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Mass Shootings and Mental Illness

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Common Misperceptions

☒ Mass shootings by people with serious mental illness represent the most significant relationship between gun violence and mental illness.

☒ People with serious mental illness should be considered dangerous.

☒ Gun laws focusing on people with mental illness or with a psychiatric diagnosis can effectively prevent mass shootings.

☒ Gun laws focusing on people with mental illness or a psychiatric diagnosis are reasonable, even if they add to the stigma already associated with mental illness.

Evidence-Based Facts

☑ Mass shootings by people with serious mental illness represent less than 1% of all yearly gun-related homicides. In contrast, deaths by suicide using firearms account for the majority of yearly gun-related deaths.

☑ The overall contribution of people with serious mental illness to violent crimes is only about 3%. When these crimes are examined in detail, an even smaller percentage of them are found to involve firearms.

- ☑ Laws intended to reduce gun violence that focus on a population representing less than 3% of all gun violence will be extremely low yield, ineffective, and wasteful of scarce resources. Perpetrators of mass shootings are unlikely to have a history of involuntary psychiatric hospitalization. Thus, databases intended to restrict access to guns and established by guns laws that broadly target people with mental illness will not capture this group of individuals.
- ☑ 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.

Mass shootings understandably create outpourings of public horror and outrage. Nevertheless, and contrary to common media depictions and the general public's beliefs, mass shootings are extremely rare events. These tragedies are influenced by multiple complex factors, many of which are still poorly understood. However, the lay public and the media typically assume that the perpetrator has a mental illness and that the mental illness is the cause of these highly violent acts of horrific desperation. Although some mass shooters are found to have a history of psychiatric illness, no reliable research has suggested that a majority of perpetrators are primarily influenced by serious mental illness as opposed to, for example, psychological turmoil flowing from other sources. As a result, debate on how to prevent mass shootings has focused heavily on issues that are 1) highly politicized, 2) grossly oversimplified, and 3) unlikely to result in productive solutions.

In this chapter, we discuss the existing research, limited though it may be, on mass shootings and then examine the nature of the link between gun violence and mental illness. We consider the value of gun laws focusing on mental illness, with attention to their potential efficacy in preventing future mass shootings. We conclude by proposing that instead of the focus on mental illness, increased attention should be paid to sociocultural factors associated with mass shootings and exploring other interventions and areas for further research.

Mass Murder in the United States

Because of frequent and sensational media coverage, it may appear that the era of mass shootings began in 1966, atop the tower at the University of Texas in Austin, and became a part of American life in subsequent decades (Associated Press 2007). However, cases of mass murder, of which mass shootings are a sub-

set, have been recorded over time long before mass shootings captured public attention. For example, in the Bath school disaster of 1927, to this day the deadliest mass murder in a school in United States history, one man killed 38 Michigan elementary school children and 6 adults and injured at least 58 other people.

The farmer who perpetrated these attacks had run into financial trouble. His wife was seriously ill with tuberculosis. He reportedly became angry after an increase in taxes and losing an election in which he had run for town clerk. He first killed his wife, then firebombed his farm, and then detonated explosives in the Bath Consolidated School, before committing suicide by detonating a final explosion in his truck. Like many modern-day mass murderers, he left a final communication. Stenciled and painted on a board outside his property, his message read, "Criminals are made, not born"—a statement suggestive of externalization of blame and long-held grievance. Many "premodern" cases of mass murder often involved a depressed and angry male who killed his family and then himself. Such cases did not capture much media attention because they were regarded primarily as "family business" and were "too close for comfort" (Dietz 1986, p. 481). In contrast, mass shootings beginning in the 1990s and covered intensely by the media appeared to be a different type of violence, at least in the eyes of the public. Heavily armed individuals who had meticulously planned a public massacre in which they intended to spread as much destruction as possible and then kill themselves seemed a new phenomenon. Compared with depressed and despairing familicide-suicides, these "modern" cases seemed distant enough from the average person's experience to capture the public's attention with morbid fascination over prolonged periods of time.

Mass shootings cause endless public speculation regarding causes and motives. However, high-profile cases of mass shootings, which typically receive the most intense media coverage, are in fact the least representative of mass killings. In reality, such rare cases are the result of many complex factors. Nevertheless, the news media have heavily influenced the public's perception of mass murders (Duwe 2005), offering simplified explanations that assume the perpetrator is either "mad or bad." After all, who but a madman would execute innocent people in broad daylight, while planning to commit suicide or be killed by police?

Such simplistic explanations are easier for the media to report, as well as easier for the public to accept. Nevertheless, these explanations are often inaccurate and based on little or no evidence. In addition, they stoke the political fires surrounding debates concerning regulation of firearms while providing no constructive suggestions to prevent future tragedies. Psychiatric illness, although present in some mass murderers and mass shooters, is far from the most significant or consistent finding from attempts to investigate the nature of these deeply troubling events.

Mass Shootings: What Is Known

A mass shooting is a specific type of mass murder. *Mass murder* is defined as the killing of three or more victims at one location within one event (Burgess 2006). The motives of mass murderers typically involve the desire to kill as many as possible; such a motive does not limit a perpetrator to a particular means (e.g., guns, bombs, arson). Those who commit mass murder may use more than one means to achieve this goal. For example, the mass shooting at an Aurora, Colorado, movie theater in 2012 involved a perpetrator who also booby-trapped his apartment with multiple bombs in an attempt to kill more people in addition to those killed in the shooting. The Norwegian man who committed a mass shooting on Utøya in 2011 set off a bomb in Oslo prior to the shooting. Nevertheless, guns are an efficient and often accessible means to carry out the goal of killing multiple victims. Because of this fact, and given the difficulty of neatly categorizing specific mass murder events as shootings versus murder by other means, the study of mass shootings benefits from an examination of mass murder.

As noted, mass shootings are a subset of mass murders; mass murder is also a catastrophic but rare phenomenon (Burgess 2006; Investigative Assistance for Violent Crimes Act of 2012, Pub. L. No. 112-265, 28 U.S.C. § 530C[b][1][M][i]). Given its extremely low base rate, mass murder (and thus mass shootings) cannot be predicted, especially by persons outside the perpetrator's social circle (Saleva et al. 2007). Little research exists that would serve to better inform mental health professionals or law enforcement regarding the problems that lead individuals to commit mass murder.

For example, in a clinical study of 144 individuals who had threatened some form of violence against others, 8 were found to have threatened mass homicide (Warren et al. 2011). All 8 subjects said they had intended to kill as many people as possible, and all cases involved targeting a specific group against whom the would-be perpetrator held a grievance. Over the 12-month study period, none of the 8 subjects carried out or attempted to carry out their plans. However, 2 of the 8 assaulted a person unrelated to the targeted group. Future research may enhance awareness of the presence of "identification warning behaviors" (Meloy et al. 2011).

Factors common among individuals who commit mass murder include extreme feelings of anger and revenge, the lack of an accomplice (when the perpetrator is an adult), feelings of social alienation, and planning well in advance of the offense. Many mass murderers do not plan to survive their own attacks and intend to commit suicide or to be killed by police after committing their assaults. However, in a detailed case study of five mass murderers who did survive, a number of common traits and historical factors were found. The subjects had all been bullied or isolated during childhood and subsequently became loners who felt despair over their social alienation. They demonstrated paranoid traits such

as suspiciousness and grudge holding. Their worldview suggested a paranoid mind-set; they believed others to be generally rejecting and uncaring. As a result, they spent a great deal of time feeling resentful and ruminating on past humiliations. The ruminations subsequently evolved into fantasies of violent revenge (Mullen 2004).

The Federal Bureau of Investigation (FBI) studied 160 cases of active shooter incidents between 2000 and 2013 (Blair and Schweit 2014). An *active shooter* as defined by the FBI and other federal agencies is "an individual actively engaged in killing or attempting to kill people in a confined and populated area. Implicit in this definition is that the subject's criminal activities involve the use of firearms" (Blair and Schweit 2014, p. 5). An average of 11.4 incidents of mass shooting occurred annually, and the trend over the study period showed a steady rise in incidents. The main findings of the FBI study included the following:

- The vast majority of shootings (70%) occurred in either a place of business or an educational environment.
- All but two of the shootings were carried out by a single individual.
- The shooter committed suicide in 64 (40%) of the cases.
- Most incidents (67%) ended before police even arrived and could engage the perpetrator.
- Of the 160 incidents, 64 (40%) qualified as mass murder.
- Only 6 (3.8%) of the 160 cases involved a female perpetrator.

The U.S. Secret Service and the U.S. Department of Education conducted a study focused on targeted school violence in the United States from 1974 to 2000 (Vossekuil et al. 2002). Therefore, this study involved shootings that had occurred prior to the FBI study's findings suggesting a trend of increased mass shooting incidents from 2000 to 2013. Secret Service researchers analyzed 37 incidents of targeted school violence (most of them involving guns) perpetrated by 41 attackers during this time period. Key findings regarding school shooters included the following:

- A majority of perpetrators (68%, $n=28$) acquired guns used from their own or a relative's home.
- Perpetrators had easy access to family-owned firearms.
- Perpetrators often "leaked" their intent to peers.
- Perpetrators often engaged in behavior prior to the incident that caused others concern (e.g., weapon seeking, disturbing writings).
- Perpetrators had often considered or attempted suicide.

Chapter 5, "School Shootings and Mental Illness," provides a more detailed discussion of school shootings.

From an etiological standpoint, the factors contributing to mass murder are broad, and therefore analysis of any single incident should be approached using a model that addresses individual biological, social, and psychological factors (Aitken et al. 2008). Biological factors include possible brain pathology, as well as psychiatric illnesses such as depression and psychosis. Psychological factors include a negative or fragile self-image, paranoid dynamics, and retreat into violent and omnipotent revenge fantasies. Social factors include isolation, possible ostracism by peers, and an absence of prosocial supports. In sum, the extant research on mass murders suggests that these events are caused by a complex interaction of emotional turmoil, psychopathology, traumatic life events, and other precipitating factors unique to each case (Declercq and Audenaert 2011).

Careful study of individual cases of mass murder frequently reveals that the offender felt compelled to leave some type of final message (Hempel et al. 1999; Knoll 2010). These messages may be written, videotaped, or posted on the Internet or social media networks (Aitken et al. 2008). The communications often have great meaning to the perpetrators, who realize it will be the only "living" testament to their motivations and inner struggle (Knoll 2010). These messages are rich sources of data that provide a more complete understanding of the perpetrator's motive, mental state, and psychological disturbances (Smith and Shuy 2002).

Available research has not produced a widely accepted typology of mass murderers or mass shooters (Knoll 2012), and detailed examination of incidents indicates that not all perpetrators are alike in their motivations and psychology. Although no research has reliably established that most mass murderers and mass shooters are psychotic or even suffering from a serious mental illness, individual case studies often reveal paranoid themes in these persons' cognitions (Knoll and Meloy 2014). The paranoia may not rise to the level of psychosis; however, many are found to have been preoccupied with feelings of social persecution and fantasies of revenge against their perceived tormentors. Some appear to be driven by strong feelings of revenge born of social alienation or a perceived injustice. For example, one 15-year-old who shot and killed his two parents and two high school students and wounded another 25 students in 1998 in Springfield, Oregon (Frontline 2000) suffered intolerable anguish over feelings of social rejection. His peers described him as morbid and preoccupied with violence.

Others may in fact suffer from severe depression or, rarely, psychosis. For example, in 2009, a 41-year-old naturalized Vietnamese immigrant killed 14 people, wounded another 4, and then killed himself at the Binghamton, New York, American Civic Association. The man's father reported that in the 2 weeks leading up to the tragedy, his son had stopped eating dinner, stopped watching television, and become increasingly isolative (Chen 2009). A few days after the shooting, a local television news station received a letter composed by the shooter and postmarked the day of the shootings. Careful analysis of the letter revealed long-

standing paranoid and persecutory delusions, as well as hallucinations (Knoll 2010). The shooter described his extreme resentment at being systematically persecuted in a bizarre manner by "undercover cops," whom he believed had destroyed his chances of assimilating and working successfully in the United States.

To date, the phenomenon of mass murder has also eluded classification in a broadly accepted system. One proposed system is based on the concept of homicide-suicide, derived from the work of Marzuk et al. (1992) and further adapted by Knoll (2012). *Homicide-suicide,* an event in which an individual commits a homicide and subsequently (usually within 24 hours) commits suicide (Bossarte et al. 2006; Felthous and Hempel 1995), is a distinct category of homicide with features that differ from other forms of killing. Homicide-suicide is also a rare event, estimated to occur at a rate of 0.20–0.38 per 100,000 persons annually (Bossarte et al. 2006; Coid 1983). The majority of homicide-suicides are carefully planned by the perpetrator as a two-stage sequential act. Marzuk et al. (1992) proposed classifying homicide-suicides by the *relationship* the perpetrator had to the victim (e.g., spousal, familial), along with the perpetrator's *motive* (e.g., jealousy, altruism, revenge) (Marzuk et al. 1992). Given that mass murder often ends in the suicide of the perpetrator and has been described as "suicide with hostile intent" (Preti 2008), a classification system similar to that used for homicide-suicide would seem to make sense. An accepted classification system for mass murder would be helpful in coordinating future research efforts. Table 4–1 gives a proposed classification system for mass murder based on the homicide-suicide classification system of Marzuk et al. (1992). In this proposed system, *relationship* is defined as "relationship *or link* between victims and perpetrator" to emphasize the fact that some perpetrators may have no meaningful interpersonal relationship with their victims but instead may have only a connection (link) via some mutually shared activity such as work or school.

This relationship link-motive classification scheme allows for multiple permutations that can be applied to best describe each individual case. Notably, mental illness does not appear consistently as a factor except in two of the six classification groups. For example, in this system, the *School-Resentful* type of mass murderer includes offenders who target schoolmates and have the motive of hostile revenge. Depression and/or suicidal threats are likely to be present prior to the offense, but not necessarily. These individuals are often described as bullied, disaffected, or socially alienated students who are motivated by feelings of rejection or humiliation by peers. The perpetrator often communicates intent to third-party peers (Knoll 2012; Vossekuil et al. 2002). Examples of murderers who fit this description include the shooters at Virginia Tech and Columbine, Colorado (Cullen 2010).

The *Workplace-Resentful* type describes the aggrieved or disgruntled employee or ex-employee who is upset with a supervisor, coworker(s), or some

TABLE 4–1. Proposed classification system for incidents of mass murder

Type	Victim	Relationship	Motive	Offense location	Paranoid cognitions	SMI
School-Resentful	Peers, teachers	Yes	Resentment/revenge	Educational environment	+	+/–
Workplace-Resentful	Coworkers, supervisors	Yes	Resentment/revenge	Place of business	+	+/–
Indiscriminate-Resentful	Arbitrary	No	Resentment/anger	Variable, place of easy access to many victims	+	+/–
Specific Community–Resentful	Identifiable group, culture, or political movement	Variable	Resentment/revenge	Variable according to location of targeted group	+	+/–
Pseudocommunity-Psychotic	Misperceived persecutors	Variable	Paranoid delusions	Variable according to persecutory delusion	+	+
Familial-Depressed	Family, spouse, or ex-spouse	Yes	Severe depression Possible psychosis Revenge	Family domicile	+	+

Note. Classification scheme: relationship (relationship or link between victims and perpetrator) + motive (primary rationale driving the perpetrator). SMI = serious mental illness, defined as psychosis or delusional disorder meeting DSM-5 diagnostic criteria (American Psychiatric Association 2013).
Source. Adapted from Knoll 2012 and Marzuk et al. 1992.

aspect of the work environment and who commits murder in the workplace. These individuals typically externalize blame for their problem onto others and feel they have been wronged. They are very likely to have depression, as well as paranoid and/or narcissistic traits. Persecutory delusions may sometimes be seen; however, mental illness is not necessarily present. An example of this category is the Atlanta day trader who shot and killed 9 people and injured 13 more in 1999. He entered two adjacent Atlanta day-trading firms, stating, "I hope this doesn't ruin your trading day" before carrying out the shootings. Shortly afterward, he shot himself. This individual was motivated by depression and anger, as well as serious financial and marital troubles. He had developed a highly resentful, hopeless attitude about his life and career. His suicide note stated, "I don't plan to live very much longer, just long enough to kill as many of the people that greedily sought my destruction" (Barton 1999; Cohen 1999).

The *Indiscriminate-Resentful* type describes the generally rageful, depressed, and often paranoid individual who vents anger arbitrarily in some public place. The victim group may be chosen randomly or on the basis of convenience or ease of access to large numbers of people. An example of this category is the man who shot and killed 22 and injured 19 others at a San Diego, California, McDonald's restaurant in 1984 (Mitchell 2002). This angry but nonpsychotic man told his wife immediately prior to the offense that "society had their chance" and that he was leaving to go "hunting humans." No evidence indicated that he felt particularly aggrieved by that specific McDonald's restaurant or its employees. Rather, the evidence indicated that he had chosen the location due to his familiarity with his target and his knowledge that large numbers of potential victims were likely to be present.

In a seminal paper on mass, serial, and sensational homicides, Park Dietz (1986) described a type of mass murderer he termed the "pseudocommando," who plans out the offense ritualistically and comes prepared with a powerful arsenal of weapons. The proposed classification system includes two types of pseudocommando-style mass murderers: the Specific Community–Resentful type and the Pseudocommunity-Psychotic type. Both categories include individuals who have paranoid character traits and are driven by strong feelings of anger and resentment.

The *Specific Community–Resentful* type may include disgruntled clients or others harboring deep resentment toward an identifiable group, culture, or political movement. In contrast, the *Pseudocommunity-Psychotic* type includes only those experiencing paranoid or persecutory delusions flowing from a psychotic disorder. In terms of the relationship to the victims, the pseudocommando-psychotic mass murderer focuses on a group that he delusionally believes is persecuting him. Dietz noted that the pseudocommando may focus his resentment on a specific community based in reality or on a "pseudocommunity" that he defines on the basis of psychosis or strong paranoid cognitions.

Finally, the *Familial-Depressed* type involves a member of a family unit who is suffering from severe depression with possible psychotic features. Motives may flow from cognitions distorted by depression and hopelessness, psychosis, and/or resentment toward an estranged spouse. A typical scenario involves a depressed father who kills his entire family, viewing the act as a delivery of his family from what he perceives to be continued hardship or stressors (Selkin 1976).

Mass Shootings and Mental Illness: Is There a Connection?

The publicity regarding mass shootings unfortunately overshadows another public health tragedy that affects exponentially more people: the daily toll of morbidity and mortality due to the more common types of gun violence, including suicide. Rarely, if ever, do these events receive the same media attention as mass shootings (Pinals et al. 2014). As discussed in Chapter 2, "Firearms and Suicide in the United States," evidence overwhelmingly demonstrates that suicide, not homicide, is the most significant public health concern in terms of guns and mental illness. Indeed, the small amount of research on firearm removal laws suggests that removal by police "was rarely a result of psychosis; instead, risk of suicide was the leading reason" (Parker 2010, p. 241).

Even if one assumes a direct association between violence against others and serious mental illness, the focus must be narrowed to the population of individuals with serious mental illness associated with less than 3% of all violence (Fazel and Grann 2006). Furthermore, current research suggests that in general there is a minimal relationship between psychiatric disorders and violence in the absence of substance abuse (Martone et al. 2013). Thus, the assumption that all persons with mental illness are a "high-risk" population relative to violence generally and gun violence in particular lacks supportive evidence. The likelihood of error and oversimplification is substantial when mental illness is considered on "the aggregate level" such that a "vast and diverse population of persons diagnosed with psychiatric conditions" is considered to uniformly represent people who are at risk of committing gun violence against others (Metzl and Macleish 2015, p. 241).

Some research has identified a small but higher fraction of homicides (not specific to those involving firearms) committed by individuals with schizophrenia than by those in the general population (Bennett et al. 2011; Schanda et al. 2004). Despite this small but elevated risk, the rate of stranger homicides committed by individuals with schizophrenia or chronic psychosis is extremely low. On the basis of a meta-analysis from 1999, one stranger homicide is perpetrated by someone with a psychotic illness per year in a population of 14.3 million (Nielssen et al. 2011). Assuming a U.S. population of 320 million, approximately 23 peo-

ple a year on average are killed by an individual with a psychotic illness. In contrast, an average of about 330 people in the United States are struck by lightning per year (Jensenius 2014). A person is about 15 times more likely to be struck by lightning in a given year than to be killed by a stranger with a diagnosis of schizophrenia or chronic psychosis.

Few perpetrators of mass shootings have had verified histories of being in psychiatric treatment for serious mental illness. Rather, detailed case analyses reveal that individuals who commit mass shootings often feel aggrieved, are extremely angry, and have nurtured fantasies of violent revenge (Knoll 2010). Such individuals function (perhaps marginally) in society and do not typically seek out mental health treatment. Thus, in most cases, it cannot fairly be said that a perpetrator "fell through the cracks" of the mental health system. Rather, these individuals typically plan their actions well outside the awareness of mental health professionals.

Salient Yet Underexplored Sociocultural Factors in Mass Shootings

The majority of attention following mass shootings focuses on the role of mental illness, and sociocultural factors have received comparatively little examination. Gun violence "in all its forms has a social context," which is not meaningfully captured by psychiatric diagnoses in isolation (Metzl and Macleish 2015, p. 247). Mass shootings by disgruntled individuals have occurred in Western civilization since the invention of the gun. Alienation and social rejection are social phenomena that undoubtedly existed even before recorded history. Nevertheless, mass shootings over the past two to three decades have led to speculation about whether these differ from mass shootings of the past or whether they represent the same phenomenon in a more modern age. Another salient concern is whether the powerful social influence of today's media and Internet technology plays a significant role.

As noted above (see "Mass Shootings: What Is Known"), the FBI study finding that the incidence of mass shootings has increased over the past decade hints at other, possibly more relevant factors associated with these events relative to mental illness or psychiatric diagnosis. Since the 1990s, mass murders, and especially mass shootings, have arguably taken on a different quality, influenced by a cultural shift, social media, and expansive news coverage of the tragedies. Mullen (2004) described the results of his detailed forensic evaluations of five pseudocommando mass shooters who were captured before they were killed or could commit suicide. Most perpetrators acknowledged being influenced by previous mass killers who received significant media exposure. This led Mullen to propose the concept of a Western cultural "script" as one of several factors that contribute to the propagation of these tragic events.

Certain psychosocial characteristics are common among perpetrators of mass shootings. These include problems with self-esteem, a persecutory/paranoid outlook, narcissism, depression, suicidality, and a perception of being socially rejected (Knoll 2012; Modzeleski et al. 2008; Mullen 2004; O'Toole 2000). In a review of school-associated homicides in K–12 settings, Flannery et al. (2013) noted that "[a] need remains for researchers and commentators to examine other factors beyond the individual that may explain school shootings, including culture, the social ecology of the school or other community factors" (Flannery et al. 2013, p. 6). They cited studies (Brown et al. 2009; Flannery et al. 2001) suggesting differences between urban and suburban school shootings, and proposed that some acts are related to the perpetrator's perception of threats to his social identity. Suburban and rural shootings may be characterized by social alienation, whereas urban incidents are typically associated with interpersonal violence, often in the context of different kinds of relationships (see Chapter 3, "Gun Violence, Urban Youth, and Mental Illness"). Social marginalization and familial dysfunction are other common findings among mass shooters (Newman et al. 2005).

The call to investigate cultural and community factors seems particularly meaningful when attention is paid to the messages perpetrators leave behind. For example, one mass shooter from Montreal, Quebec, in 2006 wrote, "It's society's fault.…Society disgusts me" (Langan 2006). The Sandy Hook Elementary School (Newtown, Connecticut) shooter posted online in late 2011, "[You know what I hate]…Culture. I've been pissed out of my mind all night thinking about it" (Sandy Hook Lighthouse 2014). The Isla Vista, California, shooter posted a manuscript online in 2014 stating, "Humanity is a cruel and brutal species" (Rodger 2014). Further investigation of sociocultural factors of mass shootings, particularly in Western society, necessitates a consideration of the issues of narcissism and media responsibility.

Narcissism and Mass Shootings

Narcissism may be considered the classic American pathology (Twenge et al. 2008), but concern is growing that it may be proliferating "virally" and gaining momentum (Twenge and Campbell 2009). Is the changing character of mass shootings over the past few decades due, in part, to our society's increasingly narcissistic values (Twenge et al. 2012)? Narcissism has been demonstrated in the motivations and statements made by certain mass shooters since the 1990s. In 2007, a man who shot nine people in an Omaha, Nebraska, mall before killing himself left a suicide note that stated, "Just think tho [*sic*] I'm gonna be famous" (Kluger 2007; Nichols 2007). A similar message was communicated by the Columbine offenders, who stated on a preshooting video, "Isn't it fun to get the respect we're going to deserve?" (Twenge and Campbell 2003, p. 261).

Twenge and Campbell (2009) noted that crime has dropped overall since the 1990s due to a variety of factors, but crimes related to narcissism (or a wounded ego) have not had a corresponding drop and are directly relevant to mass shootings. These authors further noted that "narcissism and social rejection were two risk factors that worked together to cause aggressive behavior" (p. 199), and these factors have certainly been apparent in the histories of mass shooters. They concluded, "Given the upswing in the narcissistic values of American culture since the '90s, it may be no coincidence that mass shootings became a national plague around the same time" (p. 200).

Similarly, Pinker (2011) has laid out a comprehensive overview of how violence among *Homo sapiens* has greatly declined over the centuries due to a "civilizing process," but speculates that humans might have reached a point of limited returns. He indicates that further gains, which may be harder to attain, arguably also lie in the realm of attenuating the problem of narcissism.

Extensive media attention in the 1990s may have propagated the Western "script" described by Mullen (2004), resulting in a perverse glamorization of the act of mass killing, particularly in the eyes of subsequent perpetrators. The study of individual cases of mass shootings that have occurred since the 1990s suggests that perpetrators often felt socially rejected and perceived society as continually denouncing them as unnecessary, ineffectual, and pathetic. Instead of bearing the burden of the humiliation, they plan a surprise attack to prove their hidden "value."

Narcissism is strengthened and rigidified by obsessive ruminations along the lines of "I am right and I've been treated badly or wronged (by other people or by life)." It could be said that the mass shooter's persecutory and narcissistic mindset seeks a form of reverse specialness. By becoming a lone protestor against an "unjust" reality, the mass shooter creates and assumes a powerful victim role in which he can "win"—even by losing. This interest in the narcissistic antihero has conspicuously permeated Western fiction and popular culture, in which followers thrill to the exploits of characters who possess the "dark triad" of personality: narcissism, psychopathy, and Machiavellianism (Jonason et al. 2012). Western society in particular has had a long-standing fascination with the antihero, the outlaw, the Bonnies and Clydes and John Dillingers of American history (Kunhardt and Kunhardt 1995; Spillane 1999). Their short, violent lives became the stuff of romanticized, tragic legend.

Western culture has also come to include a vast and powerfully influential value system devoted to celebrity and fame. In place of what should be profound shame, an aura of undeserved notoriety and infamy is often accorded to certain individuals who commit horrible crimes (Brin 2012). The very public, dramatic, and at times theatrical nature of mass murder seems to speak to a "need for recognition from an audience" (Neuman 2012, p. 2). The staged and exposed act of revenge has the function of establishing a connection with spectators who will not soon forget what they have seen.

It might be theorized that the Internet and social media have amplified the high value placed on celebrity and the Western cultural script of the tragic antihero. The use of video-sharing Web sites and other Internet platforms perpetuates the alienated loner's conflict: his wish for social connection versus his deep-seated mistrust of others. This can create an isolating virtual socialization that is sustained well into young adulthood, leaving the individual without real experience in developing healthy social attachments, and resulting ultimately in feelings of being unwanted. The final written communication of the Isla Vista shooter reflects precisely such a pattern of alienation and malignant envy, culminating in a violent bid for fame and validation: "Humanity has rejected me.… Exacting my Retribution is my way of proving my true worth to the world" (Rodger 2014).

Media Coverage: Responsible Reporting and Stigma

After the Sandy Hook tragedy in 2012, a senator announced that he supported measures to keep guns "out of the hands of criminals and the mentally ill" (Strauss 2012). Shortly thereafter, a National Rifle Association official stated in a press conference that "our society is populated by an unknown number of genuine monsters. People that are so deranged, so evil, so possessed by voices and driven by demons, that no sane person can even possibly comprehend them. . . . How can we possibly even guess how many, given our nation's refusal to create an active national database of the mentally ill?" (The Washington Post 2012). Such statements, widely disseminated by the media, reinforce the existing societal presumptive association between "criminals," "evil," and "the mentally ill." In fact, such misguided associations need no further reinforcement. The lay public requires little persuasion to associate mental illness with criminality and evil (Coulter 2013).

Significant research data indicate that erroneous and negative attitudes toward persons with mental illness are widespread in society (Bizer et al. 2012). The term *stigma* is synonymous with *shame, disgrace,* and *humiliation.* To *stigmatize* means to brand, slur, or defame. Fear, anxiety, and the need to find quick and clear-cut solutions lead to common but mistaken beliefs that reinforce the stigmatization of individuals with mental illness. These myths include beliefs that people with mental illness (Link et al. 1999) are more dangerous than people without mental illness, are personally to blame for their illness, and have no "self-control."

Approximately 50 years after deinstitutionalization of individuals with mental illness, the misconception that these persons are "ticking time bombs, ready to explode into violence" remains a deeply ingrained societal belief (Appelbaum 2004). Research by Link et al. (1999) demonstrated strong stereotypes of these individuals' dangerousness and the desire for social distance from those with men-

tal illness. Comparing the research from 1950 with that of 1996 further indicates that perceptions of persons with mental illness as violent or frightening have *substantially increased* rather than decreased. In short, persons with serious mental illness are more feared today than they were half a century ago (Phelan et al. 2000). One of the most problematic results of laws that perpetuate the myth that mental illness is linked to gun violence is the reinforcement of such negative stereotypes. Such reinforcement adds to the considerable stigma associated with mental illness, while having no appreciable effects on the incidence of mass killings that often drive the policy interventions.

Early news media coverage after a mass shooting may refer to the shooter as "mentally unstable" or "mentally ill," often prior to gathering any definitive information. News debate shows often feature speakers who call for measures such as creating a database of individuals with mental illness in an effort to prevent further tragedies. Such dialogue is unhelpful and further strengthens erroneous public views about mental illness and gun violence. Media coverage following collective traumas has been observed to have public health effects, particularly in terms of stress-related symptoms (Holman et al. 2014). With increasing reliance on social media as a source of news, media errors may easily exacerbate public stress, as well as exacerbate the problem of sensationalizing tragedies (Berkowitz and Liu 2014).

Thus, interventions designed to improve media responsibility should dissuade this and similar dialogue in the aftermath of a mass shooting. Efforts to develop a universal reporting code that would appropriately cover the tragedy and reduce the impact of the "copycat" effect have been recommended; these generally include avoiding emphasis on perpetrators and neither glorifying nor demonizing them (Etzersdorfer and Sonneck 1998). Media should consider avoiding much emphasis on the perpetrator while emphasizing victim and community recovery efforts. Future research should focus more distinctly on which elements of media coverage are problematic and which are more effective in promoting public health goals (Schildkraut and Muschert 2013).

Interventions to Prevent Mass Shootings

Gun Laws Focusing on Mental Illness

Equating mental illness and gun violence toward others in an effort to solve the overall problem of gun violence in the United States is an example of what the Greek philosopher Epictetus described as grasping a problem "by the wrong handle" (Gutheil et al. 2005; Pies 2008). In the wake of a frightening tragedy, reactive attempts to reduce gun violence by focusing on people with mental illness represent an intervention with no supportive evidence of practical efficacy.

From 2007 to 2013, as a result of the National Instant Criminal Background Check System (NICS) Improvement Act of 2008, mental health record submissions to NICS increased tenfold (Federal Bureau of Investigation 2013, 2014). Less than 1% of all firearm purchase denials were based on these records (Swanson et al. 2015). However, during this same period, the FBI's study of active shooters reflected an *increasing* trend of mass shooting incidents (Blair and Schweit 2014). The NICS background check system requires, for reporting regarding mental health, that the individual have a history of prior civil commitment, a legal adjudication of not guilty by reason of insanity, or an adjudication of not competent to stand trial. Thus, for a background check to deny firearm purchase to a potential mass shooter, that individual would have to 1) have a history of prior civil commitment (and that history would have had to have been reported to NICS) and 2) attempt to purchase a gun legally. The existing body of research on mass shooters suggests that a history of civil commitment or legal adjudication of criminal insanity or incompetence to stand trial is practically unheard of among perpetrators of mass homicide and mass homicide-suicide.

Recalling the very low percentage of violent acts that are attributable to serious mental illness, and considering that most of these acts do not involve guns, it becomes difficult to avoid the conclusion that the contribution to public safety of laws directed toward individuals with mental illness in preventing gun violence is likely to be small (Appelbaum and Swanson 2010). In addition, these special laws require resources and funding when cost-effective use of resources is a pressing matter. It would seem imperative to "question whether a comprehensive registry [of individuals with mental illness] would have prevented *any* of the mass killings in recent years, and whether the expenditures of the more than one hundred million dollars needed to create and maintain the registries for persons with mental health histories could be better spent on broader public-safety targeted interventions that might yield greater overall benefits to society" (Pinals et al. 2014, p. 2).

Efforts to Identify Effective Interventions

Mass shootings are multidetermined, extremely rare events with no simple preventive solution. The fact that they occur "too infrequently to allow for statistical modeling" suggests that a focus on mass shootings will serve as a questionable "jumping-off" point for "effective public health interventions" (Metzl and Macleish 2015, p. 426). Although research suggests that in recent years the incidence of these events may be increasing (see earlier section "Mass Shootings: What Is Known"), mass shootings are still relatively infrequent, making these tragedies exceptionally hard to anticipate and avert (Blair and Schweit 2014; Saleva et al. 2007). Given the extremely low base rate of mass murder in general and of mass shootings in particular, psychiatric efforts will be best spent in directions other than prediction (Dressing and Meyer-Lindenberg 2010).

Prevention efforts must rely on multiple approaches used in conjunction to provide the widest possible safety net. For example, third parties, particularly family members, have important roles because they are the most likely to have preoffense knowledge or significant concerns (Associated Press 2007). In addition, potential mass murderers often leak their intent to third parties who may not report violent threats or plans to authorities for various reasons (Katsavdakis et al. 2011; Kluger 2007), including not recognizing the seriousness of the potential threat.

Nevertheless, as Aitken et al. (2008) note, "prevention may only be possible when somebody warns that such behavior may occur.... Acquaintances often acknowledge concerns prior to the incident" (p. 265). Messages or leaked intent may be communicated verbally, or in writing via Internet pages, or through social media outlets such as YouTube. Family members or social contacts may be the only people in a position to take steps to have the potential offender evaluated and treated (Orange 2011). Therefore, family members of individuals who may present with increased risk of gun violence, with or without mental illness, should be provided with information about existing help and resources. They should be provided with support for notifying authorities and understand that doing so is a potentially heroic and compassionate act that may save the lives of others as well as their loved one's.

The FBI study of active shooters concluded that training and exercises for both police and citizens were indicated, especially given the brief period over which the shootings unfold (Blair and Schweit 2014). However, the FBI study placed primary emphasis on prevention efforts from a community standpoint. Future research should consider mass shootings that were prevented and/or aborted, with an eye toward identifying crucial preventive factors. Specialized threat assessment teams in Australia and the United Kingdom have been helpful in terms of enhancing prevention of low-frequency, high-intensity events (Meloy and Hoffmann 2014). Similar multidisciplinary teams in the United States should be explored, with a focus on the two areas of greatest concern noted in the FBI study: places of education and workplace violence.

For general mental health professionals, careful clinical risk assessment and management may be stressed as a part of overall competent psychiatric patient care (Mills et al. 2011; Swanson 2008). Future research will undoubtedly enhance awareness of "warning behaviors" for targeted violence, and mental health clinicians will best serve patients at risk by crafting a risk management plan at clinically relevant or critical times (Meloy et al. 2011). Special attention should be given to "availability of means, planning, preparation, and the acknowledged commitment to put the words into action irrespective of consequences" (Warren et al. 2011, p. 151). Risk assessments of individuals with strong revenge fantasies will need to consider the intensity and quality of these fantasies, vulnerability to ego threats, and relevant biopsychosocial variables (Baumeister et al. 1996).

Public education regarding mental illness and effective interventions can serve to lessen fears of those with serious mental illness and decrease the stigma attached to serious mental illness. For many decades, sexual health education has been taught to teens and adolescents. However, a similar focus on mental health education is rare in children's early education. Well-informed and compassionate education on mental health and mental wellness may not only reduce future stigma but also serve as a beneficial public health intervention. Such education could become increasingly sophisticated as children progress through school. In particular, this education may serve as an early preventive effort, while encouraging more open discussion in schools about important mental health issues.

Conclusion

Mass shootings by people with serious mental illness remain exceedingly rare events and represent a fraction of a percent of all yearly gun-related homicides. In contrast, firearm deaths by suicide account for the majority of yearly gun-related deaths. Although gun restriction laws that focus broadly on mental illness are an understandable initial reaction, they will be extremely low yield and wasteful of scant resources. Furthermore, such laws perpetuate the myth that mental illness leads to violence and gives the public the incorrect message that mental illness is significantly associated with gun violence directed toward others.

The problem of mass shootings and the motives of the shooters in present-day society stand apart from mental illness generally. The recent phenomenon of mass shootings in the United States is likely a result of a combination of factors, including sociocultural ones that must be better understood if these tragedies are to be prevented. Mental health clinicians will best serve patients at risk of harm to themselves and/or others by crafting a risk management plan at clinically relevant or critical times. As opposed to prediction, structured clinical risk assessment and management may be stressed as part of an overall competent psychiatric patient care effort (Knoll 2009; Swanson 2008; Webster et al. 2013).

Whether or not individuals who perpetrate mass shootings suffer from a diagnosable serious mental illness, they do have an ill-defined trouble of the mind for which the mental health field has no immediate, quick-acting "treatment." That said, if such individuals were motivated to overcome long-standing, pervasive feelings of anger, persecution, revenge, and egotism rather than act on them, they would presumably be more likely to improve their circumstances in nonviolent ways. Psychiatry may be able to assist individuals who are determined and willing to engage in treatment, form healthy social connections, and pursue other prosocial interventions. For these individuals, more resources need to be made available, as discussed elsewhere in this volume.

Unfortunately, some disturbed individuals are likely to remain inaccessible to whatever interventions mental health professionals have to offer. This situation accounts, at least in part, for the fact that measures such as screening for prior psychiatric treatment (often in the distant past) among individuals who want to *legally* purchase firearms do not represent meaningful interventions (Brady Handgun Violence Prevention Act of 1993, Pub. L. No. 103-159, 18 U.S.C. § 922 [s1–s6]; Norris et al. 2006; Simpson 2007). Experience and research have demonstrated that more promising, higher-yield interventions include both 1) third-party reporting of warning behaviors or leaked intent and 2) social and media responsibility (Meloy and O'Toole 2011; Meloy et al. 2011; O'Toole 2014).

On a fundamental level, the behavior and motives of mass shooters must be distinguished from psychiatric diagnoses. The belief that these categories overlap or have a direct causal association is not supported by available evidence. More importantly, interventions to decrease the morbidity and mortality of gun violence based on such overgeneralized views are not likely to be successful and may cause more harm than good.

Suggested Interventions

- Policies and laws should focus on those individuals whose behaviors identify them as having increased risk for committing gun violence, rather than on broad categories such as mental illness or psychiatric diagnoses.
- Public health educational campaigns should emphasize the need for third-party reporting of intent or concerning warning behaviors to law enforcement.
- Institutions and communities should develop specialized forensic threat assessment teams to evaluate third-party reports of potential dangerousness.
- Resources should be increased to provide enhanced education, beginning in elementary school, with a focus on constructive coping skills for anger and conflict resolution, mental health, and mental wellness education.

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