An Examination of US School Mass Shootings, 2017–2022: Findings and Implications

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Abstract

Objectives  Gun violence in the USA is a pressing social and public health issue. As rates of gun violence continue to rise, deaths resulting from such violence rise as well. School shootings, in particular, are at their highest recorded levels. In this study, we examined rates of intentional firearm deaths, mass shootings, and school mass shootings in the USA using data from the past 5 years, 2017–2022, to assess trends and reappraise prior examination of this issue.

Methods  Extant data regarding shooting deaths from 2017 through 2020 were obtained from the Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, the web-based injury statistics query and reporting system (WISQARS), and, for school shootings in particular (2017–2022), from Everytown Research & Policy.

Results  The number of intentional firearm deaths and the crude death rates increased from 2017 to 2020 in all age categories; crude death rates rose from 4.47 in 2017 to 5.88 in 2020. School shootings made a sharp decline in 2020—understandably so, given the onset of the COVID-19 pandemic and subsequent government or locally mandated school shutdowns—but rose again sharply in 2021.

Conclusions  Recent data suggest continued upward trends in school shootings, school mass shootings, and related deaths over the past 5 years. Notably, gun violence disproportionately affects boys, especially Black boys, with much higher gun deaths per capita for this group than for any other group of youth. Implications for policy and practice are provided.

Keywords  Guns · Firearm deaths · Mass shootings · School shootings · School mass shootings · Violence

On May 24, 2022, an 18-year-old man killed 19 students and two teachers and wounded 17 individuals at Robb Elementary School in Uvalde, TX, using an AR-15-style rifle. Outside the school, he fired shots for about 5 min before entering the school through an unlocked side door and locked himself inside two adjoining classrooms killing 19 students and two teachers. He was in the school for over an hour (78 min) before being shot dead by the US Border Patrol Tactical Unit, though police officers were on the school premises (Sandoval, 2022).

The Robb Elementary School mass shooting, the second deadliest school mass shooting in American history, is the latest calamity in a long list of tragedies occurring on public school campuses in the USA. Regrettably, these tragedies are both a reflection and an outgrowth of the broader reality of gun violence in this country. In 2021, gun violence claimed 45,027 lives (including 20,937 suicides), with 313 children aged 0–11 killed and 750 injured, along with 1247 youth aged 12–17 killed and 3385 injured (Gun Violence Archive, 2022a). Mass shootings in the USA have steadily increased in recent years, rising from 269 in 2013 to 611 in 2020. Mass shootings are typically defined as incidents in which four or more people are killed (Katsiyannis et al., 2018a). However, the Gun Violence Archive considers mass shootings to be incidents in which four or more people are
injured (Gun Violence Archive, 2022b). Regardless of these distinctions in definition, in 2020, there were 19,384 gun murders, representing a 34% increase from the year before, a 49% increase over a 5-year period, and a 75% increase over a 10-year period (Pew Research Center, 2022). Regarding school-based shootings, to date in 2022, there have been at least 95 incidents of gunfire on school premises, resulting in 40 deaths and 76 injuries (Everytown Research & Policy, 2022b). Over the past few decades, school shootings in the USA have become relatively commonplace: there were more in 2021 than in any year since 1999, with the median age of perpetrators being 16 (Washington Post, 2022; see also, Katsiyannis et al., 2018a). Additionally, analysis of Everytown’s Gunfire on School Grounds dataset and related studies point to several key observations to be considered in addressing this challenge. For example, 58% of perpetrators had a connection to the school, 70% were White males, 73 to 80% obtained guns from home or relatives or friends, and 100% exhibited warning signs or showed behavior that was of cause for concern; also, in 77% of school shootings, at least one person knew about the shooter’s plan before the shooting events occurred (Everytown Research & Policy, 2021a).

The USA has had 57 times as many school shootings as all other major industrialized nations combined (Rowhani-Rahbar & Moe, 2019). Guns are the leading cause of death for children and teens in the USA, with children ages 5–14 being 21 times and adolescents and young adults ages 15–24 being 23 times more likely to be killed with guns compared to other high-income countries. Furthermore, Black children and teens are 14 times and Latinx children and teens are three times more likely than White children to die by guns (Everytown Research & Policy, 2021b). Children exposed to violence, crime, and abuse face a host of adverse challenges, including abuse of drugs and alcohol, depression, anxiety, post-traumatic stress disorder, school failure, and involvement in criminal activity (Cabral et al., 2021; Everytown Research and Policy, 2022b; Finkelhor et al., 2013).

Yet, despite gun violence being considered a pressing social and public health issue, federal legislation passed in 1996 has resulted in restricting funding for the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention (CDC). The law stated that no funding earmarked for injury prevention and control may be used to advocate or promote firearm control (Kellermann & Rivara, 2013). More recently, in June 2022, the US Supreme Court struck down legislation restricting gun possession and open carry rights (New York State Rifle & Pistol Assn., Inc. v. Bruen, 2021), broadening gun rights and increasing the risk of gun violence in public spaces. Nonetheless, according to Everytown Research & Policy (2022a), states with strong gun laws experience fewer deaths per capita. In the aggregate, states with weaker gun laws (i.e., laws that are more permissive) experience 20.0 gun deaths per 100,000 residents versus 7.4 per 100,000 in states with stronger laws. The association between gun law strength and per capita death is stark (see Table 1).

Notwithstanding the publicity involving gun shootings in schools, particularly mass shootings, violence in schools has been steadily declining. For example, in 2020, students aged 12–18 experienced 285,400 victimizations at school and 380,900 victimizations away from school; an annual decrease of 60% for school victimizations (from 2019 to 2020) (Irwin et al., 2022). Similarly, youth arrests in general in 2019 were at their lowest level since at least 1980; between 2010 and 2019, the number of juvenile arrests fell by 58%. Yet, arrests for murder increased by 10% (Puzzanchera, 2021).

In response to school violence in general, and school shootings in particular, schools have increasingly relied on increased security measures, school resource officers (SROs), and zero tolerance policies (including exclusionary and aversive measures) in their attempts to curb violence and enhance school safety. In 2019–2020, public schools reported controlled access (97%), the use of security cameras (91%), and badges or picture IDs (77%) to promote safety. In addition, high schools (84%), middle schools (81%), and elementary schools (55%) reported the presence of SROs (Irwin et al., 2022). Research, however, has indicated that the presence of SROs has not resulted in a

| State       | Gun law strength | Gun deaths per 100,000 residents |
|-------------|------------------|---------------------------------|
| Top eight in gun law strength |
| 1. California | 84.5             | 8.5                             |
| 2. Hawaii     | 79.5             | 3.4                             |
| 3. New York   | 78               | 5.3                             |
| 4. Massachusetts | 77               | 3.7                             |
| 5. Connecticut| 75.5             | 6.0                             |
| 6. Illinois   | 74               | 14.1                            |
| 7. Maryland   | 71.5             | 13.5                            |
| 8. New Jersey | 71               | 5.0                             |
| Bottom eight in gun law strength |
| 43. Arizona   | 8.5              | 16.7                            |
| 44. Oklahoma  | 7.5              | 20.7                            |
| 45. Wyoming   | 6                | 25.9                            |
| 46. South Dakota | 5.5              | 13.6                            |
| 47. Arkansas  | 5                | 22.6                            |
| 48. Montana   | 5                | 20.9                            |
| 49. Idaho     | 5                | 17.6                            |
| 50. Mississippi| 3               | 28.6                            |

Accounting for the top eight and the bottom eight states in gun law strength, gun law strength and gun deaths per 100,000 are correlated at \( r = -0.85 \). Stronger gun laws are thus meaningfully linked with fewer deaths per capita. Data obtained from Everytown Research & Policy (2022a).
reduction of school shooting severity, despite their increased prevalence. Rather, the type of firearm utilized in school shootings has been closely associated with the number of deaths and injuries (Lemieux, 2014; Livingston et al., 2019), suggesting implications for reconsideration of the kinds of firearms to which individuals have access.

Zero tolerance policies, though originally intended to curtail gun violence in schools, have expanded to cover a host of incidents (e.g., threats, bullying). Notwithstanding these intentions, these policies are generally ineffective in preventing school violence, including school shootings (American Psychological Association Zero Tolerance Task Force, 2008; Losinski et al., 2014), and have exacerbated the prevalence of youths’ interactions with law enforcement in schools. From the 2015–2016 to the 2017–2018 school years, there was a 5% increase in school-related arrests and a 12% increase in referrals to law enforcement (U.S. Department of Education, 2021); in 2017–18, about 230,000 students were referred to law enforcement and over 50,000 were arrested (The Center for Public Integrity, 2021). Law enforcement referrals have been a persistent concern aiding the school-to-prison pipeline, often involving non-criminal offenses and disproportionately affecting students from non-White backgrounds as well as students with disabilities (Chan et al., 2021; The Center for Public Integrity, 2021).

The consequences of these policies are thus far-reaching, with not only legal ramifications, but social-emotional and academic ones as well. For example, in 2017–2018, students missed 11,205,797 school days due to out-of-school suspensions during that school year (U.S. Department of Education, 2021), there were 96,492 corporal punishment incidents, and 101,990 students were physically restrained, mechanically restrained, or secluded (U.S. Department of Education, Office of Civil Rights, 2020). Such exclusionary and punitive measures have long-lasting consequences for the involved students, including academic underachievement, dropout, delinquency, and post-traumatic stress (e.g., Cholewa et al., 2018). Moreover, these consequences disproportionally affect culturally and linguistically diverse students and students with disabilities (Skiba et al., 2014; U.S. General Accountability Office, 2018), often resulting in great societal costs (Rumberger & Losen, 2017).

In the USA, mass killings involving guns occur approximately every 2 weeks, while school shootings occur every 4 weeks (Towers et al., 2015). Given the apparent and continued rise in gun violence, mass shootings, and school mass shootings, we aimed in this paper to reexamine rates of intentional firearm deaths, mass shootings, and school mass shootings in the USA using data from the past 5 years, 2017–2022, reappraising our analyses given the time that had passed since our earlier examination of the issue (Katsiyannis et al., 2018a, b).

Method

As noted in Katsiyannis et al., (2018a, b), gun violence, mass shootings, and school shootings have been a part of the American way of life for generations. Such shootings have grown exponentially in both frequency and mortality rate since the 1980s. Using the same criteria applied in our previous work (Katsiyannis et al., 2018a, b), we evaluated the frequency of shootings, mass shootings, and school mass school shootings from January 2017 through mid-July 2022. Extant data regarding shooting deaths from 2017 through 2020 were obtained from the Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, utilizing the web-based injury statistics query and reporting system (WISQARS), and for school shootings from 2017 to 2022 from Everytown Research & Policy (https://everystownresearch.org), an independent non-profit organization that researches and communicates with policymakers and the public about gun violence in the USA. Intentional firearm death data were classified by age, as outlined in Katsiyannis et al., (2018a, b), and the crude rate was calculated by dividing the number of deaths times 100,000, by the total population for each individual category.

Results

The number of intentional firearm deaths and the crude death rates increased from 2017 to 2020 in all age categories. In absolute terms, the number of deaths rose from 14,496 in 2017 to 19,308 in 2020. In accord with this rise in the absolute number of deaths, crude death rates rose from 4.47 in 2017 to 5.88 in 2020. Table 2 provides the crude death rate in 2017, 2018, 2019, and 2020, the most current years with data available. Figure 1 provides the raw number of deaths across the same time period.

As expected, in 2020, the number of fatal firearm injuries increased sharply from age 0–11 years, roughly elementary school age, to age 12–18 years, roughly middle school and high school age. Table 3 provides the crude death rates of children in 2020 who die from firearms. Males outnumbered females in every category of firearm deaths, including homicide, police violence, suicide, and accidental shootings, as well as for undetermined reasons for firearm discharge. Black males drastically surpassed all other children in the number of firearm deaths (2.91 per 100,000 0–11-year-olds; 57.10 per 100,000 12–18-year-olds). Also, notable is the high number of Black children 12–18 years killed by guns (32.37 per 100,000), followed by American Indian and Alaska Native children (18.87 per 100,000), in comparison to White children.
(12.40 per 100,000 children), Hispanic/Latinx children (8.16 per 100,000), and Asian and Pacific Islander children (2.95 per 100,000). A disproportionate number of gun deaths were also seen for Black girls relative to other girls (1.52 per 100,000 0–11-year-olds; 7.01 per 100,000 12–18-year-olds).

Mass shootings and mass shooting deaths increased from 2017 to 2019, decreased in 2020, and then increased again in 2021. School shootings made a sharp decline in 2020—understandably so, given the onset of the COVID-19 pandemic and subsequent government or locally mandated school shutdowns—but rose again sharply in 2021. Current rates reveal a continued increase, with numbers at the beginning of 2022 already exceeding those of 2017. School mass shooting counts were relatively low between 2017 through 2022, with four total during that time frame. Figure 2 provides raw numbers for mass shootings, school shootings, and school mass shootings from 2017 through 2022. Importantly, figures from the recent Uvalde, TX, school mass shooting at Robb Elementary School had not yet been recorded in the relevant databases at the time of this writing. With those deaths accounted for, 2022 is already the deadliest year for school mass shootings in the past 5 years.

**Discussion**

Gun violence in the USA, particularly mass shootings on the grounds of public schools, continues to be a pressing social and public health issue. Recent data suggest continued upward
Table 3  Fatal firearm injuries for children age 0–18 across the USA in 2020

| Rate per 100,000 people | Age 0–11 |   | Age 12–18 |   | Age 0–18 |   |
|------------------------|----------|---|-----------|---|----------|---|
|                        | Male     | Female | Total     |   | Male     | Female | Total     |
| Non-law enforcement homicide |          |         |           |   |          |         |           |
| American Indian/AN     | –        | –       | –         |   | –        | –       | –         |
| Asian/Pacific Islander | –        | –       | –         |   | –        | –       | –         |
| Black/African American | 1.82     | 1.35    | 1.59      |   | 47.27    | 5.74    | 26.80     |
| Hispanic/Latinx        | –        | –       | 0.23      |   | 10.06    | 2.09    | 6.39      |
| White/Caucasian        | 0.43     | 0.22    | 0.33      |   | 2.47     | 0.70    | 1.61      |
| Total                  | 0.57     | 0.39    | 0.48      |   | 10.37    | 1.86    | 5.88      |
| Law enforcement        |          |         |           |   |          |         |           |
| American Indian/AN     | –        | –       | –         |   | –        | –       | –         |
| Asian/Pacific Islander | –        | –       | –         |   | –        | –       | –         |
| Black/African American | –        | –       | –         |   | 0.59     | –       | 0.30      |
| Hispanic/Latinx        | –        | –       | –         |   | 0.48     | –       | 0.27      |
| White/Caucasian        | –        | –       | –         |   | 0.32     | –       | 0.16      |
| Total                  | –        | –       | –         |   | 0.37     | 0.01    | 0.01      |
| Suicide                |          |         |           |   |          |         |           |
| American Indian/AN     | –        | –       | –         |   | 17.18    | 1.98    | 9.65      |
| Asian/Pacific Islander | –        | –       | –         |   | 3.12     | 0.42    | 1.76      |
| Black/African American | –        | –       | –         |   | 7.74     | 0.90    | 4.25      |
| Hispanic/Latinx        | –        | –       | –         |   | 12.26    | 2.83    | 7.46      |
| White/Caucasian        | –        | –       | –         |   | 15.80    | 2.44    | 9.96      |
| Total                  | –        | –       | 0.04      |   | 12.48    | 1.79    | 7.37      |
| Unintentional          |          |         |           |   |          |         |           |
| American Indian/AN     | –        | –       | –         |   | –        | –       | –         |
| Asian/Pacific Islander | –        | –       | –         |   | –        | –       | –         |
| Black/African American | 0.72     | 0.42    | 0.55      |   | 0.55     | –       | 0.31      |
| Hispanic/Latinx        | –        | –       | 62.66     |   | 62.66    | 20.31   | 37.76     |
| White/Caucasian        | 0.21     | 0.13    | 0.29      |   | 0.29     | 0.04    | 0.16      |
| Total                  | 0.25     | 0.14    | 0.42      |   | 0.42     | –       | 0.23      |
| Undetermined           |          |         |           |   |          |         |           |
| American Indian/AN     | –        | –       | –         |   | –        | –       | –         |
| Asian/Pacific Islander | –        | –       | –         |   | –        | –       | –         |
| Black/African American | –        | –       | 0.42      |   | –        | 0.23    | 0.44      |
| Hispanic/Latinx        | –        | –       | 1.38      |   | 1.38     | 0.59    | 0.95      |
| White/Caucasian        | –        | –       | 0.17      |   | 0.17     | 0.05    | 0.11      |
| Total                  | –        | –       | 0.05      |   | 0.30     | –       | 0.16      |
| All causes             |          |         |           |   |          |         |           |
| American Indian/AN     | –        | –       | –         |   | 32.80    | 4.98    | 18.87     |
| Asian/Pacific Islander | –        | –       | –         |   | 5.00     | 0.84    | 2.95      |
| Black/African American | 2.91     | 1.52    | 2.23      |   | 57.10    | 7.01    | 32.37     |
| Hispanic/Latinx        | 0.42     | 0.33    | 0.33      |   | 13.74    | 1.95    | 8.16      |
| White/Caucasian        | 0.78     | 0.28    | 0.53      |   | 19.73    | 3.73    | 12.40     |
| Total                  | 0.98     | 0.45    | 0.72      |   | 23.72    | 3.75    | 13.73     |

AN Alaska Native; – indicates 20 or fewer cases
trends in school shootings, school mass shootings, and related deaths over the past 5 years—patterns that disturbingly mirror general gun violence and intentional shooting deaths in the USA across the same time period. The impacts on our nation’s youth are profound. Notably, gun violence disproportionately affects boys, especially Black boys, with much higher gun deaths per capita for this group than for any other group of youth. Likewise, Black girls are disproportionately affected compared to girls from other ethnic/racial groups. Moreover, while the COVID-19 pandemic and school shutdowns tempered gun violence in schools at least somewhat during the 2020 school year—including school shootings and school mass shootings—trend data show that gun violence rates are still continuing to rise. Indeed, gun violence deaths resulting from school shootings are at their highest recorded levels ever (Irwin et al., 2022).

Implications for Schools: Curbing School Violence

In recent years, the implementation of Multi-Tier Systems and Supports (MTSS), including Positive Behavioral Interventions and Supports (PBIS) and Response to Intervention (RTI), has resulted in improved school climate and student engagement as well as improved academic and behavioral outcomes (Elrod et al., 2022; Santiago-Rosario et al., 2022; National Center for Learning Disabilities, n.d.). Such approaches have implications for reducing school violence as well. PBIS uses a tiered framework intended to improve student behavioral and academic outcomes; it creates positive learning environments through the implementation of evidence-based instructional and behavioral interventions, guided by data-based decision-making and allocation of students across three tiers. In Tier 1, schools provide universal supports to all students in a proactive manner; in Tier 2, supports are aimed to students who need additional academic, behavioral, or social-emotional intervention; and in Tier 3, supports are provided in an intensive and individualized manner (Lewis et al., 2010). The implementation of PBIS has resulted in an improved school climate, fewer office referrals, and reductions in out-of-school suspensions (Bradshaw et al., 2010; Elrod et al., 2010, 2022; Gage et al., 2018a, 2018b; Horner et al., 2010; Noltemeyer et al., 2019). Likewise, RTI aims to improve instructional outcomes through high-quality instruction and universal screening for students to identify learning challenges and similarly allocates students across three tiers. In Tier 1, schools implement high-quality classroom instruction, screening, and group interventions; in Tier 2, schools implement targeted
Interventions; and in Tier 3, schools implement intensive interventions and comprehensive evaluation (National Center for Learning Disabilities, n.d.). RTI implementation has resulted in improved academic outcomes (e.g., reading, writing) (Arrimada et al., 2022; Balu et al., 2015; Siegel, 2020) and enhanced school climate and student behavior.

In order to support students’ well-being, enhance school climate, and support reductions in behavioral issues and school violence, schools should consider the implementation of MTSS, reducing reliance on exclusionary and aversive measures such as zero tolerance policies, seclusion and restraints, corporal punishment, or school-based law enforcement referrals and arrests (see Gage et al., in press). Such approaches and policies are less effective than the use of MTSS, exacerbate inequities and enhance disproportionality (particularly for youth of color and students with disabilities), and have not been shown to reduce violence in schools.

Implications for Students: Ensuring Physical Safety and Supporting Mental Health

Students should not have to attend school and fear becoming victims of violence in general, no less gun violence in particular. Schools must ensure the physical safety of their students. Yet, as the substantial number of school shootings continues to rise in the USA, so too does concern about the adverse impacts of violence and gun violence on students’ mental health and well-being. Students are frequently exposed to unavoidable and frightening images and stories of school violence (Child Development Institute, n.d.) and are subject to active shooter drills that may not actually be effective and, in some cases, may actually induce trauma (Jetelina, 2022; National Association of School Psychologists & National Association of School Resources Officers, 2021; Wang et al., 2020). In turn, students struggle to process and understand why these events happen and, more importantly, how they can be prevented (National Association of School Psychologists, 2015). School personnel should be prepared to support the mental health needs of students, both in light of the prevalence of school gun violence and in the aftermath of school mass shootings.

Research provides evidence that traumatic events, such as school mass shootings, can do have mental health consequences for victims and members of affected communities, leading to an increase in post-traumatic stress syndrome, depression, and other psychological systems (Lowe & Galea, 2017). At the same time, high media attention to such events indirectly exposes and heightens feelings of fear, anxiety, and vulnerability in students—even if they did not attend the school where the shooting occurred (Schonfeld & Demaria, 2020). Students of all ages may experience adjustment difficulties and engage in avoidance behaviors (Schonfeld & Demaria, 2020). As a result, school personnel may underestimate a student’s distress after a shooting and overestimate their resilience. In addition, an adult’s difficulty adjusting in the wake of trauma may also threaten a student’s sense of well-being because they may believe their teachers cannot provide them with the protection they need to remain safe in school (Schonfeld & Demaria, 2020).

These traumatic events have resounding consequences for youth development and well-being. However, schools continue to struggle to meet the demands of student mental health needs as they lack adequate funding for resources, student support services, and staff to provide the level of support needed for many students (Katsiyannis et al., 2018a). Despite these limiting factors, children and youth continue to look to adults for information and guidance on how to react to adverse events. An effective response can significantly decrease the likelihood of further trauma; therefore, all school personnel must be prepared to talk with students about their fears, to help them feel safe and establish a sense of normalcy and security in the wake of tragedy (National Association of School Psychologists, 2016). Research suggests a number of strategies can be utilized by educators, school leaders, counselors, and other mental health professionals to support the students and staff they serve.

Recommendations for Educators

The National Association of School Psychologists (2016) recommends the following practices for educators to follow in response to school mass shootings. Although a complex topic to address, the issue needs to be acknowledged. In particular, educators should designate time to talk with their students about the event, and should reassure students that they are safe while validating their fears, feelings, and concerns. Recognizing and stressing to students that all feelings are okay when a tragedy occurs is essential. It is important to note that some students do not wish to express their emotions verbally. Other developmentally appropriate outlets, such as drawing, writing, reading books, and imaginative play, can be utilized. Educators should also provide developmentally appropriate explanations of the issue and events throughout their conversations. At the elementary level, students need brief, simple answers that are balanced with reassurances that schools are safe and that adults are there to protect them. In the secondary grades, students may be more vocal in asking questions about whether they are truly safe and what protocols are in place to protect them at school. To address these questions, educators can provide information related to the efforts of school and community leaders to ensure school safety. Educators should also review safety procedures and help students to identify at least one adult in the building to whom they can go if they feel threatened or at risk. Limiting exposure to media and social media is also
important, as developmentally inappropriate information can cause anxiety or confusion. Educators should also maintain a normal routine by keeping a regular school schedule.

Recommendations for School Leaders

Superintendents, principals, and other school administrative personnel are looked upon to provide leadership and comfort to staff, students, and parents during a tragedy. Reassurance can be provided by reiterating safety measures and student supports that are in place in their district and school (The National Association of School Psychologists, 2015). The NASP recommends the following practices for school leaders regarding addressing student mental health needs directly. First, school leaders should be a visible, welcoming presence by greeting students and visiting classrooms. School leaders should also communicate with the school community, including parents and students, about their efforts to maintain safe and caring schools through clear behavioral expectations, positive behavior interventions and supports, and crisis planning preparedness. This can include the development of press releases for broad dissemination within the school community. School leaders should also provide crisis training and professional development for staff, based upon assessments of needs and targeted toward identified knowledge or skill gaps. They should also ensure the implementation of violence prevention programs and curricula in school and review school safety policies and procedures to ensure that all safety issues are adequately covered in current school crisis plans and emergency response procedures.

Recommendations for Counselors and Mental Health Professionals

School counselors offer critical assistance to their buildings’ populations as they experience crises or respond to emergencies (American School Counselor Association, 2019; Brown, 2020). Two models that stand out in the literature utilized by counselors in the wake of violent events are the Preparation, Action, Recovery (PAR) model and the Prevent and prepare; Reaffirm; Evaluate; provide interventions and Respond (PREPaRE) model. PREPaRE is the only comprehensive, nationally available training curriculum created by educators for educators (The National Association of School Psychologists, n.d.). Although beneficial, neither the PAR nor PREPaRE model directly addresses school counselors’ responses to school shootings when their school is directly affected (Brown, 2020). This led to the development of the School Counselor’s Response to School Shootings-Framework of Recommendations (SCRSS-FR) model, which includes six stages, each of which has corresponding components for school counselors who have lived through a school mass shooting. Each of these models provides the necessary training to school-employed mental health professionals on how to best fill the roles and responsibilities generated by their membership on school crisis response teams (The National Association of School Psychologists, n.d.).

Other Implications: Federal and State Policy

Recent events at Robb Elementary School in Uvalde, TX, prompted the US Congress to pass landmark legislation intended to curb gun violence, enhancing background checks for prospective gun buyers who are under 21 years of age as well as allowing examination of juvenile records beginning at age 16, including health records related to prospective gun buyers’ mental health. Additionally, this legislation provides funding that will allow states to implement “red flag laws” and other intervention programs while also strengthening laws related to the purchase and trafficking of guns (Cochrane, 2022). Yet, additional legislation reducing or eliminating access to assault rifles and other guns with large capacity magazines, weapons that might easily be deemed “weapons of mass destruction,” is still needed (Interdisciplinary Group on Preventing School & Community Violence, 2022; see also Flannery et al., 2021). In 2019, the US Congress started to appropriate research funding to support research on gun violence, with $25 million in equal shares provided on an annual basis from both the Centers for Disease Control and Prevention and the National Institutes of Health (Roubein, 2022; Wan, 2019). Additional research is, of course, still needed.

Despite legislative progress, and while advancements in gun legislation are meaningful and have the potential to aid in the reduction of gun violence in the USA, school shootings and school mass shootings are something schools and students will contend with in the months and years ahead. This reality has serious implications for schools and for students, points that need serious consideration. Therefore, it is imperative that gun violence is framed as a pressing national public health issue deserving attention, with drastic steps needed to curb access to assault rifles and guns with high-capacity magazines, based on extensive and targeted research. As noted, Congress, after many years of inaction, has started to appropriate funds to address this issue. However, the level of funding is still minimal in light of the pressing challenge that gun violence presents. Furthermore, the messaging of conservative media, the National Rifle Association (NRA) and republican legislators framing access to all and any weapons—including assault rifles—as a constitutional right under the second amendment bears scrutiny. Indeed, the second amendment denotes that “A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.” Security of the nation is arguably the
intent of the amendment, an intent that is clearly violated as evidenced in the ever-increasing death toll associated with gun violence in the USA.

Whereas federal legislation would be preferable, the possibility of banning assault weapons is remote (in light of recent Congressional action). Similarly, state action has been severely curtailed in light of the US Supreme Court’s decision regarding New York state law. However, data on gun fatalities and injuries, the correspondence of gun violence to laws regulating access across the world and states, and failed security measures such as armed guards posted in schools (e.g., Robb Elementary School) must be consistently emphasized. Additionally, the widespread sense of immunity for gun manufacturers should be tested in the same manner that tobacco manufacturers and opioid pharmaceuticals have been. The success against such tobacco and opioid manufacturers, once unthinkable, is a powerful precedent to consider for how the threat of gun violence against public health might be addressed.

Author Contribution  AK conceived of and designed the study and led the writing of the manuscript. LJR collaborated on the study design, contributed to the writing of the study, and contributed to the editing of the final manuscript. DKW analyzed the data and wrote up the results. SNS contributed to the writing of the study.

Conflict of Interest  The authors declare no competing interests.

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