***Research Question:*** *What are the risk factors or characteristics that contribute to an individual becoming a mass shooter in the United States?*

**Abstract**

Ever since the Columbine school shooting in 1999, mass shootings seem to occur more and more each year in the United States. There is debate over whether these incidents have actually increased, or if increased media coverage of such events has made them appear more frequent. Regardless, the issue of mass violence in the form of mass shootings is one that needs to be discussed and researched further for the safety of the public. The subject of mass shootings is a complex one, with multifaceted relationships and variables that complicate efforts to identify potential perpetrators. The controversy over gun access and mass shootings has created political strife and attention towards gun policy, but there are deeper issues that should be discussed. The complexity of mass shootings is further propagated by argument over its official definition, or lack of. This literature review explores how certain factors increase the likelihood of an individual to commit a mass shooting in the United States. After reviewing several articles on mass shootings, there were a few overarching findings and overlaps in the literature with regards to causation and offender psychology. The findings support that narcissistic tendencies with regards to skewed self-image, perceived victimization, and social environment are contributors to an individual’s potential for becoming a mass shooter. Future studies can look into how specific interventions that go farther than gun reform policy can address the issue of mass shootings on both an individual and societal level. More research should be done on mass shooter psychology, specifically beyond school shooters.

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**Introduction**

Mass shootings in the United States have been an increasing prevalent topic in the news over the past 30 years. To understand the topic, the first thing that needs to be discussed is the definition of a mass shooting. The topic of mass shootings is complicated by the lack of a central definition. The FBI has never officially defined a *mass shooter* as a separate category from *mass murderer* (RAND, 2018). The Federal Bureau of Investigation defined *mass murderer* as someone who kills four or more people in a single incident, typically in a single location (RAND, 2018). The Congressional Research Service defines a mass shooting as an event where more than four people are killed with a firearm within a single event, and in one or more locations closely located (NCJRS, 2018). Since the category of *mass shooting* has not been distinguished from the definition of mass murder, there is no universally accepted definition for the term. This has resulted in researchers, the media, and law enforcement using different definitions for mass shootings, complicating research of the topic. Non-governmental organizations like Mother Jones and the Stanford Mass Shootings in America (MSA) data project that track mass shootings use varying definitions. Without a systematic definition of mass shootings, there can be misinterpretation of evidence reported. One source may consider a shooting incident as a mass shooting while that same incident may not meet another source’s definition for what a mass shooting is. A common approach to defining the term is to use a death threshold to differ a mass shooting from other crimes involving a firearm (RAND, 2018). Another dispute about the definition of a mass shooting is its connection to other crime or dispute, like gang or drug related gun violence. Most organizations that research mass shootings including Mother Jones, The Congressional Research Service, and the MSA do not include these incidents in their definitions because research is focused on studying mass shootings of unexplainable origin (NCJRS, 2018). For this research shootings that were gang, drug, or domestic dispute-related were not considered because the articles that were selected excluded these incidents as mass shooting incidents. It is important to recognize the variance in how mass shootings are defined, and how it can result in increased media coverage that influences public perception of mass shootings without actually increasing understanding of the determinants or trends of mass shootings.

According to Mother Jones, there were 87 recorded mass shootings from 1990 to 2017 in the United States (NCJRS, 2018). This statistic is based off the definition of a mass shooting as a shooting where a lone shooter killed at least three people in a public place, with the motive of indiscriminate killing (NCJRS, 2018). The MSA database by Stanford University recorded 279 mass shootings from 1990 till April of 2016 (NCJRS, 2018).  The MSA definition of a mass shooting involves 3 or more shooting victims but not necessarily deaths (RAND, 2018). Gang, drug, or organized crime related shootings are excluded. The difference in these statistics are reflective of how the different definitions of mass shootings can skew research.

There is much not known about mass shootings due to overall rare incidence, and the complex nature of the data. Though there is research into the effects mass shootings have on communities, research needs to be done to dig deeper into the core of the problem. Research on how gun policy reform could fix this problem does not focus on why people are committing these senseless acts in the first place. The problem needs to be addressed on an individual level to explore what factors contribute to causation. In order to understand mass shootings, research needs to be done on the risk factors that are associated with mass shootings and the perpetrators. If we are able to understand the individual, societal, and environmental factors that contribute to someone becoming a mass shooter then real advancements in prevention could be made. The purpose of this literature is to explore the specific factors that are associated with an individual becoming a mass shooter in the United States.

**Methods**

To find out what factors contribute to the possibility of someone becoming a mass shooter, a literature search was done. The articles used in this literature review were picked from the PubMed database, and the PsycINFO databases. PubMed is run by the government to provide published scientific and medical literature. PsycINFO is a database with peer reviewed literature in mental health and behavioral science.

As shown in *Figure 1: Process for article selection*, the first search done was in PubMed with the general term “mass shootings,” yielding 151 results. Certain inclusion and exclusion criteria were applied in order to specify the results: the date range was narrowed to 2009-2019 and limited to peer-reviewed journal articles. This confined the search results down to 131 articles. To narrow this down further the word “public” was added before “mass shootings” and the phrase “AND United States” was added. This final search on PubMed yielded 42 results. From that search 3 articles were utilized in this literature review.

As illustrated in *Figure 1: Process for article selection*, the PsycINFO database was used next to find articles, with an initial search of the term “mass shootings.” This search created a list of 440 results. Inclusion and exclusion criteria were applied, limiting the time frame from 2009 to 2019 and only including peer reviewed journal articles, producing 251 results. The phrase “AND United States” and the phrase “AND mental” were added to the first search, this produced 31 results. Three articles were utilized from this search in the final review. The next search in PsycINFO consisted of the phrase “school shootings” and produced 1,185 results. Criteria were applied to limit the time frame from 2009 to 2019 and to only include peer reviewed journal articles, yielding 451 results. To narrow this search down the phrase “AND characteristics” was added. This final search produced 53 results of which 4 articles were chosen after evaluating them for relevance to this review.



**Results**

For this literature review, research was conducted to study the underlying factors that have a correlation with mass shooting perpetrators. After assessing all 10 of the articles that were collected on mass shooting incidents in the United States, three main factors stood out as risk factors associated with an individual’s tendency to commit a mass shooting. Skewed self- perception in the form of narcissism, skewed perception in the form of perceived victimization, and social environment are the main risk factors associated with mass shooting offenders. A detailed summary of the findings of each selected journal article is presented in *Table 1* at the end of this section.

*Skewed Perception in the Form of Narcissism*

One of the consistent themes in the literature about mass shooters is the idea of “skewed self perception.” This perception relates to how the individual either views him or herself, or how the individual views the world and its reaction to him or herself. The conventional image of a mass shooting perpetrator is someone with low self-esteem and self-worth, but this is an idea that we should challenge. In a study done by Bushman in 2018 on mass shootings and narcissism, it was concluded that individuals who commit mass shootings are associated with narcissistic tendencies (2018). Based off of extensive case history study and database analysis, several examples of mental health professionals deeming mass shooting offenders as narcissistic are cited. One of the incidents used as an example was in 2003 when a gunman entered Case Western University, killed one and wounded two others. A forensic psychologist who spent extensive time with the gunman testified that he had narcissistic personality disorder (Bushman, 2018). Another example is the Las Vegas mass shooting in 2017, when the sheriff deemed the perpetrator as a status obsessed narcissist (Bushman, 2018). The idea of mass shooting offenders having large egos would be consistent with examples of historical leaders that were violent and showed very high self-regard. Several aggressive leaders such as Benito Mussolini and Saddam Hussein exhibited narcissistic tendencies (Bushman, 2018). Narcissists typically believe they are superior to others, exhibiting their ability or inability to perceive social comparisons. Narcissistic characteristics are associated with a skewed perception of oneself, and a skewed perception of one’s relationship to the people around them (Bushman, 2018). In reality, the overwhelming majority of research rejects the traditional idea that low self-esteem is linked to aggression and violence, but instead support the view that narcissism is linked to this behavior (Bushman, 2018). On the Federal Bureau of Investigation’s list of risk factors for school shooters, narcissism is included, showing it has been cited by some experts as a common risk factor (Bushman, 2018).

In a study done by Lankford, it was concluded that a common characteristic among some public mass shooters is the desire for attention or fame (2018). Because many mass shooters commit suicide during the attack or expect to die, they are not scared of the consequences of being identified to the public, and some offenders actually want the attention (Lankford, 2018). The study cited that a proportion of offenders were found to have exhibited narcissistic tendencies (Lankford, 2018).

In another study done by Bushman and colleagues (2016) on youth violence, it was found that certain personality traits and past behavior were linked with school rampage shooters. People high in narcissism have a grandiose sense of who they are and the status to which they are entitled. When narcissists do not get the special treatment they believe is owed to them they may lash out aggressively towards others (Bushman et al., 2016). This same study cited suicide rampage shooters specifically as displaying narcissistic tendencies. School shooters that kill multiple victims prior to suicide could be a way to achieve fame and notoriety as a final statement (Bushman et al., 2016). Most people with narcissistic tendencies will never be perpetrators of mass shootings, but having narcissistic tendencies is associated with an addiction to attention and fame that is associated with mass shootings (Bushman, 2018).

*Skewed Perception in the Form of Perceived Victimization*

The second aspect of a skewed perception is that of an individual’s perception of how they are viewed by their peers; perceived victimization. Researchers Kalish and Kimmel from the Department of Sociology at SUNY (2010) studied the cases of three well known school shootings in America: the Columbine shooting, the Virginia Tech shooting, and the Northern Illinois shooting. The article discussed how the culture of masculinity available to American men encourages the use of violence to avenge any perceived challenge to their masculine identity (Kalish & Kimmel, 2010). This study connected an attack to one’s masculine identity as a reason for extreme violence like in the form of a school shooting. These incidents are stories of marginalization based on “criteria for adequate gender performance – specifically the enactment of codes of masculinity”(Kalish & Kimmel, 2010). The Northern Illinois shooter, Steven Kazmierczak, had enlisted in the military in September 2001 and was discharged only a few months later after his mental health history was exposed. This incident of rejection from being able to fight for his country may have translated into perceived victimization in his head (Kalish & Kimmel, 2010). The Virginia Tech shooter, Cho, never seemed to feel that he fit in, and maintained near anonymity on campus (Kalish & Kimmel, 2010). The shooters in these incidents believed themselves to be both victimized based off of their own accounts; they felt they had been unfairly targeted and discriminated against. Feelings of marginalization or victimization could have been the main motivation for them to punish those they saw responsible for their oppression (Kalish & Kimmel, 2010).

 In a psychological study on school shooters done by Ferguson and his colleagues (2011), 71% of the school shooters studied perceivedthemselves as wronged, bullied, or persecuted by others. The authors suggest, based off of case study research, that this may reflect perceptions on the part of the perpetrator rather than a real state of affairs (Ferguson, Coulson, & Barnett, 2011). Feelings of persecution, which may or may not have been reality, offers potential insight into the psychology of school shooters, and why they commit such acts (Ferguson et al., 2011). Certain psychological characteristics were associated with school shooters, including the perception that others were to blame for their problems and their feelings of persecution (Ferguson et al., 2011).

In a study by Lankford on mass shooters and suicide attackers, he identified perceived victimization as a warning sign for identifying mass shooters (2018). He cited evidence of perceived bullying, disrespect, and persecution left behind in suicide notes, journals, manifestos, videos, and online posts left behind by offenders (Lankford, 2018). He concluded that while the cited adversity could have been real, the perceptions of conspiracies against them and persecution or oppression might have been wildly exaggerated (Lankford, 2018). A perpetrator’s perceptions of alleged victimization could be product of his or her own illusions. Public mass shooters have used this perceived suffering to justify their attacks (Lankford, 2018).

In a study conducted by Fox and DeLateur, victimization was cited as a characteristic of mass shooters (2014). Mass murderers often see themselves as victims, and specifically victims of injustice (Fox & DeLateur, 2014). This article uses research done by Bowers on mass murders in 2010 to support the conclusion that mass shooters seek payback for what they perceive as unfair treatment (Fox & DeLateur, 2014). The perceived victimization is the result of paranoia in which the perpetrator misinterprets innocent acts or gestures by others as purposely malicious. Mass killers have the tendency to externalize blame and therefore see themselves as victims of mistreatment (Fox & DeLateur, 2014). Feeling victimized by peers has motivated some mass shooting perpetrators to act in a way that they see as revenge on those who have wronged them.

*Social Environment*

It is no new development that environment affects behavior, and with regards to this topic that is true as well. Social environment can have an impact on mass shooting tendencies. With regards to school shooters specifically, school social environment can act as a predictor for mass shootings. A study done by Baird and colleagues (2017) assessed how school environment can exacerbate preexisting personal factors that result in the incidence of a mass school shooting. The research found that students who committed a mass school shooting were significantly more likely to have previously attended a school with a smaller student body or a lower than state average student–teacher ratio (Baird, Roellke, & Zeifman, 2017). Transitioning from a smaller, more supportive school to a larger, more anonymous school can heighten preexisting mental health problems among potential school shooters (Baird et al., 2017). Students attending schools with high enrollments are more likely to experience feelings of anonymity and alienation that exacerbate personal issues, leading to acts of violence. The environment of a large school can increase physical and emotional distance between students, allowing potential shooting perpetrators to easily dehumanize those around them, and commit violent acts (Baird et al., 2017). School environment may be an important predictor of mass school shootings by creating a toxic environment for an individual at risk (Baird et al., 2017).

In another article, researchers concluded there was a connection between school environmental factors and the occurrence of school shootings (de Apodaca, Brighton, Perkins, Jackson, & Steege, 2012). The study considered school enrollment, urban or rural location, and enrollment demographics to assess the connection between school environment and mass shooting incidence. Significant relationships were found between multiple dimensions of school environments and shootings incidence. School shootings were more likely to occur in schools with higher enrollment (de Apodaca et al., 2012). The results propose that school conditions that allow for feelings of anonymity or alienation among students can create environmental conditions associated with mass school shootings (de Apodaca et al., 2012). The feeling of anonymity could act as a significant factor in an individual’s potential to become a mass shooter.

In additional research, school conditions were concluded to be correlated with shootings (Wike & Fraser, 2009). Shootings were more likely in schools characterized by a high degree of social stratification and low attachment between teachers and students. In case studies of past school shooters, it was found that the perpetrators felt little attachment to their schools, teachers, or peers (Wike & Fraser, 2009). This study listed alienation from school, rejection, and victimization by peers as risk factors for potential shooters. School environment is once again cited as being a risk factor involved with mass shooting potential (Wike & Fraser, 2009).

Outside of the realm of school, social environment can still play a role in mass shooting incidence. A study conducted by Cabrera and Kwon (2018) explored the effects that social environment, with regards to inequality and income, has on mass shooting incidence. The results of the study suggest that while inequality and income alone can both act as predictors of mass shootings, their combined impact is a strong predictor of mass shootings (Cabrera & Kwon, 2018). The article found that areas with both high levels of inequality and high levels of income incurred the highest number of mass shootings. It was concluded that this link can be explained by the “relative deprivation perspective,” which suggests that the inability of members of a community to achieve a societal level of economic success creates attitudes of frustration, hostility, and potentially violence (Cabrera & Kwon, 2018). There is a correlation between social environment, specifically with regards to economic factors, and mass shooting incidence. Through this finding, it could be hypothesized that someone living in an environment of both high inequality and high income is more at risk for becoming a mass shooter due to social resentment (Cabrera & Kwon, 2018). A study done by Capellan and Gomez (2018) proposed the idea that social forces play a role in the incidence and distribution of mass public shootings. The results revealed consistency regarding spatial clustering of mass public shootings, proposing public shootings tend to occur in the Northeast, Southeast, and along the Pacific Coast of the United States (Capellan & Gomez, 2018). The authors suggested that these findings provide evidence to support the idea that social processes and environment may drive the incidence and distribution of mass shootings. Social environment plays role in predicting mass shooting incidence in and outside of schools. Certain social environments or aspects can act as triggers for committing violent acts like mass shootings.

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*Table 1. Sample Table for Articles Reviewed*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Author (s)** | **Year** | **Article Title and Journal** | **Purpose of article** | **Sample Info** | **Type of Research** | **Research Findings** | **Limitations of Article** |
| 1 | Baird, A.A.Roelike, E.V.Zeifman, D.M. | 2017 | Alone and adrift: The association between mass school shootings, school size, and student support*Journal of Social Science* | Study the associations between mass school shootings, school enrollment size, student–teacher ratios, and student transitions.  | 22 mass school shooting cases between January 1995 and June 2014 in the U.S | Qualitative research: Case study method | Authors found that 1.smaller schools are less likely to experience acts of mass violence 2. transitioning from a smaller school to a larger, more anonymous school may heighten preexisting mental health problems among potential school shooters | Drawbacks of the case study method, and sample set limited to specific subset of school violence |
| 2 | Bushman, B.J. | 2018 | Narcissism, fame seeking, and mass shootings*SAGE Journal* | Investigate the connection between narcissistic characteristics and becoming a mass shooter | Mass shootings in the U.S. | Qualitative research: Case study method  | The author suggests that most people with narcissistic tendencies will never commit mass shootings, but some people with narcissistic tendencies are addicted to the attention and fame that are associated with mass shootings, and could be a motive for some offenders | Underreported or wrongfully reported narcissistic behavior by mental health professionals; small sample size  |
| 3 | Cabrera, J.F.Kwon, R. | 2018 | Income inequality, household income, and mass shooting in the United States*Journal of Front Public Health* | Evaluate the effect of income and inequality as risk factors for mass shootings | Panel dataset with information across 3,144 counties in the U.S. from the years 1990 to 2015 | Cross-sectional research (pooled panel regressions) | Authors found that there is a connection between inequality and mass shootings, especially in high-income communities, concluding that counties with both high levels of inequality and income are the most likely to have mass shootings | Dataset used sources that were drawn from media reports: some mass shootings were not included due to sparse media attention, or due to them happening before the internet |
| 4 | Capellan, J.A.Gomez, S. | 2018 | Change and stability in offender, behaviors, and incident-level characteristics of mass public shootings in the United States, 1984-2015*Journal of Investigative Psychology and Offender Profiling* | Study the stability and change in characteristics of mass shooters over the last 32 years (1984-2015) | 294 mass public shootings in the U.S. from 1984 to 2015; time intervals: 1984-1999 and 2000-2015 | Open source data collection and analysis using logistic regression odds ratios | The authors found growth in the racial hetero-geneity and background characteristics of offenders, departing from the general profile of mass shooters. There were significant changes in the racial/ethnic make‐up of mass public shooters: 1. offenders today are significantly less likely to be White and significantly more likely to be African American 2. mass public shooters today are significantly less likely to be single/divorced 3. significantly more likely to be college educated  | Drawbacks of open source data collection: biased against older and less publicized events, and drawbacks of sample size of each time interval |
| 5 | Lankford, A. | 2018 | Identifying potential mass shooters and suicide terrorists with warning signs of suicide, perceived victimization, and desires for attention or fame*Journal of Personality Assessment* | Evaluating and identifying common factors of mass shooters and suicide terrorists  | Mass shootings in the U.S. (no time period specified) | Qualitative research: case studies | The author found three main factors to identity potential mass shooters and suicide terrorists: 1. suicidal motives and life indifference 2. perceived victimization 3.desires for attention or fame | No clear sample size; more of a general basis of characteristics; associating mass shooters with suicide terrorists  |
| 6 | de Apodaca, R.F.Brighton, L.M.Jackson, K.N.Perkins, A.N.Steege, J.R. | 2012 | Characteristics of schools in which fatal shootings occur*The Journal of Psychological Reports* | Evaluates the characteristics associated with schools where deadly shootings occur  | 38 schools where random attacks happened and 96 schools where targeted fatal shootings occurred in the U.S. between 1966 and 2009; compared with a group of 138 schools randomly selected to represent the population of all schools in the U.S. | Logistic regressions on stratified randomly selected comparison groups of schools to analyze characteristics | The authors found that universities/colleges were associated with random shootings and high schools with targeted ones. It was also found that schools that bring on feelings of anonymity or alienation for students may exacerbate conditions leading to fatal school shootings. A condition of anonymity, or lacking a sense of belonging within the school may be a significant factor contributing to a fatal shooting  | Modest sample size of comparison group of schools; study is a few years old and does not include recent school shootings |
| 7 | DeLateur, M.J.Fox, J.A. | 2014 | Mass shootings in America: Moving beyond Newtown*Homicide Studies: An Interdisciplinary & International Journal* | Examines myths and misconceptions about multiple homicide and mass shooters | Mass shootings in U.S. up to 2014 | Qualitative research: Analysis/case study | The authors suggest that many of the policy proposals after Newtown are worth it in general, their prospects for decreasing the risk of mass murder are limited  | Lack of data from more current mass shootings |
| 8 | Fraser, M.W.Wike, T.L. | 2009 | School shootings: Making sense of the senseless*Journal of Aggression and Violent Behavior* | Examines the nature of school shootings and discusses the individual char- acteristics of perpetrators and the schools where shootings have occurred  | Mass shootings in the U.S. up to 2009 | Qualitative research: case study analysis | The author finds a number of risk factors at the student level connected to becoming a school shooter: alienation from school, rejection and victimization by peers, access to guns, practicing with guns, and leakage of plan  | Lack of data from more current events; focuses on a small segment of mass shootings  |
| 9 | Bushman, B.J.Calvert, S.L.Downey, G.Dredze, M.Gottfredson, M.Jablonski, N.G.Masten, A.S.Morrill, C.Newman, K.Romer, D.Webster, D.W.  | 2016 | Youth Violence: What we know and what we need to know*American Psychologist Journal* | Summarizes evidence on major risk factors and protective factors for youth violence, specifically school rampage shootings.  | Youth violence in the U.S. with regards to gun violence; specifically school rampage shootings | Qualitative research: case analysis  | Authors conclude that one of the best predictors of future behavior is past behavior, and that certain personality traits can be risk factors for school rampage shooters. Authors identify narcissism as a behavior associated with school rampage shooters.  | Focuses on a narrow sample within the mass shooting topic; does not consider rampage shootings outside of school shootings; uses some dated references  |
| 10 | Kalish, R.Kimmel, M. | 2010 | Suicide by mass murder: Masculinity, aggrieved entitlement, and rampage school shootings*The Journal of Health Sociology Review* | Examines three school shooting cases, which involve suicide, to discuss how the culture of masculinity in the US creates a sense of aggrieved entitlement conducive to violence  | 3 rampage school shootings in the U.S: Columbine, Virginia Tech, Northern Illinois  | Qualitative research: case study method | The authors suggest that Klebold, Harris, Kazmierczak and Cho Seung- Hui, all experienced “aggrieved entitlement”, and all evinced a self- justifying sense of righteousness to their actions.  | Small sample size; focuses on small number of events; 9 years old  |

**Discussion**

 The aim of this literature review is to evaluate the different factors that may play a role in an individual’s decision to commit a mass shooting. Three factors were found to be associated with one’s tendency to commit a mass shooting: skewed self-perception in the form of narcissism, skewed perception in the form of perceived victimization, and social environment. It is important to understand the underlying factors that are correlated with mass shooting incidence in the United States. If there is understanding behind the psychology and background of these perpetrators, then steps can be taken in prevention. Narcissistic characteristics are associated with mass shooting offenders. The idea that mass shooters suffer from low self-esteem should be rejected in order to consider the link between mass shooters and narcissism (Bushman, 2018). A common characteristic of mass shooting perpetrators is the desire for fame and attention to satisfy their ego-boosting tendencies (Lankford, 2018). Mass shooters who commit suicide during their shooting rampage show especially narcissistic tendencies by using the incident as a final statement for themselves (Bushman et al., 2016). Recent and future mass shooting offenders should be assessed for narcissistic traits to evaluate its role in causation.

The second factor associated with mass shooting perpetrators is a sense of victimization or marginalization. Understanding the feelings of persecution of individuals who commit mass shootings can help in assessing what makes them turn violent (Ferguson et al., 2011). Mass shooters have cited adversity in their own personal accounts in the past, but it is impossible to know to what extent these accounts are reliable or if they are exaggerations based off individual perception (Lankford, 2018). Mass killers, including mass shooters, have a tendency to externalize blame onto the world around them, viewing themselves as victims of maltreatment (Fox & DeLateur, 2014). Perceived victimization can initiate feelings of revenge within an individual, causing him or her to act out violently in the form of a mass shooting.

The third factor that can contribute to an individual’s tendency to commit a mass shooting is his or her social environment. With regards to mass school shooters specifically, school social environment can exacerbate personal factors that result in a mass shooting (Baird et al., 2017). School environments that allow for social anonymity and alienation are associated with an increased risk for becoming a school shooter (de Apodaca et al., 2012). Someone is also more likely to commit a mass school shooting in a school with a high degree of social stratification (Wike & Fraser, 2009). Apart from school social environment, external social environment can be a contributor to mass shooting incidence. Someone living in an area with both high levels of inequality and high levels of income may be at a greater risk for becoming a mass shooter due to social pressures (Cabrera & Kwon, 2018). Along with that conclusion, living in a certain area of the U.S. that has incurred a high incidence of mass shootings in the past may influence someone’s choice in committing a future mass shooting (Capellan & Gomez, 2018).

*Limitations*

This literature review has a few limitations that should be addressed. The first limitation is that this review focuses on only 10 articles. In comparison to all the literature out there that studies this topic, this is a limited amount. Because of this there may have been information and data relevant to this review that was not accessed. Another limitation that should be considered is that this review may have missed up to date information on the topic. The majority of the articles that were evaluated and used for this review were a few years old. This means that mass shooting incidents that have been more recent, since around 2016 leading up to 2019, may not be represented well in this review. New studies on recent mass shooting incidents may not have been evaluated for relevance, and therefore potentially new conclusions about mass shooting perpetrators are not included. It is also important to consider that new research on this topic could have been conducted while this literature review was underway.

*Directions for Future Research*

This literature review pinpoints several aspects regarding mass shooting perpetrators that should be further researched. The main point that needs to be focused on by future research is on the psychology of mass shooting offenders. While this review pinpoints factors that may contribute to someone becoming a mass shooter, there needs to be more in-depth research on the case studies of mass shooters. There already exists a considerable amount of research on school rampage shooters so future studies should focus on mass shooters who commit their crimes outside of a school environment. Research on the psychology of more recent mass shooting perpetrators should be conducted to evaluate how offenders are changing throughout the years. If more information was collected on this topic, a formal profile for identifying potential mass shooting perpetrators could be developed, and therefore aid in future prevention.

*Conclusion*

Implications from the findings of this literature review indicate that work should be conducted to further assess offender profile in search of narcissistic tendencies, perceived victimization, and societal factors that are working to influence causation. The ability to understand what contributes to mass shooting incidence is imperative for prevention. The mass shooting epidemic needs to be addressed for the safety of the public.

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