

# The Scientific Evidence Supporting an Eight-Point Public Health-Oriented Action Plan to Prevent Gun Violence

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School shootings and community gun violence happen more frequently in the United States than other developed nations. The United States cannot be great and realize its promise of life, liberty, and the pursuit of happiness if our children are not safe from gun violence. Although security measures are important, a focus on simply preparing for shootings is insufficient. We need a change in mindset and policy from reaction to prevention. Prevention entails more than security measures and begins long before a gunman comes

to school. We need a comprehensive public health approach to gun violence that is informed by scientific evidence and free from partisan politics.

Following a series of serious acts of violence in U.S. schools in the spring of 2018, including the shooting at Stoneman Douglas High School in Parkland, Florida, a group of youth violence prevention researchers and experts came together to outline an “Action Plan” to prevent gun violence, which included the following three levels of prevention: (1) universal approaches promoting safety and well-being for everyone; (2) practices for reducing risk and promoting protective factors for persons experiencing difficulties; and (3) interventions for individuals where violence is present or appears imminent. The purpose of this chapter is to provide an overview of a multilevel public health approach to protecting children, as well as adults, from gun violence. After summarizing these three levels, we provide a brief overview of the evidence base for these practices and policies most relevant in the plan for school and community safety as it relates to gun violence prevention. As of May 2018, the Action Plan has been endorsed by 84 national organizations, 163 additional organizations, and over 4,400 individuals. This group of endorsers included multiple professional organizations representing over 5 million professionals working in and with schools, such as the American Counseling Association, American Federation of Teachers, American Psychological Association, Committee for Children, the National Education Association, National Parent Teacher Association, National Association of Secondary School Principals, National Association of School Psychologists, the National Association of Social Workers, and the Society for Prevention Research (<https://curry.virginia.edu/prevent-gun-violence>).

## **Overview of the Three-Level Prevention Plan**

### **Level 1: Universal Approaches Promoting Safety and Well-being for Everyone**

1. A national requirement for all schools to assess school climate and maintain physically and emotionally safe conditions and positive school environments that protect all students and adults from bullying, discrimination, harassment, and assault;
2. A ban on assault-style weapons, high-capacity ammunition clips, and products that modify semi-automatic firearms to enable them to function like automatic firearms.

### **Level 2: Practices for Reducing Risk and Promoting Protective Factors for Persons Experiencing Difficulties**

3. Adequate staffing (e.g., counselors, psychiatrists, psychologists, nurses, and social workers) of coordinated school- and community-based mental health

services for individuals with risk factors for violence, recognizing that violence is not intrinsically a product of mental illness;

4. Reform of school discipline to reduce exclusionary practices and foster positive social, behavioral, emotional, and academic success for students;
5. Universal background checks for firearm purchases to screen out violent offenders, persons who have been hospitalized for violence towards self or others, and persons on no-fly, terrorist watch lists.

### **Level 3: Interventions for Individuals Where Violence Is Present or Appears Imminent**

6. A national program to train and maintain school- and community-based threat assessment teams that include mental health and law enforcement partners. Threat assessment programs should include practical channels of communication for persons to report potential threats as well as interventions to resolve conflicts and assist troubled individuals;
7. Removal of legal barriers to sharing safety-related information among educational, mental health, and law enforcement agencies in cases where a person has threatened violence;
8. Laws establishing Gun Violence Protection Orders that allow courts to issue time-limited restraining orders requiring that firearms be recovered by law enforcement when there is evidence that an individual is planning to carry out acts against others or against themselves.

## **The Evidence-Base to Support the Plan**

In the sections that follow, we provide a brief review of the relevant literature to support and implement this plan. Although not an exhaustive or complete review, we aim to stimulate additional attention, policy, and action by multiple stakeholders to enact elements of this plan to improve the safety of youth, adults, schools, and communities.

### **Social and Emotional Learning**

One of the most effective means of improving child emotional well-being and competence is to expose them early on to universal preventive intervention efforts. The social and emotional learning (SEL) approach is consistent with multiple aspects of the Action Plan, but especially its emphasis on (a) preventive practices that foster positive social, behavioral, emotional, and academic success; (b) promoting protective factors and reducing risk factors; (c) creating and maintaining a positive school climate, which includes physical and emotional safety; and (d) reducing the use of exclusionary practices

in school discipline. Related to each of those aspects of the Action Plan, the SEL focuses on the development of five areas of social and emotional learning (Durlak, Domitrovich, Weissberg, & Gullotta, 2015):

- *Self-awareness*—recognizing and understanding one’s own thoughts, emotions, values, strengths, and weaknesses, and how they influence behavior. This incorporates self-concept, self-confidence, and self-efficacy.
- *Responsible decision-making at school, home, and in the community*—possessing and applying ethically guided problem-solving strategies and skills, including goal-setting, understanding of consequences for oneself and others, and persistence in the face of obstacles.
- *Self-management*—managing, or regulating, one’s emotions, thoughts, and behavior across settings. This includes impulse control, stress management, organizational skills, setting goals and motivating oneself to achieve them, and persevering when faced with setbacks and obstacles.
- *Relationship skills*—establishing and maintaining positive and cooperative relationships with others; resisting peer pressure, resolving interpersonal conflicts peacefully, and respecting diversity and individual and group differences.
- *Social awareness*—accurately recognizing the feelings of others, assuming the perspective of others, experiencing empathy, recognizing and respecting individual and group differences, and seeking and using family, school, and community resources and supports, when needed.

Although SEL programs vary widely in their components and emphases, they share a focus on targeting not only behaviors but also cognitions and emotions related to each of the above areas of SEL—particularly those shown by research to underlie the targeted behavior. A large number of studies and several comprehensive reviews of the literature have demonstrated the effectiveness of SEL programs in preventing conduct problems and aggression, fostering academic engagement and achievement, and promoting mental health (for reviews, see Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Korpershoek, Harms, de Boer, van Kuijk, & Doolaard, 2016; Taylor, Oberle, Durlak, & Weissberg, 2017). Durlak and colleagues’ (2011) comprehensive meta-analysis concluded that a core feature of many SEL programs with demonstrated effectiveness used the format: Sequenced, Active, Focused, and Explicit (i.e., SAFE). That is, engaging lessons are taught in a *sequential* manner within and across school years; students play an *active*, rather than passive role in learning and applying SEL skills; professional development and sufficient time in the school day *focus* on developing SEL skills; and the skills and program goals are *explicit* (e.g., integrated into the school mission statement and linked to standards). The teaching of SEL

lessons, presented either through a packaged program or integrated throughout the existing academic curriculum (e.g., into literacy, social studies, health), is a core feature of many evidence-based SEL programs (for extensive reviews of SEL programs, see [https:// CASEL.org](https://CASEL.org)). Additional important features of SEL programs include the following areas (CASEL, 2017; Osher, Bear, Sprague, & Doyle, 2010):

**Planned opportunities for students to observe, apply, practice, and further develop SEL competencies.** It is not sufficient that students simply learn what to say (e.g., citing knowledge of SEL skills) and are able to demonstrate an SEL skill to an adult when asked to do so. A key aim of the SEL approach is that students demonstrate SEL skills under their own volition, across settings, and in the absence of adult monitoring and supervision. To help achieve this long-term aim, students are provided multiple opportunities throughout the school, as well as at home and in the community, to observe models of others demonstrating SEL skills (leveraging a range of models most students can identify with and demonstrating ways of overcoming challenges), to practice the skills themselves, and to come to value their importance. Opportunities are provided in such contexts as cooperative learning, conflict resolution and restorative justice learning opportunities, student government, sports and extracurricular activities, service learning, and cross-age mentoring.

**Supportive and respectful relationships in school.** Supportive teacher-student and student-student relationships not only promote the development of social and emotional competencies but also prevent behavior problems and promote safety (Danielsen, Wiium, Wilhelmsen, & Wold, 2010). Although research and many SEL programs highlight the importance of supportive teacher-student relationships, this component is seldom targeted in SEL and other prevention programs (Korpershoek et al., 2016).

**Support and coordination across classrooms, schools, home, and communities.** Research in preventive science and school improvement has consistently emphasized the importance of support and coordination across important stakeholders. This includes the provision of multitiered supports and resources, as well as ongoing professional development (Weissberg, Durlak, Domitrovich, & Gullotta, 2015). Of particular importance in the maintenance and generalization of SEL skills is working closely with the families of students.

**Classroom management and school discipline practices that emphasize prevention and development of self-discipline rather than use of discipline as a consequence.** Consistent with the Action Plan, the SEL approach

emphasizes disciplinary practices shown to greatly limit the need for punishment and especially exclusionary practices like removing students from the classroom or suspension. Drawing largely from decades of research on effective classroom management for preventing behavior problems (Bear, 2015) but also integrating practices more central to the aims of the SEL approach, emphases are placed on the following evidence-based strategies: (a) clear procedures and routines, high behavioral expectation, and fair rules and consequences; (b) frequent monitoring and supervision of behavior, and immediate response to early signs of misbehavior; (c) developmentally appropriate instruction and lessons that are motivating; (d) the wise and strategic use of praise and rewards, which includes using them in a manner that does not harm intrinsic motivation and moral development; (e) building and maintaining supportive teacher-student, student-student, and home-school relationships, which includes students, teachers, and parents sharing responsibility for student behavior; and (f) a physical environment that is conducive to teaching and safety, and to the development of social, emotional, and academic skills. In applying each of those strategies, a focus is on teaching, learning, and applying the core SEL skills of self-management, responsible decision-making, relationship skills, social awareness, and self-awareness. This can occur, for example, during class meetings and supportive disciplinary encounters that emphasize perspective taking, empathy, peer support, responsible decision-making, and social problem-solving.

### **School Climate and School Connectedness**

Another critical aspect of the Action Plan's emphasis on universal preventive interventions to address gun violence is to focus on improving school climate, as well as student connectedness to school, and building positive relationships with peers and adults. Positive school climate and school connectedness have both been documented as important factors associated with promoting safe, supportive, and effective schools.

There is a substantial and growing literature indicating that school climate is an important influence on students' behavior (for a review, see Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Generally, school climate is used to describe the social and cultural milieu within a school. The specific elements of school climate vary across studies, but most include perceptions of relationships among students and teachers, safety, and rules and norms for student behavior. More expansive conceptualizations of school climate include additional constructs such as school connectedness or belonging, and student engagement (Bradshaw, Waasdorp, Debnam, & Lindstrom Johnson, 2014). Positive school climate has been linked to myriad youth developmental and educational outcomes including improved academic achievement

and graduation rates, and decreases in emotional and behavioral problems (Thapa et al., 2013). For example, several studies have shown that secondary schools characterized by authoritative characteristics of high expectations for students and supportive teacher-student relationships have higher student engagement, academic performance, and graduation rates (Cornell, Shukla, & Konold, 2016), but lower rates of bullying and peer aggression (Cornell, Shukla, & Konold, 2015), less aggression toward teachers (Berg & Cornell, 2016), and less involvement in risk behaviors such as substance use and weapon carrying (Cornell & Huang, 2016).

As it relates to school violence and safety, there are some clear and direct associations between school climate and physical safety at school. Negative school climate, for example, has been associated with higher rates of bullying/peer victimization and behavior problems (Cornell et al., 2015). In turn, positive school climate has been associated with lower risk behaviors among students, including decreases in bullying behavior and aggressive attitudes (Klein, Cornell, & Konold, 2012).

Numerous studies indicate a connection between school climate and emotional safety. Students are more likely to seek help from adults in schools where there is a positive climate (Williams & Cornell, 2006). This finding is consistent with other studies that indicate that students in schools with a positive climate report better mental health, higher self-esteem, and a stronger sense of connectedness to school. School climate research also highlights a paradox in which observable security measures such as school resource officers (SROs) and metal detectors (measures designed to improve safety) do not consistently improve students' sense of safety and may have iatrogenic effects on overall school climate (Lindstrom Johnson, Bottiani, Debnam, & Bradshaw, 2018).

Research has repeatedly demonstrated the importance of student engagement at school (i.e., school connectedness) as an indicator associated with student achievement and positive behavior in schools. Student engagement represents a student's sense of belonging and connectedness with his or her school. Typically, school engagement is measured by obtaining a student's perception of affective, behavioral, and cognitive indicators of his or her connections with teachers, peers, and activities at school. There is a consistent positive association between teacher and student reports of behavioral engagement and achievement. Moreover, a higher level of cognitive engagement is found to be positively related to students' in-depth understanding and synthesis of academic material. That can be a pivotal issue in more toxic school environments where teachers are challenged to provide vibrant, engaging lessons, and students may have difficulty focusing on learning. This can set the stage for a somewhat debilitating cycle relative to achieving the understanding and synthesis of academic material, and related to that, improved cognitive engagement.

Student engagement also relates to a wide range of developmental and adjustment outcomes, such as substance use, delinquency, antisocial behavior, and self-esteem. Positive student engagement has been linked to student perception of safety of their school, increased hope, life satisfaction, and decreased bully victimization. Research examining the impact of student engagement at school on academic and behavioral outcomes highlights the importance of this construct in promoting safe, supportive, and effective schools (Bradshaw et al., 2014; Thapa et al., 2013).

### **Bystander Intervention**

Research across a number of fields has highlighted the important role of youth intervention or “bystander intervention” in a range of violence- and aggression-related situations, including bullying, fighting, and school violence (Nickerson, Aloe, Livingston, & Feely, 2014; Waasdorp & Bradshaw, 2018). Two converging phenomena implicate the important contributions of bystanders in the prevention of school shootings: (a) in a large majority of school shootings, the perpetrators leaked their intentions to one or more individuals prior to the attacks; and (b) when school shootings have been averted, it was most often due to reports made by concerned individuals who became aware of the attackers’ plans (Daniels et al., 2007; Madfis, 2014). Although the obvious solution appears to be to just get students, staff, parents, and community members to step forward and make a report, it is not that simple. As Stueve and colleagues (2006) have noted, “under what circumstances should youth and adult bystanders come forward with information about potential violence? When should bystanders try to defuse violent situations themselves, when should they involve authorities, and when should they ‘mind their own business’” (p. 117)? Strategies that address contextual factors that foster school-community bystander expectations and behavior are informed by core social psychology research.

For example, it is well documented in social psychology and related fields that although individuals often see and hear high-risk or emergency situations (e.g., violent crimes), they are unlikely to intervene due to the diffusion of responsibility that occurs when other people are present (Latané & Nida, 1981). This phenomenon also occurs in relation to threats of violence, bullying, and sexual assault. Although students and other community members see and hear potential or actual indicators of violence, many barriers prevent them from intervening, including the presence of others, fear of retaliation, costs (e.g., time, effort, personal distress), relationships with the person(s) involved, and perceptions about peer norms (see Meter & Card, 2015). Mobilizing bystanders to intervene by reporting incidents, getting the person out of the threatening situation, seeking help, or supporting the victim is a key focus of many prevention and intervention efforts.



The classic bystander intervention model (Latané & Darley, 1970) includes a five-step process. The first step is for someone to notice the event, as something has to be observed in order for one to intervene. Next, one must interpret the situation as an emergency, or a serious enough issue that help is required. Third, one must accept personal responsibility for intervening, as opposed to believing that someone else will help. Next, the person must have the knowledge of how to help, whether that is who to report to or how to intervene directly to deescalate a situation. The final step of the model is to act on the decision to help. This bystander intervention model has been found to be applicable to sexual harassment, bullying (Nickerson et al., 2014), and other high-risk or violent situations. Indeed, mobilizing bystanders to intervene directly or indirectly has been found to be effective in decreasing bullying victimization (Garandeanu, Poskiparta, & Salmivalli, 2014) and other threats of violence (Daniels et al., 2007).

A safe climate in schools and communities is characterized by relationships in which people are willing to support others and seek help for concerns. Students whose peers intervene to defend them when they are being bullied are more likely to perceive their schools as safe (Gini, Pozzoli, Borghi, & Franzoni, 2008). If the environment makes students and other members of a community fear that bystander intervention will result in retaliation, ineffectual responses, or being perceived negatively by peers, they will be less likely to take the risk to help others. In schools where the peer culture endorses and supports aggressive behavior, students are less likely to stand up against bullying (Millspaugh, Cornell, Huang, & Datta, 2015) and less likely to report a threat of violence such as a student bringing a gun to school (Datta, Cornell, & Huang, 2016). Therefore, in addition to explicit teaching and training students, school personnel, and community members about how to take appropriate action as a bystander, it is important that this be done while also creating an environment that will be most likely to encourage and support bystander intervention.

### **School Threat Assessment**

The sixth point of the Action Plan calls for a national program to train and maintain school- and community-based threat assessment teams that include mental health and law enforcement partners. Threat assessment programs should include practical channels of communication for persons to report potential threats as well as interventions to resolve conflicts and assist troubled individuals. Threat assessment is a systematic process of evaluation and intervention for persons who have communicated threats to harm others.

After the 1999 Columbine school shooting, law enforcement authorities recommended that threat assessment be adapted for schools (e.g., O'Toole,

2000). In response, a group at the University of Virginia developed a threat assessment model for schools, recognizing that educators face unique threat assessment challenges in working with children and adolescents, and must uphold the goal of helping every student succeed (Cornell & Sheras, 2006). The resulting Virginia Student Threat Assessment Guidelines (VSTAG) uses school-based multidisciplinary teams consisting of school administration, mental health professionals, and law enforcement officers.

Threat assessment teams strive to avoid two errors: (1) overreacting to student misbehavior that does not pose a serious threat of violence, and (2) underreacting to troubled students on a pathway to violence. Threats vary from figures of speech and jokes to expressions of frustration or anger, and their purpose can vary from merely seeking attention to communicating an intent to attack. Unlike a zero tolerance approach to discipline that applies the same severe consequences to all cases regardless of the circumstances, a threat assessment process must be flexible and responses must be calibrated to the seriousness of the situation. The VSTAG model takes a problem-solving approach to violence prevention, recognizing that serious threats of violence arise when someone has become distressed and frustrated over a problem they cannot solve, and the most effective strategy is to assist the individual in resolving that problem. Controlled studies have found that schools using the VSTAG model have decreased use of school suspension and increased use of school counseling, and that students and teachers report a safer and more supportive school climate (Cornell, Allen, & Fan, 2012; Nekvasil & Cornell, 2015).

In 2013, Virginia legislation mandated that all K–12 public schools establish threat assessment teams. A statewide analysis of 1,865 cases found that fewer than 1% of student threats were carried out and no cases resulted in a serious physical injury (Cornell & Maeng, 2017). Less than half (43%) of the students received an out-of-school suspension and approximately 1% were expelled. A follow-up study (Cornell, Maeng, Huang, Shukla, & Konold, 2018) found no statistically significant racial disparities between black, Hispanic, and white students in out-of-school suspensions, expulsions, school transfer, or legal actions (arrest, incarceration, or criminal charges).

In 2018, Congress passed legislation that would fund national training in threat assessment for schools. Threat assessment teams can operate in both school and community settings, permitting coordination of services and coverage of threats made by persons who are not students. Threat assessment is valuable so that students (and others) are not stigmatized or punished for minor misbehavior. At the same time, threat assessment can identify individuals in need of mental health services and other support. In the small number of very serious threats, teams can recognize the danger and take appropriate protective action in collaboration with law enforcement.

## School Resource Officers

School shootings are almost always followed by calls to increase the physical safety of students by using technology and security devices—including metal detectors, locks, monitoring systems, improved lighting—and by increasing the presence of law enforcement officers and other security personnel on campuses. For example, the school shooting at Stoneman Douglas High School in Parkland, Florida, was followed by calls to arm teachers and other school staff with concealed handguns. Although these responses are understandable, they do not reflect what is known about how to create safe schools. We know very little about the effectiveness of security practices such as those mentioned earlier. Studies have found that schools using more security measures both increase and decrease student victimization levels. In a recent study that looked at this relationship longitudinally, Fisher, Mowen, and Boman (2018) found that adolescents in schools with more security measures later report *higher* odds of being threatened with harm, a finding consistent with the possibility that overreliance on security measures may erode the school climate and promote victimizing behaviors. No effects of increased security were found on other forms of victimization. A decision to increase use of these security measures in order to improve school safety is inconsistent with the existing research on this topic.

Arming teachers as a means to increase school safety is an ill-advised policy option. In a recent essay responding to calls to arm North Carolina teachers, Cook (2018) points out that if a policy to arm teachers resulted in 10 teachers in every school carrying a concealed handgun, 1.3 million additional guns would be added to U.S. schools. These guns might be fired accidentally, the teachers who carry them might deliberately use them for unintended purposes, and, even more likely, the guns might end up in the hands of students. A recent study of hospital-based shootings, for example, found that 23% of all shootings that happen in hospital emergency departments were with guns taken from armed guards who were posted there for protection (Kelen, Catlett, Kubit, & Hsieh, 2012). In general, the available research suggests that more guns are likely to lead to more gun violence.

A more common response to school shootings has been to increase law enforcement presence in schools. Indeed, the practice of placing police officers in schools has sky-rocketed over the past 30 years. In the 1970s, virtually no schools had law enforcement officers stationed in them.<sup>1</sup> By 2013, 70% of schools had security or police officers assigned to the school (Musu-Gillette et al., 2017). How has this major shift in the use of security or law enforcement personnel in schools affected school safety? Recent reviews of the effect of increasing police presence in schools agree that, all else equal, schools with police report more crimes to law enforcement than schools without police (Devlin & Gottfredson, 2018). This might suggest that schools

are safer with than without police, especially if the referrals to law enforcement typically result in removing potentially dangerous students from the schools. However, the research suggests instead that police presence is associated only with increases in the reporting of *non-serious* crimes reported to law enforcement. The practice does not increase the reporting of serious crime to law enforcement, most likely because these crimes are reported to law enforcement regardless of whether or not police are present (Na & Gottfredson, 2011). The most rigorous study of police presence in schools to date also found that increased police presence is related to increased arrest rates, particularly for youth under the age of 15 (Owens, 2017).

Unfortunately, estimates of the effect of police presence on less ambiguous indicators of school safety are difficult to come by. Although several relevant studies have been conducted, most have methodological shortcomings that prevent confident conclusions about the effect of police on school safety from being drawn.<sup>2</sup> Reviews of this research (Devlin & Gottfredson, 2018; Hirschfield, 2018) conclude that we simply do not know whether adding law enforcement officers to school settings increases safety, decreases safety, or makes no difference. The recent school shooting incident in Parkland, Florida, however, demonstrated clearly that the presence of police officers in schools does not fully protect schools from experiencing school shootings, as the law enforcement officer stationed at the school failed to intervene to stop the shooter (<http://www.sun-sentinel.com/local/broward/parkland/florida-school-shooting/fl-florida-shooting-sro-20180222-story.html>).

Any policy adopted in an attempt to increase school safety should have a reasonable expectation of actually increasing safety. “School hardening” policies involving increased security measures and law enforcement presence do not pass this test. Further, because these strategies carry substantial risk for negative outcomes, they should be avoided. Many of the proposed strategies discussed in this chapter aim to protect students and youth by promoting a more cohesive school environment in which expectations for behavior are clear and “normal” sanctions are consistently applied in response to rule-breaking. In sharp contrast to school hardening efforts, strategies to promote these protective environments have been demonstrated through rigorous scientific research to increase school safety. These strategies should clearly be preferred over school hardening strategies.

## Positive Behavioral Interventions and Supports

A number of programs and strategies have been developed and demonstrated significant impacts on youth violence, including acts of aggression, violence, and bullying at school (for reviews, see Matjasko et al., 2012; National Academies of Science, Engineering, and Medicine, 2016). Equally important as selecting and implementing evidence-based violence

prevention interventions is making the right decision about which practice or program to select and then implementing it in an accurate, culturally responsive, and sustainable manner. One system or framework for maximizing the impact and outcomes of evidence-based practices is Positive Behavioral Interventions and Supports (PBIS; Sugai & Horner, 2006).

PBIS is a prevention-based framework modeled after the public health approach to disease prevention. The framework is used to select and organize evidence-based practices into a three-tiered continuum (i.e., universal, targeted, indicated) that supports the academic and behavioral success of all students. Tier 1 is the foundation for positive schoolwide and classroom climate or culture and is particularly important for (a) preventing the development of antisocial behavior, (b) screening for and supporting students with high risk for mental health needs, (c) enhancing the climate and organizational health of the school, (d) reducing the rates of reactive management (e.g., office discipline referrals for major offenses, in and out of school suspensions), (e) reducing bullying, and (f) increasing student prosocial behavior and emotional regulation (see Bradshaw, Waasdorp, & Leaf, 2012; Bradshaw, Mitchell, & Leaf, 2010).

From a violence prevention perspective, PBIS Tier 1 has two main purposes. The first purpose is to establish a positive social culture in which all students and staff and family members have a common vision about important social and emotional behaviors, a common language for personal and interpersonal communications, and common procedures for typical places and routines (e.g., making transitions, handling disagreements, asking for assistance). Research indicates that when achieved, these school and classroom environments are rated by students and staff members as positive school climates and to have less problem behavior, such as bullying (see Bradshaw, Waasdorp, & Leaf, 2012; Horner et al., 2009). In addition, these supportive environments enable schools to be better prepared for crisis and emergency situations by (a) early screening for and acting on risk factors, (b) having formal response routines in place, and (c) supporting students and faculty and family members after a traumatic incident.

The second Tier 1 purpose is to explicitly and continuously teach, practice, and reinforce setting-specific (e.g., hallways, cafeteria, playground, assemblies, bus) behavior expectations (e.g., “walk to the right in the hallways is being responsible,” “when in a disagreement, stop and think before you act respectfully,” “use helping safe words when a friend is being teased,” “being safe on the playground is reporting to teacher if a stranger is on playground”). Equally important, teaching of social skills is linked to three to five character traits or values (e.g., “respect self, others, and environment,” “be safe, be respectful, be responsible, be a learner”), and frequent informative acknowledgments (e.g., “Well done, thank you for letting us know about that suspicious note. You were responsible for keeping our school safe”).

Students who are fluent with important social skills are better prepared to (a) reduce the likelihood of problem situations occurring, (b) respond to anti-social behaviors when they are occurring, and (c) navigate confusion and stress after a traumatic incident.

Utilizing local data to facilitate decision-making, school leadership teams provide guidance and coaching regarding the development, adaptation, and sustained implementation of a continuum of evidence-based practices that are linked to multiple academic, social, emotional, and behavioral student outcomes. As a team-based, whole school approach, implementation efforts are shaped by local cultural and contextual norms. As such, student voice and participation, family communications, and formal collaborations with community agents are important to shaping a more culturally responsive and contextually relevant implementation of evidence-based practices.

As schools seek to promote safety and reduce the risk of violence, partnerships with the local mental health system have the potential to add strength to a multitiered system of support (MTSS) involving Tier 1 promotion-prevention, Tier 2 early identification and intervention, and more intensive Tier 3 intervention (Barrett, Eber, & Weist, 2013). However, there are a number of considerations to ensure these partnerships are successful, including: (1) establishing memoranda of agreement between the school district and local mental health system, (2) integrating the clinician into the MTSS and assuring effective team functioning, and (3) optimizing the roles of all staff on the MTSS in implementing evidence-based practices.

**Integrating elements of SWPBS and SEL.** An emerging literature suggests that schools should jointly leverage aspects of SEL and School Wide Positive Behavior Supports (SWPBS). Osher, Bear, Sprague, and Doyle (2010) argued that neither SEL nor SWPBS, which are each necessary to meet a range of student needs, can be sufficient for many school communities with more complex needs. The issue of moving from standalone prevention, promotion, and intervention approaches to more complex integrated models was addressed by Domitrovich et al. (2010), where the authors predicted “additive and synergistic effects” that would lead to improved student outcomes. The authors discussed combining the PAX-Good Behavior Game and the Promoting Alternative THinking Strategies (PATHS) curriculum into the PATHS to PAX model. Bradshaw and colleagues (2014) further discussed the idea of blending approaches, with particular focus on leveraging elements of PBIS and SEL, building a strong case for the approach, and providing a roadmap for change to the field. Cook and colleagues (2015) reported on outcome research, demonstrating reductions in externalizing behaviors and overall improved mental health from an approach that blended elements of SEL and PBIS, where the results were superior to interventions using either SEL or

PBIS alone. Extending on this literature, a loose analogy can be drawn between the ideas behind blending elements of SEL and PBIS, and providing an authoritative schooling model, where recent research has demonstrated beneficial outcomes from such models. Well over 15,000 schools across the nation have committed to a SWPBS model and likewise, a similar number to a SEL model. Emerging research and practice suggests that an exploration of key research questions and demonstration model research are timely next steps for the field over the next 5 to 10 years, as we take what has been learned and further develop approaches that combine elements of PBIS and SEL.

**Establishing memoranda of agreement (MOAs) to effectively coordinate services between schools and mental health providers.** As the movement toward mental health systems in schools has grown in recent decades (Weist, Lever, Bradshaw, & Owens, 2014), an emerging concern is to avoid *co-located* services, or clinicians operating in isolation or in parallel to the school's MTSS efforts. In this regard, a foundational strategy is to establish clear MOAs between the school and collaborating mental health centers. These MOAs should indicate the expectation that the clinician is an active participant on the MTSS team, helping to guide and implement programs and services at all tiers. They should also specify hours and days worked by the clinician (ideally with daily start and end times that at least match hours worked by education employees), services provided (e.g., focused assessment; individual, group and family therapies), particular evidence-based practices (EBPs) to be implemented, and quality improvement and evaluation strategies. For example, in Baltimore, in order for community clinicians to deliver services in the schools, they are required to undergo common training in EBPs, conduct common evaluation activities, engage in quality assurance, and report on progress along key dimensions, such as student emotional, behavioral, and academic functioning (Weist, Paternite, Wheatley-Rowe, & Gall, 2009).

**Integrating clinician into the MTSS and assuring effective team functioning.** Mental health clinicians often play a primary role in delivering Tier 3, or treatment services. However, when MOAs as above specify active roles on teams, and involvement in Tier 1 and 2 services, clinicians are better able to assist in schoolwide efforts (e.g., bullying prevention, assuring safe and supportive schools) and early intervention (e.g., providing support to teachers in classrooms). MTSS teams should be inclusive (e.g., school- and community-employed mental health staff, teachers, school health staff, administrators, family members) and should follow systematic strategies to assure effective decision-making, implementation, and refinement of EBPs, such as the Team Implemented Problem Solving (TIPS) system developed by



researchers connected to the national Center for Positive Behavioral Interventions and Supports (see <https://www.pbis.org/training/tips>).

**Optimizing roles of all staff on the MTSS in implementing evidence-based practices.** In addition to assuring that clinicians are able to be active in programs at Tiers 1 and 2, efforts focusing on improving school safety should also assure that school-employed staff such as psychologists and counselors are able to be fully engaged in prevention and intervention. This requires school leadership to analyze roles of these staff, moving away from primary emphases on traditional roles (e.g., school psychologists conducting evaluations, counselors providing academic advisement), and involving them in EBPs at all tiers of the MTSS. Ideally, school- and community-employed staff collaborate in delivering these EBPs. An example would be clinicians and counselors working together to assist teachers in delivering the Support for Students Exposed to Trauma (SSET) program (Jaycox et al., 2009). SSET is a structured 10 session program delivered in classrooms to provide education about trauma and key skills associated with recovery from exposure, and also emphasizes this critical approach for improving school safety (i.e., providing early intervention and assistance to students exposed to trauma).

### **Addressing Theoretical, Empirical, and Policy Gaps on Weapons in the School Context**

Mass shootings in school are having a major impact on practice, policy, and legislation. But most research and policy formulations related to guns in school focus mainly on shootings and ignore other weapon-related behaviors in schools. Weapons at school affect far more students in the United States than those involved in a fatal shooting, either as victim or bystander, but that is an issue that is rarely addressed. We endorse a theoretical conceptualization of school violence in which the school context is at the center (Astor & Benbenishty, 2019; Benbenishty & Astor, 2005). The school is embedded in multiple interrelated and nested contexts that impact the school. School climate, policies, and organization mediate and moderate the influence of the outside context and are responsible for final outcomes, such as bullying, weapon victimization, academic achievement, suicide, and student and staff well-being.

This model highlights the relationships between multiple types of victimization and perpetration (i.e., physical, social, sexual, cyber, and weapon-related) that occur at school. It also acknowledges the differences in epistemology, predictors, and consequences of the specific types of school violence behaviors and weapon behaviors on school grounds. This conceptualization provides a nuanced approach to researching weapons in school. It also highlights new ways to incorporate weapon behaviors into the school



safety literature with stronger links to school climate, social and emotional learning, and bullying prevention interventions. Consistent with this conceptual framework, we outline five steps that are intended to help advance school-based, weapon-related research and policy.

1. **Focus broadly on weapon-related victimization and focus less on firearms, shootings, and mass murder.** In the aftermath of a mass school shooting, researchers and policy makers tend to focus on the prevention of future mass shootings. To a large extent, the school safety research literature has overlooked the larger impact of weapons on students and on the school as a community. This is problematic since research suggests that most gun-related incidents and injuries at school are not the result of mass shootings (Shultz, Cohen, Muschert & Flores de Apodaca, 2013) and that many more students are affected by the presence of weapons on school grounds than are victims of shootings. According to the Centers for Disease Control and Prevention, in 2015, 4.1% of students nationwide reported carrying a weapon on school grounds (5.9% among males) and 6% had been threatened or injured with a weapon on school property one or more times during the 12 months before the survey (Kann et al., 2016). In California, self-report data suggest that over the past decade 20% to 30% of secondary school students have seen a weapon at their school within the most recent 12-month period (Astor & Benbenishty, 2019). Moreover, 3% to 5% of students reported bringing a firearm to school, while 7% to 9% reported being threatened on school grounds with a weapon (California Healthy Kids Survey). Together, in California alone, this accounts for hundreds of thousands of middle and high students affected by weapons each year at school (Astor & Benbenishty, 2019).

Each of these weapon-related behaviors can affect student well-being and school connectedness. Seeing or knowing about weapons on school grounds can dramatically affect perceptions of safety. Even rumors about a student bringing a weapon to school with the intention of harming someone has negative implications for school safety. Urban schools and especially students of color disproportionately experience such ongoing, daily exposure to weapon violence and threats. In general, research and policy efforts do not address these more widespread and persistent weapon-related behaviors in schools, even though nationwide, these issues affect millions of students annually. A broad research agenda that focuses on the full range of weapon-related violence in schools is needed to benefit all students, as well as the adults who work in schools. Even more concerning is the fact that many schools have a chronic weapon problem, with a large proportion of students affected by weapons on school grounds. Table 10.1, for example, shows the distribution of weapon-related behaviors in over 1,800 California high schools.

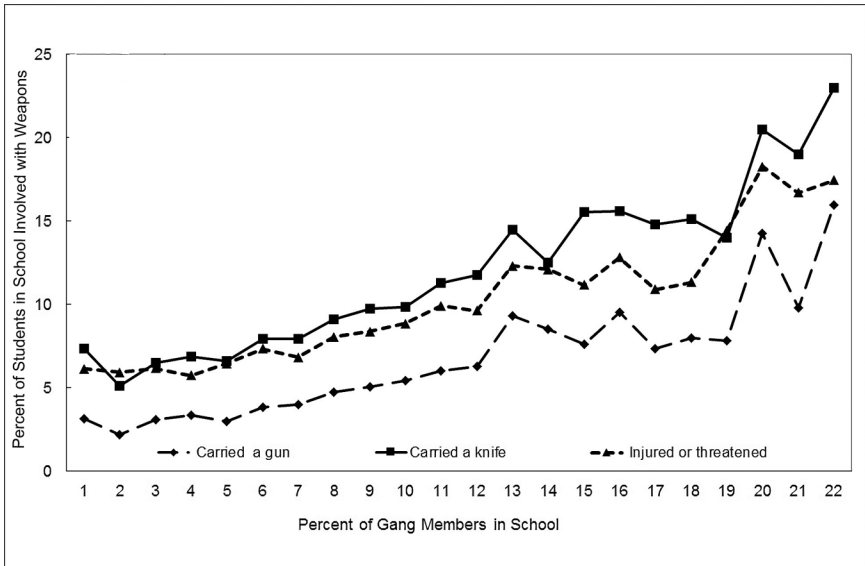
**Table 10.1** Distribution (percentage) of weapon-related behaviors in schools (N = 1,849)

Percentage of Students in the School	Carried a Gun	Carried Knife or Club	Threatened or Injured with a Weapon	Saw Someone Carrying a Weapon
0.00	10.2	4.3	4.8	0.5
0.01–1.99	11.2	0.9	1.5	0.0
2.00–3.99	32.7	7.4	10.0	0.1
4.00–5.99	22.5	14.0	21.4	0.2
6.00–7.99	21.3	19.8	22.0	0.8
8.00–14.99	9.0	39.5	33.3	9.8
15.00+	3.3	12.1	7.0	88.6

In 88.6% of secondary schools in California, at least 15% of the students reported seeing a gun in school. In about 90% of schools, at least one student reported carrying a gun to school in the previous year, and in 12.1% of the schools, at least 15% of the students admitted bringing a knife to school. The high prevalence and the skewed distribution of weapon-related behaviors in schools suggests that a comprehensive public health approach should be attempted with a focus on identifying schools with especially high rates of weapon-related behaviors reported by students. Taken together these data, along with the findings reported in table 10.1, suggest that additional research is needed to better understand a range of issues related to weapon carrying, such as why students bring weapons to school, what other types of weapons in addition to guns students carry, students' experiences of being threatened at school with a weapon, and the impact of seeing or hearing about weapons on school grounds.

## 2. Address the role of gangs in understanding and preventing weapons in schools.

With weapon-related victimization in schools, the impact of gangs on school climate needs to be recognized and addressed. Traditionally, gang research has been focused on the sociology of the community. Some studies have explored schools situated in communities with high gang activity. Few studies have explored the convergence of school safety and gang affiliation of students, or the possibility that school social dynamics and organizations may be contributing to gang activity. However, there are strong empirical indications that with regard to weapons on school grounds gangs are associated with weapon carrying, threats by weapons, and seeing a weapon on school grounds (Estrada, Huerta, Hernandez, Hernandez, & Kim, 2018).



**Figure 10.1** School-level percentage of students involved with weapons by percentage of gang members in school

School safety researchers should explore multiple means of creating a supportive context that reduce students’ need for gang affiliation (Astor & Benbenishty, 2019; Estrada, Gilreath, Astor, & Benbenishty, 2016). Figure 10.1 shows the association between the percent of gang members in a school and the corresponding percent of students who bring a knife or a gun and that are threatened by weapons in that school. This figure suggests a strong association between the presence of gang members in school and the prevalence of weapon-related problems in school.

- 3. Combine an empowerment strategy with a school-centric public health monitoring approach.** Based on Astor and colleagues’ monitoring framework (e.g. Astor & Benbenishty, 2018; Astor, Jacobson, Wrabel, Benbenishty & Pineda, 2017), local empowerment solutions that encourage and learn from the voices of students and educators increase the chances of effective and sustainable interventions because they better fit the circumstances of a local school and district. Local responses are built and designed around the input of students and staff members who can provide reliable and valid views of the needs of a district and school. Furthermore, by empowering and engaging students and staff members in the process of responding to local challenges, a climate of trust is created that is necessary for reducing weapon-related victimization. For example, with the mapping procedure (Astor & Benbenishty, 2018), students and teachers map hot spot locations, times and areas in the school where violent behaviors occur. This data is

then aggregated and presented back to focus groups of students and teachers where they discuss why these locations and times are riskier. They also generate local solutions that involve students, teachers, and administrators. To illustrate this, in one school they identified routes to and from school that were dangerous and suggested alternative routes and supervision, peer support strategies, and bus stop changes that significantly reduced risk in that school. This monitoring and empowerment strategy fits well with a public health approach to weapon-related victimization on school grounds. Through local voice it is possible to: (a) identify vulnerable schools through surveys and incident data from multiple school participants, including staff members, students, and administrators; (b) employ preventive measures, before tragic events occur; and (c) focus on providing resources (including pupil personnel, such as social workers, counselors, and psychologists) to vulnerable schools and communities. School-related interventions need to link to comprehensive efforts to address the challenges of the local community as a whole.

4. **Employ professional discretion and a range of alternatives to weapon-related discipline.** Instead of predetermined zero-tolerance discipline responses (e.g., suspension and exclusion), staff members need to weigh the specific characteristics of the student, the gravity of the offense, student recidivism, and any mitigating circumstances. There needs to be a better empirical understanding on how to do this in the best way. There is very little research on which disciplinary processes work best in specific situations where weapon use is involved. There should be a range of responses to weapon-related violations that are gradual and sequential in nature and which reflect the seriousness of the weapon involvement. These responses may range from ongoing educational interventions (such as class discussions of the perils of weapons on school grounds), counseling, threat assessment (Cornell, Allen, & Fan, 2012), and restorative justice measures implemented as part of school policies, suspensions, expulsions, and referrals to the justice system. There is a clear need to integrate professional development regarding fair and effective disciplinary responses around weapon behaviors into the implementation of disciplinary practices.

In situations where all other measures have failed, it is essential to strengthen the effectiveness of alternative schools. There is too little systematic empirical research on expelled and referred students sent to alternative schools. More studies are needed about programs or practices that reintegrate these students back into regular schools. Research can provide an empirical picture of best practices or pathways to reintegration.

5. **Expand accountability for weapon-related challenges beyond individual schools.** Addressing the challenges of weapons in school is a burden that educators and school leaders cannot bear alone. Districts, counties, and states should take responsibility for implementing policies and providing resources to schools to help prevent weapon-related victimization. These

higher-level organizational units have the knowledge and resources to monitor the prevalence of weapon-related incidents and to help identify and target school sites that need support (Astor & Benbenishty, 2019).

Finally, weapon-related victimization has some unique aspects that clearly distinguish it from other forms of school victimization, such as socially isolating and humiliating students based on characteristics such as gender, sexual orientation, ethnic affiliation, and physical and mental characteristics. Nevertheless, within schools, many of these different types of victimization and perpetration behaviors intersect and exacerbate each other. Hence, efforts to prevent weapon-related victimization should not be isolated. Dealing with weapon-related victimization needs to be an integral part of school policies and practices that aim to create a supportive and safe school climate that promotes students' social, emotional, and academic development.

**Avoid the Harmful.** Besides its greater likelihood of preventing violence, a national plan should avoid or mitigate the iatrogenic consequences of more police presence and more exclusionary discipline. This is important because in the interest of one type of safety—physical safety—schools may undermine other aspects of safety. Safety is more than physical safety; it includes emotional safety, psychological safety, and identity safety (Osher, Moroney, & Williamson, 2018), and involves effects over a child's life course. The presence of additional security personnel and the use of exclusionary discipline can undermine student learning, wellness, and development (American Academy of Pediatrics, 2013; Osher, Cantor, Berg, Strayer, & Rose, 2018) and these harmful effects, which are particularly pronounced for many students of color, particularly African American students, as well as for first- and second-generation immigrant students, GLBTQ students, and students with high incidence disabilities (Anyon, Zhang, & Hazel, 2016; Okonofua, Walton, & Eberhardt, 2016).

Two harmful effects are particularly notable. The first is the amplification of the school to prison pipeline, which has harmful life course effects on children, youth, families, and communities (Kirk & Sampson, 2011, 2013; Osher, Woodruff, & Sims, 2002; Theriot, 2009; Western, 2006). The second is undermining student connectedness (Anyon et al., 2016; Bachman, Randolph, & Brown, 2011; Gastic, 2011; Hankin, Hertz, & Simon, 2011; Morgan, Salomon, Plotkin, & Cohen, 2014; Theriot, 2009). School connectedness, which was defined by Resnick and colleagues (1997) as the perception of safety, belonging, respect, and being cared for, can contribute to the prevention of risky behaviors and mental health problems including emotional distress, suicidal ideation and attempts (Blum, McNeely, & Rinehart, 2002; Cairns & Cairns, 1994; Goodenow, 1993; Resnick et al., 1997; Yang & Anyon, 2016).

## Conclusion

This chapter provides the evidence base for the core components of a national Action Plan to prevent gun violence, with specific attention to gun violence in schools. Congress and the executive branch must remove barriers to gun violence research and institute a program of scientific research on gun violence that encompasses all levels of prevention. We contend that well-executed laws can reduce gun violence while protecting all constitutional rights. It is time for federal and state authorities to take immediate action to enact these proposals and provide adequate resources for effective implementation. We call on law enforcement, mental health, and educational agencies to begin actions supporting these prevention efforts. We ask all parents and youth to join efforts advocating for these changes, and we urge voters to elect representatives who will take effective action to prevent gun violence in our nation.

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## Notes

1. Data from the Safe School Study, a national study of school violence conducted in 1976 by Research Triangle Institute for the National Institute of Education (NIE), showed that only 1% of the nation's schools had police stationed in them (NIE, 1978).

2. For example, some studies find that when police are placed in schools, crimes increase. This finding is ambiguous, however, because the studies measure school safety outcomes using official records of school crime, which may be influenced by the placement of police in schools. Clearly, more rigorous research using outcomes measures that are not reactive to the intervention being tested is needed.

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