

Violence and School Shootings

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Published online: 21 December 2012
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Abstract Multiple-homicide school shootings are rare events, but when they happen they significantly impact individuals, the school and the community. We focus on multiple-homicide incidents and identified mental health issues of shooters. To date, studies of school shootings have concluded that no reliable profile of a shooter exists, so risk should be assessed using comprehensive threat assessment protocols. Existing studies primarily utilize retrospective case histories or media accounts. The field requires more empirical and systematic research on all types of school shootings including single victim incidents, those that result in injury but not death and those that are successfully averted. We discuss current policies and practices related to school shootings and the role of mental health professionals in assessing risk and supporting surviving victims.

Keywords School violence · Shootings · Firearms · Homicide · Threat assessment · Mental health · Rampage · Profiling · Targeted · Prevention · Treatment · Survivors · Trauma · Child and adolescent disorders · Psychiatry

This article is part of the Topical Collection on *Child and Adolescent Disorders*

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Introduction

The tragedy at Columbine High School in 1999 brought the issue of school shootings to the forefront of public awareness. Every time an event occurs, there is intense media coverage, most recently illustrated by the February 2012 shootings in Chardon, Ohio, where a 17-year-old student used a gun he admittedly took from a relative's home to shoot and kill three classmates and wound several others. The shooter apparently did not target specific victims, and he fled the school then waited nearby until police were able to apprehend him. While the case is still pending, the alleged perpetrator's lawyers are reportedly considering an insanity-based defense.

Despite the perception of an increase in school-associated multiple-homicide shootings, the risk of any student being the victim of a homicide at school has remained low and relatively stable for at least the past 2 decades [1]. The largest sample of incidents would be all school shootings, but we know little about these events because schools are not required to report them unless they result in a homicide or suicide. Further the FBI does not specifically classify shootings as school-associated events. We know more about school shootings that result in homicide (involving both students and adults) from studies conducted by the CDC and the Department of Education [1], but it is important to recognize that some of these school-associated deaths result from means other than a shooting.

The most comprehensive studies of school shooters focus on targeted school violence, where the target may be a specific individual (e.g., student or staff member), a group of individuals (e.g., the jocks) or the school itself [2]. Researchers have used the terms 'rampage' or 'spree' shootings to identify cases with multiple victims, either known or unknown to the assailant. Although rampage shootings receive significant media attention, these incidents are less

common than targeted school shootings involving one victim. The focus of this review is on multiple-victim shootings, which can include both targeted and rampage incidents. While these are the rarest of events, they receive the most media attention and have been discussed most thoroughly in the literature.

Though multiple-homicide incidents get the most attention, it is important to note that not all school shootings are the same. Shootings can occur for a variety of reasons including, but not limited to, gang-related violence, drug activity, suicides, shootings to settle interpersonal disputes or homicides abated by suicide. The motivation of the perpetrator can be very different across incidents, and we do not always have the opportunity to discover or study these variations of intent.

Multiple-homicide shootings have occurred in all types of school settings, from elementary to high schools as well as on college campuses. While some characteristics of the incidents and shooters invariably overlap, the focus of this review is primarily on shootings that have occurred in K–12 schools. Further, while there are known incidents of school shootings and homicides in other countries [3], few details are available for these incidents or about the perpetrators; our focus is on shootings that have occurred in the US. Because there are so few incidents, most studies of school shooters have aggregated events over many years. They employ qualitative methods, utilizing interviews of surviving perpetrators, media accounts, police reports or psychological autopsies of known perpetrators. The relatively small sample of these low base rate multiple-victim events means we have to be careful about drawing conclusions that we generalize to all school shootings.

The purpose of this review is to examine what is currently known about multiple-homicide shootings at school with students as perpetrators. In particular, we review what is known about targeted and rampage or spree shootings. We first provide a general overview of school-associated homicides and then we review the literature on specific incidents with multiple victims that have occurred in a K–12 setting. Wherever feasible, we focus on the role that mental health may have played in these incidents. We follow with a brief discussion of the identified individual and contextual factors that may contribute to school shootings as well as the incident's impact on the community where the shootings occurred. Finally, we provide brief comments on evidence regarding current policies and practices utilized to address violence and school shootings. These issues continue to be the focus of much political, social and psychiatric debate.

Prevalence of School Shootings

Figure 1 provides a breakdown of school-associated violent deaths between 2000 and 2010. The CDC has examined rates of school homicides with single victims compared to multiple-victim incidents and shown that between 1992 and 2006, rates of homicides for single victims declined while rates of multiple-victim incidents remained stable [1]. Other studies noted increased rates of multiple-homicide school shootings between 1992 and 1999 [4, 5]. According to the CDC's School Associated Violent Death Study (SAVDS), from 1999 to 2006 a total of 116 students were killed in 109 school-associated incidents, with 65 % attributed to gunshot wounds. Only 8 of the 109 incidents involved more than one

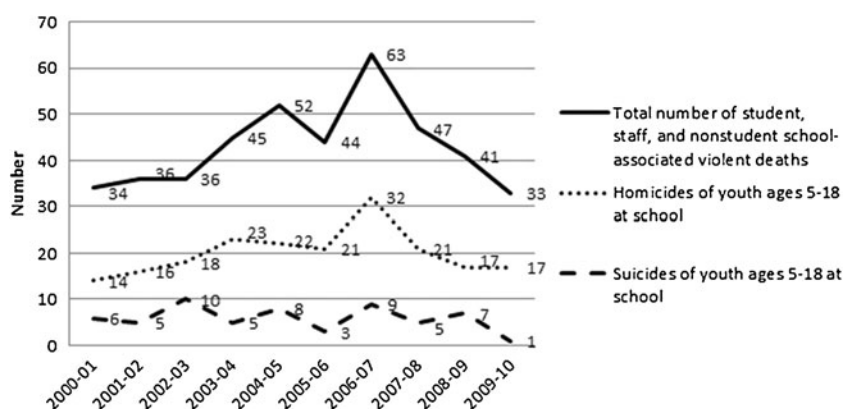


Fig. 1 School-associated violent deaths: School years 2000–2001 to 2009–2010. A school-associated violent death is defined as "a homicide, suicide, or legal intervention (involving a law enforcement officer), in which the fatal injury occurred on the campus of a functioning elementary or secondary school in the United States" while the victim was on the way to or from regular sessions at school or while the victim was attending or traveling to or from an official school-sponsored event. Victims include students, staff members and others who are not students. "At school" includes on school property, on the way to or from regular sessions at school, and while attending or traveling to

or from a school-sponsored event. Estimates were revised and may differ from previously published data. Data on homicides and suicides of youth ages 5–18 at school and total school-associated violent deaths are from the Centers for Disease Control and Prevention (CDC), 1992–2010 School-Associated Violent Deaths Surveillance Study (SAVD), partially funded by the US Department of Education, Office of Safe and Drug-Free Schools, previously unpublished tabulation (July 2011). Data from Robers et al. [11]. Data from previous school years are also available from this report

victim, reinforcing the point that most homicides involve a single victim. Further, nearly 80 % of the incidents studied occurred in elementary, middle or high school settings [1, 6•]. More recent attention has been paid to incidents on college campuses [7•].

During the 10-year period from 1996-2006, 207 student homicides occurred in US schools, an average of 21 deaths per year [8•]. Given there are approximately 125,000 elementary and secondary schools [9], any individual school can expect to experience a student homicide about once every 6,000 years. The number of school homicide shootings represents less than 2 % of the annual homicides of youth ages 5 to 18 in the US [1]. Specifically, in 2008-2009, there were 1,579 homicides involving youth 5-18 years old, and only 17 of these were school-associated homicides [10]. During the 2009-2010 school year, there was approximately one homicide or suicide of a school-aged youth at school per 2.7 million students enrolled [11]. While the possibility of experiencing a school shooting that results in a homicide is low, when one does occur, it significantly impacts victims, witnesses, responders and the community for many years to come

What do we currently know about school shooters?

Because they are rare, multiple-homicide school shootings are difficult to study using quantitative survey methods or experimental designs. Thus, the empirical evidence on these school shooters is thin at best [6•, 8•, 12•, 13, 14]. Usually we are left with retrospective case study analyses or psychological autopsies of known perpetrators [15]. In a few studies investigators have been able to interview surviving perpetrators, but many more studies utilize media accounts or police reports to examine related risk factors or characteristics of shooters or incidents of school shootings.

The shootings at Columbine High School in 1999 (where 13 persons were killed, 21 were injured and the two male perpetrators committed suicide) changed the way mental health professionals, educators and law enforcement officials view school shootings. While Columbine brought the issue of school shootings to the forefront of the national media, it is important to note that homicide shootings at schools are not new events. Documented multiple-victim shootings date back to at least 1974 when an 18-year-old student set off a fire alarm and then shot the janitors and firefighters who responded to the alarm [2, 6•].¹ Several substantial reviews of school shooting incidents have been conducted that provide the context for current discussions of violence and school shootings. Because all of the studies of school shooters are retrospective case studies, they

necessarily involve some overlap in the specific incidents that were examined.

In part prompted by what happened at Columbine, the FBI reviewed 14 cases of actual shootings and 4 cases of planned shootings that were successfully averted [16]. A total of 47 descriptors were identified that the FBI said the shooters had in common, mostly personality traits, but also family and school or community dynamics. They concluded that overall there were too many variations in these traits and dynamics to develop any sort of distinctive “profile” of school shooters. However, it is noteworthy that many of the identified personality traits were related to mental health symptoms including narcissism, poor anger management, fascination with violence, poor self-esteem and a lack of empathy. They also showed that in most cases studied, perpetrators were white males, had access to firearms and had told someone else of their intent to shoot others prior to the lethal attack.

In a similar review of targeted school shooting incidents, the US Department of Education and the US Secret Service (the Safe School Initiative; SSI) examined 37 separate incidents that occurred over a 25-year period (between 1974 and 2000), carried out by 41 adolescent perpetrators [2]. Similar to studies since then, they utilized primary source materials concerning the shooting incident including investigative, school, court and mental health records. In addition, they conducted individual interviews with ten surviving perpetrators, which allowed them to further examine shootings from the point of view of the attacker and to “walk through the process of the attack” from its conceptualization to its execution [2].

While the SSI study also concluded that no specific “profile” of school shooters could be identified, they noted some commonalities among perpetrators such as most shooters were depressed, had experienced some significant loss, felt persecuted or bullied by others, and had prior difficulty coping or had previously tried suicide. Most of the shooters did not, however, have a history of drug abuse or violence or cruelty to animals, common psychiatric indicators of risk, nor did they report excessive exposure to violence in the media (though many produced their own violent themes in writings or drawings). Similar to the FBI study, in the SSI the overwhelming majority of perpetrators were white males. Shooters reported having relatively easy access to guns and had used them prior to the attack. In many cases, other students were warned of the event or were actually involved in planning or supporting the attack. The SSI study strongly advocates for a threat assessment approach to identifying potential perpetrators of school violence and homicide [8•, 17, 18, 19•].

Other reviews of school shootings have mostly supported the findings of the FBI and Department of Education/Secret Service studies. For example, Leary et al. [20] reviewed 15

¹ The USDOE has documented school homicides back to the 1700 s when a group of Indians killed a number of children in a school outside of Philadelphia.

school shooting incidents and identified peer rejection, an interest in weapons and death, depression, poor impulse control and sadistic tendencies as risk factors among perpetrators. Regarding victimization, substantial literature exists on the relationship of violence exposure as a witness or victim, associated trauma symptoms and risk for perpetrating violence [21–24], but the limited reviews of school shooters have mostly concluded that few perpetrators had any history of child or sibling abuse perpetration, and only a minority had been victimized by abuse [25].

Langman [26•] has provided one of the most recent comprehensive reviews of the possible mental health issues experienced by the perpetrators of what he refers to as rampage school shootings. He reviewed detailed psychological and psychiatric evidence (in some cases actual evaluations, in others information gathered from various other sources) that existed prior to the attack for ten shooters (ages 11 to 23, but the majority under age 16) for whom sufficient information existed. Three different kinds of shooters were identified: traumatized, psychotic and psychopathic. Three of the ten shooters were identified as traumatized and came from broken homes where they suffered prior physical and/or sexual abuse. At least one parent of these shooters had a substance abuse problem and at least one had a criminal history. Five shooters were classified as psychotic, and these adolescents came from intact families with no clear history of abuse, parental substance use or incarceration. These psychotic shooters exhibited symptoms of schizophrenia or schizotypal personality disorder characterized by paranoid delusions, delusions of grandeur or auditory hallucinations. The two shooters in the last group were deemed psychopathic; like those identified as psychotic, they came from intact families with no histories of abuse or significant family dysfunction. Rather, they demonstrated high levels of narcissism, a lack of empathy, a lack of conscience and sadistic behavior.

While Langman's [26•] detailed review provides some insight into the potential role of mental health symptoms and school shooters, like other studies on this topic, the sample is quite small and the data are descriptive, with more differences identified between individual perpetrators and incidents than similarities. Langman [26•] also points out that while these typologies may help assess risk (e.g., previous studies have not identified psychosis as an issue among school shooters), many individuals suffer from similar mental health symptoms but do not go on to commit homicide. In the SSI study, several shooters had previous mental health issues that were undetected, particularly for the youngest perpetrators [2]. These categories also do not help explain why an attack occurs. 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.

The Ecology of Schools and Communities

Recently investigators have attempted to describe the characteristics of schools and communities that may have contributed to or been affected by school shootings [13, 27]. For example, several studies have identified bullying and social rejection as potential contextual factors that may have motivated a student to initiate a school shooting, although assertions that all perpetrators were victims of bullying have not been supported by available evidence [15, 28].

Moore et al. [29] identified some differences between urban and suburban school shooting incidents. In urban environments, social and physical conditions seemed to create a milieu that contributed to youth violence, whereas in suburban and rural communities characterized by lots of social capital, it was the youth's sense of alienation, association with delinquent peers, mental health problems and access to firearms that appeared to contribute to risk for violence perpetration [29, 30]. Consistent across settings was the finding that communities had experienced significant recent social change that affected the adolescent shooters' perceived social standing at school and among their peers [29]. For example, in Moses Lake Washington in 1996, Barry Lockaitus, age 14, used a .30 caliber rifle to kill three persons and injure one girl. He was consistently called a "faggot" by other children to the point that he believed he had lost his standing in the community. He went after his tormenter and killed that boy and two others, including a teacher. The SSI study also noted significant social change as a risk factor for school shooters [2].

Brown et al. [31] reported that students in states characterized by high levels of a "culture of honor," defined as placing a high premium on strength and social regard (especially among males), were much more likely to bring weapons to school (high school students in particular) than non-culture-of-honor states. These states also experienced rates of school shootings three times higher than school shootings per capita (included elementary, high school and college shootings) in non-culture-of-honor states. This trend held over a 20-year period. They concluded that many acts of school violence were born from retaliatory aggression due to intense threats to one's social identity. Others have described school shootings as related to the reinforcement and valorization of violent masculinities [32] or a culture of hegemonic masculinity that leads to a sense of aggrieved entitlement conducive to violence [7•].

Consistent with these studies, Newman et al. [33] identified five community characteristics that they asserted contributed to rampage school shootings: marginality, individual vulnerabilities, cultural scripts, being under the radar and access to firearms. They describe school shooters as being socially ostracized, coming from dysfunctional homes with underlying mental health issues and having a fascination with guns.

Conduct Threat Assessments to Evaluate Risk

To date, studies of school shootings have concluded that no consistent and reliable profile of school shooters exist, and most researchers and clinicians would agree that predicting violent behavior is a slippery slope that will usually result in more false positives than false negatives [34, 35]. The alternative to prediction and profiling is the current recommendation to approach risk for school shootings and violence via threat assessment, which can be very complicated [2, 8•, 17, 19•, 36]. Table 1 summarizes some of the core factors to consider in any threat assessment, but it is neither comprehensive nor to be interpreted as a simple checklist of variables to rule in or rule out. Borum et al. [8•] provide a list of 11 key investigative questions for assessing threats of targeted violence in schools. Weisbrot [19•] points out that threat assessment requires a thorough psychiatric diagnostic evaluation, including fundamental assessments of suicide risk, homicide risk, thought processes, reality testing, mood and behavior as well as relevant developmental and social histories. Given the current evidence about school shooters, particular attention should also be paid to a youngster's access to or fascination with firearms and the presence of writings or drawings with violent themes. Relevant histories should pay particular attention to issues of abuse and violence victimization and perpetration, trauma and dysfunctional peer relations including bullying.

Such thorough assessments by psychiatrists or other mental health professionals may only be possible in a private setting where time and resources permit multiple meetings to conduct

interviews, perform assessments or to gather information from multiple sources. School-based mental health professionals are more likely to be operating in a crisis intervention mode, with little time and few resources, to make a decision about whether a student's threats are legitimate or deserving of additional assessment or vetting. Similar to how we have socialized mental health workers and adults in schools to take threats of suicide seriously, we should also take threats of interpersonal violence seriously and develop threat assessment protocols that can reliably and efficiently determine risk for possible perpetration [17, 18, 19•].

Current Trends and Controversies

Based on the available evidence, our current understanding of violence and school shootings suggests:

- Mental health problems of perpetrators are a risk factor for school shootings, but mostly in combination with other significant psychopathology such as antisocial personality or extreme social rejection [20]. In retrospective assessments, most school shooters are described as having experienced varying degrees of mental health symptomatology, from a precipitating crisis to being depressed, to having serious mental illness like psychosis or psychopathy. Most perpetrators are not under current psychiatric or mental health care at the time of the attack. The role of psychotropic medications has not been thoroughly investigated.
- A significant limitation to risk assessment is the restriction on access to information about an individual's mental health status, diagnoses, medication utilization or treatment history (FERPA; HIPPA). Lack of access and sharing (albeit pitted against legitimate concerns about confidentiality) hinders our ability to identify those most at-risk and our ability to develop appropriate screening, assessment and intervention protocols [37].
- In most multiple-victim incidents, more than one person was provided information about the attack before it occurred (i.e., has made a threat, often referred to as leakage), but the information that was known to peers was almost never communicated to an adult. Further, threats that are made, at least in targeted school shootings, are often general in nature (e.g., "something bad is going to happen") rather than specific threats directed at an intended victim (e.g., "I'm going to kill you").
- We know more about the very limited sample of school shooters who kill multiple victims than we do about incidents of school shootings or potential school shootings where lethal outcomes were successfully averted [38]. The field also lacks information about the significantly higher number of homicides in and out of schools where single persons are victims. With a larger sample of incidents of firearm violence and homicide shootings, including

Table 1 Factors to consider when conducting threat assessments to evaluate risk

Reality testing and thought processes
Mood, particularly anger or expressions of rejection, hopelessness or despair
Attitude, particularly if violence is seen as an acceptable (or the only) way to solve problems
Risk for suicide
Risk for violence or homicide perpetration
Behavior, particularly attack-related behaviors
Writings or drawings with violent themes
Developmental and social histories
What are the student's motives and goals?
Is there a relationship with a trusted, responsible adult?
Are others concerned the student could harm self or others via violence?
History of abuse, as victim or perpetrator
History of violence victimization, particularly bullying
History of trauma or currently experiencing trauma symptoms
Access to firearms
Fascination with firearms
Dysfunctional peer relations

threats that were made but not acted upon and incidents that were not rampage shootings (but may have intended to be), we would have a better idea of the role that mental health issues may play in increasing risk for violence and school shootings or how we might prevent such incidents from occurring [2, 19, 39].

- Media violence exposure is not a significant contributor to violence perpetration or school shootings [2, 12]. If anything has been consistently identified as an issue, it is the school shooter's tendency to be preoccupied with themes of violence or death, particularly in their own writings or drawings.
- Zero tolerance policies are largely ineffective in preventing school violence, and may have limited effectiveness in preventing school shootings [34, 40]. These policies were originally developed to prevent students from bringing weapons, particularly firearms, onto school property, but they have been expanded in many schools to include incidents such as making threats, bullying, creating drawings or writings with violent themes, or even bringing over-the-counter medications to school. While the intent of the original policy may have been to reduce firearm violence and remove seriously dangerous students from schools, its literal interpretation and inconsistencies of implementation have largely eroded its effectiveness [41].
- We do not have a good idea of how many school shooters are suicidal as well as homicidal. Extensive literature exists linking increased levels of anger and depression to heightened risk for suicide [21]. When you combine these risks with social isolation, feelings of rejection, lack of coping and problem-solving skills, and poor impulse control, risk for suicide is high [7]. Much like the literature on "suicide by cop" [42–44], we need to understand which types of school shootings are driven by the desire to commit suicide as much as by the desire to perpetrate homicide.
- Most media attention is on the mental health of school shooters, but we cannot forget the impact of school shooting incidents on the surviving victims, including those who may not have been injured but who may have witnessed the incident or been affected by it in other ways. Psychiatrists must pay attention to the long-term mental health consequences of these incidents on all affected parties (not just formal PTSD diagnoses, but related trauma symptoms) as well as maladaptive coping strategies that some may employ in response to such unpredictable, tragic events.

Conclusion

Multiple-homicide school shootings are rare events, but when they happen they can have considerable negative impact on

individuals exposed to or victimized by the shooting and on the school and the community. When a school shooting occurs, it is common to also see an increase in public perceptions of fear, concerns about the safety of school-age youth, and demands that schools implement strategies and protocols to deal with a potential shooter. We tend to focus on the perpetrator, seeking answers to why they would commit such an act, and we try to make sense of the senseless. While this response is understandable, we cannot forget about the survivors and other victims and their mental health needs, which can prevail for many years post-incident. When similar incidents occur, previous survivors and others can also be prone to re-experiencing the trauma.

School shootings are not all the same and may require different approaches to prevention and treatment, especially with respect to identifying risk factors at the individual, school or community levels, and particularly with regard to examining the role that mental health issues may play to increase risk for perpetration. The field needs to know more about shooting incidents that are averted, those that result in injury but not death and about the characteristics of the more common occurrence of single homicide school shootings. Community mental health providers and professionals, particularly psychiatrists, are essential partners and must continue to seek avenues for working with schools to conduct thorough threat assessments, to identify young persons with significant mental health needs and to develop protocols for identification, prevention, and treatment that will effectively support the social and emotional needs of our most vulnerable youth and communities. At the very least, it is essential to have a cadre of trained and experienced mental health professionals who can come to crisis sites and assist in recovery efforts when these tragic events occur.

Disclosure No potential conflicts of interest relevant to this article were reported.

References

Papers of particular interest, published recently, have been highlighted as:

- Of importance
- Of major importance

1. Modzeleski W, Feucht T, Rand M, et al. School-associated student homicides-United States, 1992-2006. *MMWR Morb Mortal Wkly Rep*. 2008;57:33–6.
2. Vossekuil, B, Fein, R, Reddy, M, et al. The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States. Available at http://www.secretservice.gov/ntac/ssi_final_report.pdf. Accessed July 2012.
3. Kiilakoski T, Oksanen A. Soundtrack of the school shootings: cultural script, music and male rage. *Young*. 2011;19:247–69.
4. Anderson MA, Kaufman J, Simon TR, et al. School-associated violent deaths in the United States, 1994-1999. *JAMA*. 2001;286:2695–702.

5. Department of Health and Human Services: Youth violence: a report of the Surgeon General. Washington, DC: 2001.
6. •• Wike T, Fraser MW. School shootings: making sense of the senseless. *Aggress Violent Behav.* 2009;14:162–9. *Discusses the nature of school shootings, in particular the individual characteristics of perpetrators and the vulnerabilities of schools where shootings have occurred, as the basis for recommended prevention strategies.*
7. • Kalish R, Kimmel M. Suicide by mass murder: Masculinity, aggrieved entitlement, and rampage school shootings. *Heal Sociol Rev.* 2010;19:451–64. *Examines three cases of school shootings that culminated in suicide by the perpetrator and points out some common features of incidents including discussion of cultural issues like challenges to masculine identity that may create a sense of aggrieved entitlement, particularly among males, conducive to violence perpetration and suicide.*
8. •• Borum R, Cornell D, Modzeleski W, Jimerson S. What can be done about school shootings? A review of the evidence. *Educ Res.* 2010;39:27–37. *Reviews the effectiveness of current safety and security measures deployed in response to school shootings. Advocates for threat assessment as a promising strategy that merits further study.*
9. US Department of Education, National Center for Education Statistics: Digest of education statistics, 2007. Available at <http://nces.ed.gov/pubs2008/2008022.pdf>. Accessed July 2012.
10. Centers for Disease Control and Prevention: School-Associated Violent Deaths Surveillance Study: 1992–2010. US Department of Education, Office of Safe and Drug-Free Schools, 2011.
11. Robers, S, Zhang, J, and Truman, J: Indicators of School Crime and Safety: 2011 (NCES 2012-002/NCJ 236021). National Center for Education Statistics, US Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, US Department of Justice. Washington, DC; 2012.
12. • Ferguson C, Coulson M, Barnett J. Psychological profiles of school shooters: positive directions and one big wrong turn. *J Police Crisis Negot.* 2011;11:1–17. *Compares the etiology seen in extreme cases of school shootings to that for less extreme forms of youth violence and summarizes recent evidence that playing violent video games is not a major contributor to youth violence perpetration.*
13. Hong JS, Cho H, Allen-Meares P, Espelage D. The social ecology of the Columbine High School shootings. *Child Youth Serv Rev.* 2011;33:861–8.
14. Langman P. Why kids kill: inside the minds of school shooters. New York: Palgrave MacMillan; 2009.
15. Meloy JR, Hempel A, Mohandie K, et al. Offender and offense characteristics of a nonrandom sample of adolescent mass murderers. *J Am Acad Child Adolesc Psychiatry.* 2001;40:719–28.
16. O'Toole, ME. The school shooter: a threat assessment perspective. Quantico, VA: National Center for the Analysis of Violence Crime, Federal Bureau of Investigation; 2000.
17. Cornell D, Sheras P, Kaplan S, et al. Guidelines for student threat assessment: Field-test findings. *Sch Psychol Rev.* 2004;33:527–46.
18. Singer M, Flannery DJ. The relationship between children's threats of violence and violent behavior. *Arch Pediatr Adolesc Med.* 2000;154:785–90.
19. • Weisbrot DM. Prelude to a school shooting? Assessing threatening behaviors in childhood and adolescence. *J Am Acad Child Adolesc Psychiatry.* 2008;47:847–52. *Details the role of psychiatrists in evaluating children and adolescents who have made threats toward other students or school staff. Provides recommendations on thorough diagnostic evaluations and assessments to determine the seriousness of interpersonal threats.*
20. Leary MR, Kowalski RM, Smith L, Phillips S. Teasing, rejection and violence: case studies of the school shootings. *Aggress Behav.* 2003;29:202–14.
21. Flannery DJ, Singer MI, Wester K. Violence exposure, psychological trauma, and suicide risk in a community sample of dangerously violent adolescents. *J Am Acad Child Adolesc Psychiatry.* 2001;40:435–42.
22. Singer M, Anglin TM, Song L, Lunghofer L. Adolescents' exposure to violence and associated symptoms of psychological trauma. *JAMA.* 1995;273:477–82.
23. Song L, Singer MI, Anglin TM. Violence exposure and emotional trauma as contributors to adolescents' violent behaviors. *Arch Pediatr Adolesc Med.* 1998;152:531–6.
24. Singer M, Miller D, Guo S, et al. Contributors to violent behavior among elementary and middle school children. *Pediatrics.* 1999;104:878–84.
25. Verlinden S, Hersen M, Thomas J. Risk factors in school shootings. *Clin Psychol Rev.* 2000;29:3–56.
26. •• Langman P. Rampage school shooters: a typology. *Aggress Violent Behav.* 2009;14:79–86. *Examines in detail the cases of ten rampage school shooters including information available before the shooting incident. Also examines the influence of family structure, role models, and peer influence in school shootings. Concludes that at least three types of youth perpetrators exist: traumatized, psychotic and psychopathic.*
27. Altheide DL. The Columbine shootings and the discourse of fear. *Am Behav Sci.* 2009;52:1354–70.
28. Reuter-Rice K. Male adolescent bullying and the school shooter. *J Sch Nurs.* 2008;24:350–9.
29. Moore M, Petrie C, Braga A, McLaughlin B. Deadly lessons: understanding lethal school violence. Washington, DC: National Academy Press; 2003.
30. Williams K, Rivera L, Neighbours R, Reznik V. Youth violence prevention comes of age: research, training and future directions. *Annu Rev Public Health.* 2007;28:195–211.
31. Brown RP, Osterman L, Barnes CD. School violence and the culture of honor. *Psychol Sci.* 2009;20:1400–5.
32. Tonso KL. Violent masculinities as tropes for school shooters: the Montreal Massacre, the Columbine attack, and rethinking schools. *Am Behav Sci.* 2009;52:1266–85.
33. Newman KS, Fox C, Harding D, et al. Rampage: the social roots of school shootings. New York: Basic Books; 2004.
34. Heilbrun K, Dvoskin J, Heilbrun A. Toward preventing future tragedies: mass killings on college campuses, public health, and threat/risk assessment. *Psychol Inj Law.* 2009;2:93–9.
35. Mulvey EP, Cauffman E. The inherent limits of predicting school violence. *Am Psychol.* 2001;56:797–802.
36. Reddy M, Borum R, Berglund J, et al. Evaluating risk for targeted violence in schools: comparing risk assessment, threat assessment, and other approaches. *Psychol Sch.* 2001;38:157–72.
37. Dwyer K, Osher D, Warger C. Early warning, timely response: A guide to safe schools. Washington DC: US Department of Education; 1998.
38. Daniels JA, Volungis A, Pshenishny E, et al. A qualitative investigation of averted school shooting rampages. *Couns Psychol.* 2010;38:69–95.
39. Harris J, Harris R. Rampage violence requires a new type of research. *Commentary. Am J Public Health.* 2012;102:1054–7.
40. American Psychological Association Zero Tolerance Task Force. Are zero tolerance policies effective in the schools? An evidentiary review and recommendations. *Am Psychol.* 2008;63:852–62.
41. Fredland N. Nurturing hostile environments: the problem of school violence. *Fam Commun Health.* 2008;31:S32–41.
42. Lamb HR, Weinberger LE, DeCurr W. The police and mental health. *Psychiatr Serv.* 2002;53:1266–71.
43. Mohandie K, Meloy JR. Clinical and forensic indicators of "suicide by cop". *J Forensic Sci.* 2000;45:384–9.
44. Mohandie K, Meloy JR, Collins P. Suicide by cop among officer-involved shooting cases. *J Forensic Sci.* 2009;54:456–62.