



## Getting ahead of school shootings: A call for action, advocacy and research

Lauren W. Collins<sup>a</sup> , Timothy J. Landrum<sup>b</sup>  and Chris A. Sweeny<sup>c</sup> 

<sup>a</sup>San Diego State University, San Diego, CA, USA; <sup>b</sup>University of Louisville, Louisville, KY, USA; <sup>c</sup>OH Valley Educational Cooperative, Shelbyville, KY, USA

### ABSTRACT

Despite the fact that schools remain incredibly safe spaces for children and youth to spend time, the occurrence of mass school shootings, although rare, is a pressing issue for our society. In this paper we discuss the importance of action, advocacy, and research related to mass school shootings. Specifically, we discuss research-based actions for preventing and responding to mass school shootings, including multi-tiered systems of support, positive behavior interventions and supports, threat assessment, and trauma-informed care. In regard to advocacy, we focus on the need to discontinue ineffective and, in some cases, harmful practices such as zero-tolerance policies. We conclude with an examination of the needed research in this area, with special attention on the use of active shooter drills and firearm legislation.

### KEYWORDS

school shootings; school violence; school safety

There is no question that mass school shootings are among the most unsettling events that occur in modern society. Although (a) gun violence is the number one cause of death among children in the United States (Jones, 2022), and (b) mass shootings have recently occurred in a variety of settings across the country, mass school shootings, defined as an individual purposely entering a school setting and killing three or more individuals (Collins et al., 2020; Nekvasil et al., 2015) remain statistically and comparatively rare, with most gun violence occurring in other settings (Fox & Fridel, 2018). Although schools continue to be among the safest settings for children, the magnitude of the effects of mass school shootings cannot be overstated and even one is one too many. For those who experience them directly—victims and their families, friends, and communities—these are tragic and intensely impactful events. The grievous effect of school shootings extends beyond the communities in which they directly occur, impacting students, parents, and citizens across the country. The aftermath of mass school shootings, typically captured by media attention in the weeks and months following such an event, includes heightened emotional reactions at the local, state, and national levels. In some instances, the devastation of a school shooting, coupled with the outrage and media attention that typically follow, can lead to social activism. This was seen in the foundation of Moms Demand Action, a grassroots organization that emerged the day following the shooting at Sandy Hook Elementary in 2011 (<https://momsdemandaction.org>), and the March for Our Lives, a peaceful demonstration organized by teenage survivors of the Parkland Shooting that occurred in 2018 (<https://marchforourlives.com>).

In other instances, the range and intensity of emotions that follow a mass school shooting can lead to reactions, and

sometimes overreactions as members of the community grapple with answering important but complex questions (Landrum et al., 2019). Immediate steps to provide care and support for those impacted are critical. But almost as quickly, the prevention of future mass school shootings becomes a central focus following such an event. Unfortunately, some of the solutions for prevention that educators or policy-makers turn to most quickly are supported by little or no research, may be incredibly expensive endeavors, and may even bring unwanted negative effects.

In that there are often misconceptions regarding the most effective approach for preventing school shootings, the purpose of this paper is to examine what is known and what questions need to be further explored and answered in order to minimize the likelihood that a mass school shooting might occur. We examine these issues within a framework of action, advocacy, and research. In terms of action, we describe actions that schools can and should take toward preventing school shootings, and what structures and supports schools should have in place for responding to the needs of students following such tragedies. Toward advocacy, we emphasize the need for educators and policy-makers not only to focus on those evidence based practices we describe (e.g. threat assessment, multi-tiered systems of support) but to actively reject unproven practices or those with questionable research support. In the context of school shootings, there may be tremendous emotional or intuitive appeal to many practices or procedures that would seem to offer quick or logical solutions (e.g. zero tolerance policies, target-hardening strategies). However, we caution that some of these strategies may lack research support, or even carry potentially harmful unintended consequences. As with our calls to action, we think of advocacy in terms of the need

to promote a scientifically based approach to our preventive and reactive efforts around school shootings. Schools and policy-makers at all levels must work to implement what we know in terms of evidence-supported strategies, while abandoning those that are unproven, and especially those that may result in harm. Finally, it is important to acknowledge that our knowledge base is incomplete. Emerging research supports certain approaches to preventing school shootings and making schools safer, but there are many questions for which we simply lack data or research. We consider several specific areas of needed research to address these gaps in our understanding regarding the best approaches to preventing and responding to school shootings.

### A call for action

Given the number of mass school shootings that have occurred in the US, there are simply not enough data from which to draw a profile of the student who is likely to plan and carry out a mass school shooting. In short, at present we know that the use of profiling is an ineffective approach for preventing a mass shooting. Longstanding recommendations from various authorities (i.e. government agencies, scholars) clearly state that there simply is no profile of a mass school shooter (National Threat Assessment Center, 2019; Reddy et al., 2001; Vossekuil et al., 2002). In fact, the U.S. Secret Service's NTAC has asserted for nearly two decades that "there is no accurate or 'useful' profile of students who engaged in targeted school violence" (NTAC, 2019, p. 1). Although the use of profiling as a strategy for preventing a mass school shooting is not useful, we do know that prior to most mass school shootings, the shooter will engage in behaviors that are observable and concerning to others (NTAC, 2019). Such behaviors include the onset of depression or sadness, an increase in anger, curiosity around

weapons and violence, drastic or unusual changes in appearance, and discussion of suicide or self-harm. It is especially important to note that in most cases, the individual will communicate his or her intention of carrying out an attack in the form of a written or verbal threat or through an image or video depiction.

Understanding that potential changes in behavior precede most school shootings, and that students typically communicate their intentions prior to an act of targeted violence, should offer some help in guiding prevention efforts. In choosing specific policies or practices to implement, schools should focus on strategies that (a) are helpful in the broader context of creating safe and positive learning environments, (b) promote the effective evaluation of threats of violence, and (c) are supported by empirical research. In the rare but tragic event that a mass school shooting occurs, schools should also be prepared to respond with actions that support the mental, physical, and emotional recovery of survivors.

### Actions for prevention

No single instructional or behavior management strategy will prevent a mass school shooting. However, a school that is characterized by a positive school climate, trusting student-teacher relationships, and effective and open communication between students, teachers, and staff will be well positioned to respond to indications that a mass school shooting is being planned. Researchers have suggested a variety of strategies for preventing firearm violence in schools (e.g. Katsiyannis et al., 2018).

### Tiered systems of support

Specifically, implementation of a multi-tiered system of support (MTSS), such as school-wide positive behavior interventions and supports (SWPBIS) is arguably the most

**Table 1.** Online resources for practitioners.

Resource	Web Address	Description
Center on Positive Behavioral Interventions and Supports	<a href="https://www.pbis.org">https://www.pbis.org</a>	The Center on Positive Behavioral Interventions and Supports is a resource provided by the US Department of Education. Practitioners are provided with links to publications, tools, presentations, and videos that cover a wide-variety of topics, including school-wide supports, classroom PBIS, and mental health.
National Center on Safe Supporting Learning Environments	<a href="https://safesupportivelearning.ed.gov">https://safesupportivelearning.ed.gov</a>	American Institutes for Research National Center on Safe Supportive Learning Environments provides resources for topics related to engagement, safety, and environment. This website also hosts several training packages, including one focused on Trauma-Sensitive Schools ( <a href="https://safesupportivelearning.ed.gov/trauma-sensitive-schools-training-package">https://safesupportivelearning.ed.gov/trauma-sensitive-schools-training-package</a> )
National Child Traumatic Stress Network	<a href="https://www.nctsn.org">https://www.nctsn.org</a>	The National Child Traumatic Stress Network provides resources to a wide-variety of stakeholders, including teachers, parents, and service providers. Resources are geared toward improving care for those who witness or experience a traumatic event.
Sandy Hook Promise	<a href="https://www.sandyhookpromise.org">https://www.sandyhookpromise.org</a>	Sandy Hook Promise was founded following the tragic school shooting that occurred in Newtown, CT and focuses on violence prevention. This website provides resources for schools targeting social emotional learning. Sandy Hook Promise offers brief student training that is aligned with the Collaborative for Academic, School, and Emotional Learning and that can be delivered in-person or online.
The SHAPE System	<a href="https://www.theshapesystem.com">https://www.theshapesystem.com</a>	The School Health Assessment and Performance Evaluation (SHAPE) System is provided by the National Center for School Mental Health. Resources are provided for or implementing multi-tiered school mental health, including an action planning assessment for trauma-informed schools – the Trauma Responsive Schools Implementation Assessment ( <a href="https://www.theshapesystem.com/wp-content/uploads/2020/03/TRS-IA-1-25-18.pdf">https://www.theshapesystem.com/wp-content/uploads/2020/03/TRS-IA-1-25-18.pdf</a> ).
Virginia Youth Violence Project	<a href="https://education.virginia.edu/faculty-research/centers-labs-projects/research-labs/youth-violence-project">https://education.virginia.edu/faculty-research/centers-labs-projects/research-labs/youth-violence-project</a>	The Virginia Youth Violence Project is focused on preventing violence in schools and improving school safety. In addition, this group leads the National Center for School Safety's threat assessment work. A repository of threat assessment research and training resources is provided ( <a href="https://education.virginia.edu/faculty-research/centers-labs-projects/research-labs/youth-violence-project/national-center-school-0">https://education.virginia.edu/faculty-research/centers-labs-projects/research-labs/youth-violence-project/national-center-school-0</a> ).

effective approach for creating a positive and safe learning environment in schools (Horner et al., 2017). A primary benefit of tiered systems of support is the emphasis on universal supports and the prevention of academic and behavioral problems. A multi-tiered approach is supported by the logic that the majority of students (i.e. ~80% of students) will respond to strategies implemented in the primary tier. Primary strategies for preventing problem behavior include the use of both antecedent and consequence-based interventions. For example, primary strategies include the establishment of school-wide expectations, explicit instruction in classroom routines, positive reinforcement in the form of verbal praise and tokens or tickets that can be exchanged to earn tangible rewards.

The benefits of a SWPBIS framework have been demonstrated for over two decades, and this approach has been shown to benefit students with and without disabilities (Grasley-Boy et al., 2019). Specifically, schools that implement SWPBIS have lower rates of bullying (Waasdorp et al., 2012), office discipline referrals (Bradshaw et al., 2010), and out of school suspensions (Kim et al., 2018). Moreover, these schools have higher rates of attendance (Freeman et al., 2015) and in some cases, more students who demonstrate grade-level competence in math and reading (Gage et al., 2017). Finally, implementation of SWPBIS is associated with more positive perceptions of school climate (Charlton et al., 2020). For the purposes of this paper, we consider in particular the potential for SWPBIS and associated strategies to create or enhance positive and trusting relationships between students and teachers.

### **Antecedent interventions**

Several specific antecedent interventions within a SWPBIS framework might be especially impactful on student-teacher relationships by increasing the likelihood of positive student-teacher interactions. For example, simply by increasing opportunities to respond (OTRs), a teacher provides greater opportunity for a student to demonstrate a behavior or academic response (Haydon et al., 2012) that can be followed by a positive teacher response. Through careful planning, teachers can easily increase the frequency of requests for which students are likely to demonstrate an appropriate response. Increased rates of appropriate or correct responding create the opportunity not only for simple acknowledgment, but for the use of behavior specific praise (BSP; Brophy, 1998). The use of BSP provides students with immediate, positive teacher attention in the form of verbal reinforcement and is supported by decades of research for improving student outcomes (Collins & Cook, 2016). The preventative and positive nature of increasing OTRs and using BSP naturally results in a greater number and percentage of positive student-teacher interactions, a foundation for building and enhancing positive student-teacher relationships.

Another example of an approach that prevents problem behavior and also facilitates building relationships between students and teachers is the use of positive greetings at the door (PGD; Cook et al., 2018). When using PGD, teachers engage in four specific steps as students enter the classroom: (a) greeting each student individually using verbal or

nonverbal (e.g. high-five, fist-bump) communication; (b) providing pre-correction by reminding students of classroom expectations; (c) delivering additional, individualized pre-correction or positive reinforcement that specifically addresses behavioral challenges or successes from the previous day; and (d) using BSP to reinforce students for displaying appropriate behavior as they enter the classroom. The use of PGD has been shown to increase academic engagement and decrease disruption (Allday & Pakuraru, 2007; Cook et al., 2018). Naturally, this strategy has great potential for improving student-teacher relationships.

### **Communication and threat assessment**

The establishment of a positive and trusting relationship between students and adults in the school is likely an important factor in preventing mass school shootings. As previously noted, in most cases involving an act of extreme school violence, a student will communicate his or her intention ahead of time (NTAC, 2019). This communication may occur verbally, through a drawing, or in written form, including on social media platforms. In the event that a student communicates an intention to harm others to another student, it is essential that the student who heard or observed the threat is able to relay that information to a trusted teacher or another adult in the building. School personnel can then report the threat for further evaluation.

Communication between students and adults is an important component of one of the most widely used methods for violence prevention, known as threat assessment. In a threat assessment model, a multidisciplinary team comprised of mental health professionals, an administrator, a law enforcement representative (e.g. school resource officer), and, in some cases teachers (Maeng et al., 2020), uses a framework for systematically evaluating and responding to threats of violence. The Comprehensive School Threat Assessment Guidelines (CSTAG; Cornell, 2018) is perhaps the most implemented framework for implementing threat assessment in schools. The model applies a five-step decision-making approach to determine whether a threat is transient (i.e. not serious, or easy to resolve) or substantive (i.e. a serious intention to harm). In addition to taking protective action to increase safety in the face of threats that could result in serious harm, the CSTAG model of threat assessment emphasizes the importance of providing additional services to students as needed to address underlying problems that precipitated their threats. This approach aligns well with a multi-tiered approach to supporting students in demonstrating pro-social behavior.

### **Actions for responding**

Although the likelihood of a mass school shooting is rare, when one does occur, the devastation and trauma are deep and far-reaching. Therefore, in the instance that a mass school shooting does occur, schools should be prepared to respond quickly and effectively to mitigate the effects that such a trauma can have on the social, emotional, behavioral, psychological, and academic development of students.

### **Trauma-informed care**

One way to prepare schools to effectively handle the aftermath of a shooting, or any tragedy that occurs in their community, is through a focus on trauma-informed care. Trauma-informed care is an approach that (a) utilizes assessments and interventions to identify and respond to trauma, and (b) establishes a trauma-informed culture by embedding four key assumptions into everyday practice (Substance Abuse & Mental Health Services Administration, 2014). The four key assumptions that support SAMHSA's approach to trauma-informed care are described by the "four 'R's" (SAMHSA, 2014, p. 9): realization, recognition, response, and resist re-traumatization. When applied in a school context, this means that all individuals (e.g. teachers, staff, administrators) must have a basic understanding (i.e. realization) of what trauma is and how it impacts individuals and communities and an ability to identify (i.e. recognition) signs or symptoms of trauma. Moreover, schools must have personnel who are trained to intervene (i.e. respond) when students have experienced trauma using evidence-based practices, particularly in a way that does not cause more trauma (i.e. resist re-traumatization) for the individual or the community.

It is important to note that creating a trauma-informed school is not easy. Indeed, it is a complex endeavor that requires specialized training, professional development, and in some cases hiring additional personnel (e.g. mental health professionals). Although an individual school remains highly unlikely to have the need to respond to a mass school shooting, creating a trauma-informed care framework is beneficial in other ways. It has been estimated that approximately two-thirds of students will experience trauma (Perfect et al., 2016). We also know that trauma has undeniable impacts on brain functioning and brain development (e.g. Child Welfare Information Gateway, 2015). Thus, there is little doubt that trauma has a significant impact on the academic, social, and behavioral performance of many students in schools. The prevalence and impact of trauma on students indicate that schools may be best served by integrating a trauma-informed approach into their MTSS to provide a full continuum of support to all students (Chafouleas et al., 2016). Establishing a multi-tiered approach ensures that schools are prepared to provide universal supports that promote resilience among all students, while also setting the stage for targeted and individualized responses to support students with greater needs. Further, trauma-informed schools are better equipped to support their students should they face any crisis, such as violence in the school, home, or community.

### **A call for advocacy**

In addition to increasing the use of practices that are effective for preventing and responding to mass school shootings, it is also imperative that researchers, educators, and policy makers advocate for the discontinuation of ineffective, and in some cases potentially harmful approaches. Perhaps the most obvious example of this involves the disciplinary concept of zero tolerance, often embraced as a means of responding to maladaptive behaviors in an effort to create a safe school.

### **Zero tolerance**

Zero tolerance policies evolved from the get-tough approach that characterized schools' responses to drugs and weapons in the early 1990s (e.g. Mongan & Walker, 2012). When zero tolerance came to be applied general disciplinary issues in schools, the goals were to (a) create a more equitable and fair approach to disciplinary actions; and (b) reduce problematic behaviors in schools, by using exclusionary discipline tactics, regardless of the context in which a behavior occurred. The logic underpinning this approach was that the use of consistent consequences would serve as a deterrent for other students who may consider engaging in similar offenses. Unfortunately, data have consistently shown that implementation of zero tolerance policies led to an increased disparity in the application of exclusionary discipline tactics and resulted in detrimental student outcomes (American Psychological Association [APA] Zero Tolerance Task Force, 2008; Skiba & Peterson, 2000). Specifically, these policies are correlated with disproportionality of suspensions for students of color (Hoffman, 2014) and students with disabilities (APA, 2008), increased dropout rates, and negative impact on school climate (Skiba, 2014). Moreover, the application of zero tolerance policies limits students' access to academic instruction by removing them from the learning environment. In addition to substantial evidence of harm, zero tolerance is marked by an absence of evidence that these policies prevent violence, leading school violence experts to recommend better alternatives such as threat assessment (Borum et al., 2010). In short, data suggest that zero tolerance policies are not only ineffective but also harmful to students. Thus the abandonment of these policies, especially as a misguided method of preventing mass school shootings, should be a top priority.

### **The industry of school shootings**

Finally, it is important to advocate for extraordinary caution in responding to the rare likelihood of school shootings with expensive, unproven products or strategies. School security has quickly evolved into a multi-billion dollar industry, with estimates as high as \$2.7 billion (Cox & Rich, 2018). Metal detectors, bulletproof glass, bulletproof whiteboards, and other "target-hardening" strategies or products appeal to school leaders (see Almeida, 2015), while other products (e.g. Kevlar backpacks) are marketed more directly to parents. Despite their appeal, however, there is little evidence to support such products and approaches for improving school safety, or in preventing mass school shootings (Johnson, 2017).

### **A call for research**

We have suggested that current policy and practice around school shootings do not always align with the best available evidence, but it is important to recognize that our knowledge base around school shootings is incomplete. Among areas of greatest need for further research are (a) the

potential impacts, both positive and negative, of some of our responses to the *possibility* of a school shooting; and (b) the relationship between firearm legislation and policy and the potential for violence in schools.

### **Lockdown drills**

The use of lockdown drills has become commonplace in schools as a way to prepare students in how to respond in the event of a mass school shooting. Essentially, a lockdown drill is the practice of teaching students how to quietly shelter in place in the event of an internal or external intruder. In some cases, schools have taken the extra step of simulating an intruder or attack, sometimes graphically so, in conducting active shooter drills. Despite the use of these drills in schools across the country, many questions remain unanswered about their effectiveness in keeping students safe, or about the potential side effects of such drills.

Although older data indicated that lockdown drills are not correlated with an adverse perception of school safety (e.g. Zhe & Nickerson, 2007), there is growing evidence that active shooter drills may cause more harm than good. For example, Huskey and McConnell (2020) surveyed college students about their levels of fear and perceptions of risk and safety in schools. Results indicated that students who participated in active shooter drills in high school reported higher levels of fear and risk and perceived schools to be less safe. Similarly, a national poll of 14-24 year olds indicated that the majority of students who participated in active shooter drills experienced emotional distress, including feeling unsafe, scared, helpless, or sad afterward (Moore-Petinak et al., 2020). Moreover, media reports have included numerous examples of trauma for both teachers and students as the result of active shooter drills (see Kingkade, 2020). Concern about the potential traumatic impact of drills involving live simulations with deceptive elements, such as feigned student deaths, has prompted medical, psychological, and educational professionals to raise considerable alarm (Schonfeld et al., 2017). In fact, the American Academy of Pediatrics recommended the discontinuation of active shooter drills due to the psychological risks of such activities (Schonfeld et al., 2020). Future research should continue to explore the potential harm that may be caused by such drills in school, particularly impacts on more vulnerable populations such as young students, students with disabilities, English Language Learners, and students of color.

Finally, we must consider the time and resources that are used to conduct lockdown drills in schools. Lockdown drills occur during normal school hours, which leads to an interruption of the learning environment and a loss of instructional time. Given the rarity of mass school shootings, it is important to (a) investigate from a cost-benefit framework the wisdom of all preparedness strategies in terms of instructional losses and the potential for psychological harm compared to any added benefits in terms of school safety, and (b) explore methods that focus on training teachers how to lead students calmly during any crisis, without the need for lockdown drills or active shooter simulations.

### **Firearm legislation**

A thorough discussion of the prevention of mass school shootings would be incomplete without consideration of the role of firearms in such events (Collins et al., 2020; Landrum et al., 2019; Muschert, 2007). Access to firearms is a prerequisite for carrying out a mass school shooting; therefore, the role of access to firearms warrants careful consideration. NTAC (2019) reported that nearly 80% of students who used a firearm in an act of school violence obtained the weapon “from the home of a parent or close relative” (p. 22). In nearly half of the cases, the firearm was small enough to be concealed in a backpack. Further, one element of the threat assessment process is for the team to assess whether the student has access to the means (i.e. weapon) to carry out a threat.

We recognize that any discussion of access to firearms instantly becomes political, but it is imperative that researchers are able to examine this topic from the most objective, data-based perspective possible. The reasons for this should be obvious; any decisions about how to keep schools safe must be based on the most reliable and trustworthy evidence available. For more than two decades, however, research on gun violence was very limited. In 1996, the Dickey Amendment led to what amounted to a ban on federal support for research on gun violence. As of 2020 however, this policy appears to have been reversed, with congress approving \$25 million for the National Institutes of Health and the Centers for Disease Control and Prevention “to examine gun violence from a public health perspective” (Hauck et al., 2020). It remains to be seen what research might show in terms of the relationships between gun legislation and policy and violence in or out of schools. It is also unknown how such research might be received, and whether and how it might inform legislation, policy, and practice at national, state, and local levels around gun violence in schools.

### **Closing thoughts**

The purpose of this paper was to outline what is known and what is not known about school shootings. More specifically, we used a framework of action, advocacy, and research to describe actions that are probably warranted based on available data, to suggest advocacy for school leaders and policy makers to abandon practices that lack evidence of effectiveness or even show evidence of potential harm, and to describe specific areas in which more and better research is needed around preventing and responding to threats of school shootings. Actions that appear warranted from an evidence-informed perspective include implementing tiered systems of support (e.g. SWPBIS), with particular emphasis on implementing positive, antecedent strategies that show promise in building more positive student-teacher relationships. We described increased OTRs and the use of BSP as simple examples in instructional contexts, and PGD as an example of a strategy that may enhance teacher-student relationships. Enhancing positive, trusting relationships between teachers and students may be a critical element in preventing school violence. We

also described threat assessment as perhaps the most promising approach to preventing school shootings specifically. Finally, trauma-informed care represents an approach or set of practices that would be especially important in the aftermath of an incident of violence, but also likely beneficial to all students given the exposure to trauma experienced by a large percentage of schoolchildren in the U.S.

In terms of advocacy, we urged school leaders and policy-makers at all levels to rely on evidence as much as possible in making decisions about what keeps schools safe. Acknowledging the enormous intuitive or emotional appeal of certain school safety responses to something as devastating as a school shooting, we highlighted zero tolerance policies and target-hardening strategies as examples of policies that not only lack evidence of effectiveness, but may carry unintended negative consequences. In the case of zero tolerance, accumulating data suggest that these policies do not work as intended, and do indeed cause harm, particularly to already vulnerable or marginalized populations of students. A similar conclusion is warranted for target hardening strategies, and the related practices of conducting sometimes realistic active shooter drills. On these fronts, data are mixed at best, but emerging evidence appears to support the concerns expressed early on by mental health professionals that these approaches may do more harm than good in terms of the climate and culture they create in schools, and perhaps more importantly in the increased levels of stress and anxiety they may be creating in children.

Finally, we noted that more and better research is needed on all issues surrounding school violence and school shootings in particular. We noted lockdown drills, and especially those that overtly focus on active shooter scenarios, as one area in dire need of further research. Research should focus at minimum on the potential for psychological harm to students and staff who participate in such drills, but also on alternative strategies for preparedness that focus on staff and students learning routines and procedures around movement, following directions, and remaining calm. We concluded with measured optimism that recent changes in federal policy may now allow and support research on gun violence to more directly address some of these issues, as well as the relationships among firearm legislation, state and local gun policies, and gun violence both in and outside of school.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Notes on contributors

**Lauren W. Collins**, PhD, is an associate professor at San Diego State University who specializes in translating research into practice to improve student outcomes, particularly in reading and behavior. She is committed to creating safe and inclusive educational environments, with a focus on preventing exclusionary discipline practices and school violence.

**Timothy J. Landrum**, PhD, is a professor of special education at the University of Louisville in Louisville, KY. His work focuses on emotional and behavioral disorders, and more recently on the intersections

among mental health, a relationship focus in classroom and behavior management, and the prevention of serious challenging behavior.

**Chris A. Sweigart**, PhD, is a Special Education Consultant at the Ohio Valley Educational Cooperative. His interests include evidence-based practices and approaches for improving school safety and the lives of students facing significant challenges, such as mental health and behavior disorders and academic failure.

## ORCID

Lauren W. Collins  <http://orcid.org/0000-0002-6790-3613>  
Timothy J. Landrum  <http://orcid.org/0000-0001-9448-8737>  
Chris A. Sweigart  <http://orcid.org/0000-0002-7672-3737>

## References

- Allday, R. A., & Pakurar, K. (2007). Effects of teacher greetings on student on-task behavior. *Journal of Applied Behavior Analysis*, 40(2), 317–320. <https://doi.org/10.1901/jaba.2007.86-06>
- Almeida, A. (2015). When schools simulate mass shootings. <https://www.theatlantic.com/education/archive/2015/02/when-schools-simulate-mass-shootings/385642/>.
- American Psychological Association Zero Tolerance Task Force. (2008). Are zero tolerance policies effective in the schools? An evidentiary review and recommendations. *The American Psychologist*, 63(9), 852–862. <https://doi.org/10.1037/0003-066X.63.9.852>
- Borum, R., Cornell, D. G., Modzeleski, W., & Jimerson, S. R. (2010). What can be done about school shootings? A review of the evidence. *Educational Researcher*, 39(1), 27–37. <https://doi.org/10.3102/0013189X09357620>
- Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of schoolwide positive behavioral interventions and supports on student outcomes: Results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions*, 12(3), 133–148. <https://doi.org/10.1177/1098300709334798>
- Brophy, J. (1998). *Motivating students to learn*. McGraw Hill.
- Chafouleas, S. M., Johnson, A. H., Overstreet, S., & Santos, N. M. (2016). Toward a blueprint for trauma-informed service delivery in schools. *School Mental Health*, 8(1), 144–162. <https://doi.org/10.1007/s12310-015-9166-8>
- Charlton, C. T., Moulton, S., Sabey, C. V., & West, R. (2020). A systematic review of the effects of schoolwide intervention programs on student and teacher perceptions of school climate. *Journal of Positive Behavior Interventions*, 23(3), 285–200. <https://doi.org/10.1177/1098300720940168>
- Child Welfare Information Gateway. (2015). *Understanding the effects of maltreatment on brain development*. U.S. Department of Health and Human Services, Children's Bureau.
- Collins, L. W., & Cook, L. (2016). Never say never: The appropriate and inappropriate use of praise and feedback for students with learning and behavioral disabilities. In *Instructional Practices with and without Empirical Validity*. Emerald Group. <https://doi.org/10.1108/S0735-004X20160000029007>
- Collins, L. W., Landrum, T. J., & Sweigart, C. A. (2020). Extreme school violence and students with emotional and behavioral disorders: (How) do they intersect? *Education and Treatment of Children*, 43(3), 313–322. <https://doi.org/10.1007/s43494-020-00025-z>
- Cook, C. R., Fiat, A., Larson, M., Daikos, C., Slemrod, T., Holland, E. A., Thayer, A. J., & Renshaw, T. (2018). Positive greetings at the door: Evaluation of a low-cost, high-yield proactive classroom management strategy. *Journal of Positive Behavior Interventions*, 20(3), 149–159. <https://doi.org/10.1177/1098300717753831>
- Cornell, D. (2018). *Comprehensive school threat assessment guidelines*. School Threat Assessment Consultants LLC.
- Cox, J. W., & Rich, S. (2018, March 25). Scarred by school shootings. *The Washington Post*. <https://www.washingtonpost.com/graphics/2018/local/us-school-shootings-history/>

- Fox, J. A., & Fridel, E. E. (2018). The menace of school shootings in America. In H. Shapiro (Ed.), *The Wiley handbook on violence in education: Forms, factors, and preventions* (pp. 15–35). Wiley. <https://doi.org/10.1002/9781118966709.ch1>
- Freeman, J., Simonsen, B., McCoach, D. B., Sugai, G., Lombardi, A., & Horner, R. (2015). An analysis of the relationship between implementation of school-wide positive behavior interventions and supports and high school dropout rates. *The High School Journal*, 98(4), 290–315. <https://doi.org/10.1353/hsj.2015.0009>
- Gage, N. A., Leite, W., Childs, K., & Kincaid, D. (2017). Average treatment effect of school-wide positive behavioral interventions and supports on school-level academic achievement in Florida. *Journal of Positive Behavior Interventions*, 19(3), 158–167. <https://doi.org/10.1177/1098300717693556>
- Grasley-Boy, N. M., Gage, N. A., & Lombardo, M. (2019). Effect of SWPBIS on disciplinary exclusions for students with and without disabilities. *Exceptional Children*, 86(1), 25–39. <https://doi.org/10.1177/0014402919854196>
- Hauck, G., Ellis, N. T., & Filby, M. (2020). February 10. Congress approved \$25M in funding for gun safety research. Now what?. *USA Today*. <https://www.usatoday.com/story/news/nation/2020/02/09/gun-violence-how-researchers-spend-25-m-gun-safety-funding/4464121002/>
- Haydon, T., Macsuga-Gage, A. S., Simonsen, B., & Hawkins, R. (2012). Opportunities to respond: A key component of effective instruction. *Beyond Behavior*, 22(1), 23–31. <https://doi.org/10.1177/107429561202200105>
- Hoffman, S. (2014). Zero benefit: Estimating the effect of zero tolerance discipline policies on racial disparities in school discipline. *Educational Policy*, 28(1), 69–95. <https://doi.org/10.1177/0895904812453999>
- Horner, R. H., Sugai, G., & Fixsen, D. L. (2017). Implementing effective educational practices at scales of social importance. *Clinical Child and Family Psychology Review*, 20(1), 25–35. <https://doi.org/10.1007/s10567-017-0224-7>
- Huskey, M. G., & Connell, N. M. (2020). Preparation or provocation? Student perceptions of active shooter drills. *Criminal Justice Policy Review*. <https://doi.org/10.1177/0887403419900316>
- Johnson, C. L. (2017). Preventing school shootings: The effectiveness of safety measures. *Victims & Offenders*, 12(6), 956–973. <https://doi.org/10.1080/15564886.2017.1307293>
- Jones, D. (2022, April 22). Firearms overtook auto accidents as the leading cause of death in children. *National Public Radio*. <https://www.npr.org/2022/04/22/1094364930/firearms-leading-cause-of-death-in-children>
- Katsiyannis, A., Whitford, D. K., & Ennis, R. P. (2018). Firearm violence across the lifespan: Relevance and theoretical impact on child and adolescent educational prospects. *Journal of Child and Family Studies*, 26, 1748–1762. <https://doi.org/10.1007/s10826-018-1035-2>
- Kim, J., McIntosh, K., Mercer, S. H., & Nese, R. N. (2018). Longitudinal associations between SWPBIS fidelity of implementation and behavior and academic outcomes. *Behavioral Disorders*, 43(3), 357–369. <https://doi.org/10.1177/0198742917747589>
- Kingcade, T. (2020, September 3). Active shooter drills are meant to prepare students. But research finds ‘severe’ side effects. *NBC News*. <https://www.nbcnews.com/news/us-news/active-shooter-drills-are-meant-prepare-students-research-finds-severe-n1239103>
- Landrum, T. J., Sweigart, C. A., & Collins, L. W. (2019). Getting ahead of the next school shooting: What we know, what we can do. *Educational Leadership*, 77(2), 36–41. <http://www.ascd.org/publications/educational-leadership/oct19/vol77/num02/School-Shootings@-What-We-Know,-What-We-Can-Do.aspx>
- Maeng, J. L., Cornell, D., & Huang, F. (2020). Student threat assessment as an alternative to exclusionary discipline. *Journal of School Violence*, 19(3), 377–388. <https://doi.org/10.1080/15388220.2019.1707682>
- March for Our Lives. (2018). <https://marchforourlives.com>
- Moms Demand Action. (2011). <https://momsdemandaction.org>
- Mongan, P., & Walker, R. (2012). “The road to hell is paved with good intentions”: A historical, theoretical, and legal analysis of zero-tolerance weapons policies in American schools. *Preventing School Failure: Alternative Education for Children and Youth*, 56(4), 232–240. <https://doi.org/10.1080/1045988X.2011.654366>
- Moore-Petinak, N., Waslewski, M., Patterson, B. A., & Chang, T. (2020). Active shooter drills in the United States: A national study of youth experiences and perceptions. *The Journal of Adolescent Health*, 67(4), 509–513. <https://doi.org/10.1016/j.jadohealth.2020.06.015>
- Muschert, G. W. (2007). Research in school shootings. *Sociology Compass*, 1(1), 60–80. <https://doi.org/10.1111/j.1751-9020.2007.00008.x>
- National Association of School Psychologists. (2017). *Best practice considerations for schools in active shooter and other armed assailant drills: Guidance from the National Association of School Psychologists and the National Association of School Resource Officers*. National Association of School Psychologists. <https://www.nasponline.org/resources-and-publications/resources-and-podcasts/school-climate-safety-and-crisis/systems-level-prevention/best-practice-considerations-for-schools-in-active-shooter-and-other-armed-assailant-drills>
- National Threat Assessment Center. (2019). *Protecting America’s schools: A U.S. Secret Service analysis of targeted school violence*. U.S. Secret Service, Department of Homeland Security. <https://www.secretservice.gov/data/protection/ntac/usss-analysis-of-targeted-school-violence.pdf>
- Nekvasil, E. K., Cornell, D. G., & Huang, F. L. (2015). Prevalence and offense characteristics of multiple casualty homicides: Are schools at higher risk than other locations?. *Psychology of Violence*, 5(3), 236–245. <https://doi.org/10.1037/a0038967>
- Perfect, M. M., Turley, M. R., Carlson, J. S., Yohanna, J., & Saint Gilles, M. P. (2016). School-related outcomes of traumatic event exposure and traumatic stress symptoms in students: A systematic review of research from 1990 to 2015. *School Mental Health*, 8(1), 7–43. <https://doi.org/10.1007/s12310-016-9175-2>
- Reddy, M., Borum, R., Berglund, J., Vossekuil, B., Fein, R., & Modzeleski, W. (2001). Evaluating risk for targeted violence in schools: Comparing risk assessment, threat assessment, and other approaches. *Psychology in the Schools*, 38(2), 157–172. <https://doi.org/10.1002/pits.1007>
- Schonfeld, D. J., Melzer-Lange, M., Hashikawa, A. N., & Gorski, P. A. Council on Children and Disasters, Council on Injury, Violence, and Poison Prevention, & Council on School Health. (2020). Participation of children and adolescents in live crisis drills and exercises. *Pediatrics*, 146(3), 1–7. <https://doi.org/10.1542/peds.2020-015503>
- Schonfeld, D. J., Rossen, E., & Woodard, D. (2017). Deception in schools—When crisis preparedness efforts go too far. *JAMA Pediatrics*, 171(11), 1033–1034. <https://doi.org/10.1001/jamapediatrics.2017.2565>
- Skiba, R. J. (2014). The failure of zero tolerance. *Reclaiming Children and Youth*, 22(4), 27–33.
- Skiba, R. J., & Peterson, R. L. (2000). School discipline at a crossroads: From zero tolerance to early response. *Exceptional Children*, 66(3), 335–346. <https://doi.org/10.1177/001440290006600305>
- Substance Abuse and Mental Health Services Administration. (2014). SAMHSA’s concept of trauma and guidance for a trauma-informed approach (HHS Publication No. 14-4884). [https://ncsacw.samhsa.gov/userfiles/files/SAMHSA\\_Trauma.pdf](https://ncsacw.samhsa.gov/userfiles/files/SAMHSA_Trauma.pdf)
- Vossekuil, B., Fein, R. A., Reddy, M., Borum, R., & Modzeleski, W. (2002). *The final report and findings of the safe school initiative: Implications for the prevention of school attacks in the United States*. U.S. Secret Service and U.S. Department of Education. <https://www2.ed.gov/admins/lead/safety/preventingattacksreport.pdf>
- Waasdorp, T. E., Bradshaw, C. P., & Leaf, P. J. (2012). The impact of schoolwide positive behavioral interventions and supports on bullying and peer rejection: A randomized controlled effectiveness trial. *Archives of Pediatrics & Adolescent Medicine*, 166(2), 149–156. <https://doi.org/10.1001/archpediatrics.2011.755>
- Zhe, E. J., & Nickerson, A. B. (2007). Effects of an intruder crisis drill on children’s knowledge, anxiety, and perceptions of school safety. *School Psychology Review*, 36(3), 501–508. <https://doi.org/10.1080/0279615.2007.12087936>