

Maryland Center for School Safety

Effectiveness and Psychological Impact of Active Assailant Lockdown Drills in Maryland Schools

2024 Literature Review

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Glossary

This glossary provides definitions and explanations of key terms and concepts used throughout the literature review. It serves as a reference for readers to understand specific terminology related to lockdown drills, school safety, and associated psychological and educational practices. The terms are arranged alphabetically for easy navigation.

Active Assailant: An active assailant is an individual who is actively engaged in harming or threatening harm to students, staff, and visitors within a school setting.

Active Assailant Lockdown Drill: An active assailant lockdown drill refers to a lockdown drill where the primary focus is on preparing students, staff, and emergency responders to effectively respond to an imminent threat posed by an individual intending to cause serious injury or death (i.e., active assailant).

Anti-Racist: Anti-racism involves implementing policies and practices that actively promote racial equity and oppose racism.

Culturally Responsive: Cultural responsiveness refers to acknowledging and incorporating diverse identities, values, and norms into all aspects of school life, including lockdown drill policies and practices.

Equity: Equity refers to policies and practices that ensure every student receives the specific resources and support they need to succeed. In the context of lockdown drills, equity refers to ensuring all students have the specific resources and support they need to engage in lockdown drills and receive positive outcomes (e.g., preparedness, and confidence in implementing lockdown procedures) from them.

Lockdown Drill: Lockdown drills refer to the practice of a set of procedures designed to create a physical barrier between students and the active threat in the event of an actual emergency (National Center for School Safety, 2021). The goal of drills is to prepare students and staff to respond to emergencies using best practices. Lockdown drills include procedures for quickly securing classrooms, creating physical barriers, and minimizing exposure to the threat, as well as protocols for communication, coordination with law enforcement, and support for individuals affected by the incident.

Options-Based Drill: An approach to active assailant scenarios that provides individuals with multiple strategies for responding to an active threat. These are **not** lockdown drills. The options range from procedures used in traditional lockdown procedures to barricading, evacuating, and actively resisting an assailant. Examples of multi-option responses include Run-Hide-Fight (Federal Emergency Management Agency [FEMA], 2015) and Alert, Lockdown, Inform, Counter, Evacuate (ALICE; ALICE Training Institute, 2018).

Psychological Impact: Psychological impact refers to the effects of a stimulus on the mental and emotional state of a person. For this literature review, psychological impact refers to the socioemotional impact of lockdown drills on students, staff, and caregivers.

School Safety Plan: A school safety plan is a comprehensive and detailed plan of action to ensure the protection of students, staff, and visitors in the event of emergencies or threats. Lockdowns are only one piece of a school's safety plan. Other components include evacuation drills, fire drills, and shelter-in-place drills. School Safety Plans also include procedures for communication, safety infrastructure, incident reporting and documentation, mental health support, and other critical safety protocols.

Shelter-In-Place Procedure: Shelter-in-place procedures are similar to a lockdown where occupants remain on the premises. However, unlike a lockdown, a shelter-in-place is specifically designed to use a facility and its indoor environment to temporarily protect people from a hazardous situation occurring outside, such as dangerous weather or police action in the surrounding neighborhood. The school doors leading outside of the school are locked and no one may exit/enter the building.

Trauma: The Substance Abuse and Mental Health Services Administration defines trauma as “an event of circumstance resulting in physical harm, emotional harm, and/or life-threatening harm. The event or circumstance has lasting adverse effects on the individual's mental health, physical health, emotional health, social well-being, and/or spiritual well-being” (SAMHSA, 2024).

Trauma-Informed Care: Trauma-informed care is a framework that guides the delivery of services in schools. School staff who are trauma-informed understand the widespread impact of trauma on students' learning and behavior and respond with practices and policies that are sensitive to such knowledge (SAMHSA, 2014; Thomas et al., 2019).

Executive Summary

This literature review, conducted in partnership between the Maryland Center for School Safety (MCSS) and the National Center for School Mental Health (NCSMH) at the University of Maryland School of Medicine, examines best practices for lockdown drills in K-12 public schools. As mandated by Maryland Education Code Ann., § 7-1502 (g)(22) and (g)(23), the review is part of a broader statewide evaluation aimed at understanding both the effectiveness and psychological impact of these drills on safety outcomes and the well-being of students and staff. The research questions are as follows:

- **What does the literature suggest about the overall effectiveness of active assailant lockdown drills in improving school safety and emergency responsiveness?**
- **What does the literature indicate about the psychological impact of active assailant lockdown drills on students, staff, and the broader school community?**
- **To what extent should schools implement active assailant lockdown drills?**

To evaluate the effectiveness and psychological impact of active assailant lockdown drills, this literature review was conducted by searching current peer-reviewed journal articles from 2014 to present, with allowances for seminal works in areas of sparse literature. The search employed terms such as "lockdown," "school safety," "emergency preparedness," and "active assailant" in combination with "drill," "protocol," and "K-12 education." The initial set of articles was supplemented through an ancestral search and consultation with field experts. This approach ensured a comprehensive understanding of the current discourse surrounding lockdown drills in school settings. Brief findings are provided below for each research question.

RQ1: What does the literature suggest about the overall effectiveness of active assailant lockdown drills in improving school safety and emergency preparedness?

The literature on the effectiveness of active assailant lockdown drills is sparse and presents mixed findings. Studies such as those by Zhe and Nickerson (2007) and Schildkraut et al. (2020) indicate that while drills may enhance knowledge of procedures and preparedness, the real-time adherence to these procedures during drills varies, with some students not demonstrating the expected behaviors despite prior training. Additionally, the research underscores a significant gap in methodologically robust studies that would conclusively determine the effectiveness of these drills in real emergencies. The variability in how drills are implemented, from simple lockdowns to complex simulations involving actors, complicates the measurement of effectiveness and suggests a need for standardized protocols and further empirical investigation (Schildkraut & Nickerson, 2022; Jonson et al., 2020).

RQ2: What does the literature indicate about the psychological impact of active assailant lockdown drills on students, staff, and the broader school community?

Research concerning the psychological impact of active assailant lockdown drills highlights potential negative effects, especially when drills are intensive and include realistic simulations like fake blood or simulated gunfire. Studies have documented increases in anxiety, stress, and fear among students and staff, with lasting effects in some cases (ElSherief et al., 2021; Schildkraut et al., 2020). Notably, the psychological responses can vary by demographic factors, with younger students and those from high-crime areas showing more pronounced distress (Rich & Cox, 2018). Additionally, community reactions often reflect heightened anxiety following drills, indicating a broader social impact. These findings underscore the importance of considering the psychological toll and advocating for trauma-informed approaches that minimize potential harm while maintaining drill effectiveness.

RQ3: To what extent should schools implement active assailant lockdown drills?

To address the extent to which schools should implement active assailant lockdown drills, it's crucial to recognize that much of the contention surrounding this issue stems from drills that deviate from established best practices and are not trauma-informed. The literature suggests that drills conducted in alignment with evidence-based guidelines and trauma-informed principles tend to mitigate potential psychological harm and enhance the perceived safety and preparedness of participants (Goodman-Scott & Eckhoff, 2020; NASP & NASRO, 2021). Therefore, when lockdown drills are implemented with these considerations—avoiding overly realistic simulations and ensuring they are age-appropriate and sensitive to the needs of all students—they are generally seen as beneficial for improving emergency responsiveness without unduly stressing students and staff. Schools are encouraged to adopt such best practices to ensure that the drills support safety objectives while minimizing negative impacts on the school community.

While current guidance from bodies such as NASP and NASRO provides a solid foundation for best practices in lockdown drills, it is important to acknowledge that these guidelines may not cover all scenarios and needs encountered in diverse school settings, such as working with students with disabilities. As schools implement these existing guidelines, policymakers and researchers must invest energy in further developing comprehensive, context-specific best practices. This focus will ensure that future guidelines not only adhere to the highest standards of safety and psychological consideration but also address the varied needs of all school communities effectively.



Section 1.

Introduction & Methodology

Introduction

The Maryland Center for School Safety (MCSS) has been tasked with studying the effectiveness and psychological impact of active assailant lockdown drills in schools, as outlined in Maryland Education Code Ann., § 7-1502 (g)(22) and (g)(23). In response, the MCSS has partnered with the National Center for School Mental Health (NCSMH) at the University of Maryland School of Medicine. This collaboration aims to conduct a comprehensive statewide evaluation to assess how these drills impact both safety outcomes and the psychological well-being of students and staff across Maryland schools. This literature review is a crucial part of this evaluation process and will be updated annually to reflect the latest research and findings. The review is guided by the following research questions:

- **What does the literature suggest about the overall effectiveness of active assailant lockdown drills in improving school safety and emergency responsiveness?**
- **What does the literature indicate about the psychological impact of active assailant lockdown drills on students, staff, and the broader school community?**
- **To what extent should schools implement active assailant lockdown drills?**

These research questions were used to develop a search of the literature and create sections of this review that provide valuable insights and information tailored to assist educators, policymakers, and mental health professionals in understanding and optimizing lockdown drill practices. By structuring the review around these guiding questions, we ensure that each section contributes meaningfully to the broader dialogue on lockdown drills, offering evidence-based

recommendations and highlighting areas where further research and policy development are needed. **Section 2** delves into the historical context and evolution of lockdown drills, tracing their development from early approaches to the present day. **Section 3** examines the current state of lockdown drills, with a focus on best practices that enhance their effectiveness and positive impact. The psychological and emotional considerations of these drills are explored in **Section 4**, highlighting the potential impact on students, staff, and the community, and emphasizing trauma-informed approaches. The review also addresses challenges in **Section 5**, such as issues of accessibility and equity and discrepancies in implementation across schools. The findings culminate in a summary of best practices, providing actionable recommendations for improving school safety.

Literature Review Methodology

Except for Section 2 (Historical Context and Evolution of Lockdown Drills), researchers selected mostly empirical and theoretical studies by searching for current (2014-present) peer-reviewed journal articles. Some exceptions were made for areas of sparse literature, such as the effectiveness of lockdown drills. Importantly, there is a discrepancy in the conceptualization of terms related to lockdown drills in the literature. Thus, researchers used a broad array of search terms to identify an initial set of articles to review, including the following:

Lockdown OR “school safety” OR “emergency preparedness” OR “shelter-in-place” OR “silent safety” OR “multi-option safety” OR “active shooter” OR “active assailant” OR “stranger on-site” OR “armed assailant” AND school OR education OR “K-12” OR elementary OR “middle school” OR “high school” AND drill OR preparation OR training OR management OR protocol. “active shooter”. “school safety drill” OR “school shooter drills” AND “culture” OR “cultural considerations” OR “ELL” OR “English language learner” OR “racially minoritized” OR “racial minority” OR “linguistically minoritized”.

The initial search was then expanded on these articles via an ancestral search (i.e., examining reference sections of selected articles). Other peer-reviewed articles were found via researchers’ libraries and connections with experts in the field. Researchers also used guides from national associations, news articles, and other artifacts to provide context for the broader discourse surrounding lockdown drills.

Theoretical Framing

To set the stage for a comprehensive understanding of the current practices and controversies surrounding lockdown drills, it is essential to explore the theoretical frameworks that underpin school safety measures. Theoretical framing provides the basis for interpreting the complex dynamics at play in emergency preparedness, particularly in educational settings. This section delves into key theoretical frameworks, including trauma-informed care and culturally responsive, anti-racist, and equitable (CARE) practice, to illuminate how these approaches influence the design, implementation, and evaluation of lockdown drills in schools.

Trauma-Informed Care

Schools have emerged as crucial settings for trauma-informed care, recognizing that many students carry the invisible burdens of trauma that can profoundly affect their learning, behavior, and well-being (Thomas et al., 2019). **Trauma-informed care** is a framework that guides the delivery of services in schools. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), trauma-informed care consists of **realizing** the impact of trauma, **recognizing** the signs and symptoms of trauma in students and families, **responding** with policies and practices that are sensitive to trauma, and **resisting** re-traumatization (SAMHSA, 2023).

In practice, trauma-informed care means creating safe, supportive school environments that prioritize physical and emotional safety, foster trustworthiness and transparency, and empower students and families. This literature review is grounded in the principles of trauma-informed care by examining how these practices can be integrated into lockdown drills. Lockdown drills, while intended to prepare students and staff for potential emergencies, can inadvertently trigger or exacerbate trauma symptoms, especially for those with a history of trauma (NASP & NASRO, 2021). As such, it is imperative for schools to carefully consider the psychological safety of students and ensure drills are conducted in a manner that minimizes distress while maximizing positive outcomes like preparedness.

Culturally Responsive, Anti-Racist, and Equitable Practice

This literature review is also grounded in a **Culturally Responsive, Anti-Racist, and Equitable (CARE) approach** (Beason et al., 2024). CARE involves recognizing and valuing diverse cultural identities, norms, and values into practices and policies, implementing policies that promote racial equity, and ensuring that every student receives the resources they need to thrive. In the context of lockdown drills, applying CARE principles is essential because such drills can present accessibility issues and may be potentially triggering for students and families from backgrounds where there is a historical mistrust of law enforcement (Goldstein et al., 2018; Legewie & Fagan, 2019; Nakamoto et al., 2018; Rauk et al., 2023; Legewie & Fagan, 2019; Sewell & Jefferson, 2016). By incorporating CARE, schools can adapt lockdown drills to be more inclusive and sensitive to these diverse experiences, thereby reducing potential distress.



Section 2.

Historical Context and Evolution of Lockdown Drills

Early Development of School Safety Drills

School safety drills have long been a staple in U.S. schools to ensure safety in the event of various emergencies, including natural disasters, since the 1950s (Schildkraut & Nickerson, 2022). Fire drills, for example, became commonplace in schools around the 1960s following a tragic fire in a Chicago public school that resulted in the loss of both teachers and students (Cowan & Kuenster, 1996). Similarly, civil defense drills were part of a broader defense strategy to protect the U.S. from nuclear attacks in the 1950s (Brown, 1988) and were used in schools to ensure students knew how to respond in the event of an attack. These ‘duck and cover’ exercises laid the foundation for more modern emergency preparedness practices.

The Rise of Lockdown Drills

The specific practice of lockdown drills emerged more recently, becoming widespread after the 1999 shooting at Columbine High School. **Lockdown drills** are designed to practice a set of procedures that would be used to create a physical barrier between students and an active threat in the event of an actual emergency (National Center for School Safety, 2021). The primary goal of lockdown drills is to prepare students and staff to respond effectively to emergencies, reinforcing best practices through muscle memory. The typical procedure for lockdown drills includes locking the classroom door to create a physical barrier between the occupants and the assailant, turning off the lights in the room to enhance concealment, moving out of sight (e.g., away from windows), and remaining silent until law enforcement can secure the area (Keyes & Deffner, 2015).

While lockdown drills can be used for various situations, they are commonly associated with preparing for **active assailant** scenarios—situations where an individual is actively engaged in harming or threatening to harm students, staff, and visitors within a school setting (ALICE Training Institute, n.d.). Generally, mass shootings in schools are statistically rare events (Schildkraut et al., 2018), however, tragic events like the shooting at Marjory Stoneman Douglas High School in Parkland, Florida, where teachers and students had received minimal instruction on active assailant situations beforehand, thrust the topic of lockdown drills into national discourse (Schildkraut et al., 2020).

Contemporary Issues and Debates in Lockdown Drills

In recent years, the implementation of lockdown drills in schools has sparked a range of contemporary issues and debates, especially those related to active assailant scenarios. These include various aspects of their execution, impact, and ethics have come under scrutiny.

Active Assailant Scenarios and Psychological Safety

Lockdown drills with active assailant scenarios have sparked significant discourse due to the controversial procedures used to simulate the emergency. News reports have highlighted the use of fake blood, plastic pellets shot at teachers, simulated gunfire, and scripts where school principals are to be shot and killed (Aronowitz, 2014; Goldstein et al., 2020; Herron, 2019; Richter, 2019), and there have been documented instances of actual injuries sustained by students and staff (Herron, 2019; Schell, 2019). These scenarios raise concerns regarding the safety of students and staff, noting that such scenarios may traumatize students (Schildkraut et al., 2020). For example, Everytown for Gun Safety, a non-partisan organization, called for the end of student participation in drills, citing that they are traumatizing (2020). Similarly, the Partner Alliance for Safer Schools (PASS) notes that “schools are not set on fire to practice fire drills,” and thus, simulated gunfire and other procedures designed to make active assailant scenarios more realistic are not needed. See Section 4 (Psychological and Emotional Considerations) for further literature in this area.

Challenges in Standardization of Implementation

While the U.S. Department of Education (2013) offers broad guidance for emergency preparedness drills, there is no national standard specifically for active assailant lockdown drills. For example, while the guidance discusses the number of annual school safety drills that should be conducted, there is little guidance on *how* the drills should be implemented and *what* training is necessary for implementation. This lack of a unified standard has led to considerable variation in practices and guidance across different states and, in some cases, local education agencies (LEAs; Whinnery et al., 2019). For example, schools vary regarding who participates in lockdown drills; some include staff and students whereas others include one group or the other (Olinger Steeves et al., 2017). Similarly, while the National Association of School Psychologists

notes that lockdown drills should *not* include sensorial components, news articles report the use of such tactics (e.g., see Active Assailant Scenarios and Psychological Safety subsection).

Challenges in Terminology

Concerns have been raised about discrepancies in terminology used by researchers, practitioners, and the general public in school safety discussions. The term "lockdown drills" is broadly used to describe practicing procedures for various immediate dangers within a school, including, but not limited to, the presence of an active assailant (Schildkraut et al., 2024). It serves as an umbrella term encompassing different threats that could endanger those inside a school building (PASS, 2023). However, researchers often use "lockdown drills" interchangeably with "active shooter drills" (Goldstein et al., 2020; Schildkraut & Nickerson, 2022), which specifically refer to scenarios involving armed assailants (Schildkraut et al., 2024). Furthermore, the term "drill" is frequently misused to describe training activities, leading to confusion. In practice, some schools equate drills with training, merely providing teachers with a written plan to review rather than conducting practical exercises (Olinger Steeves et al., 2017). These inconsistencies in language create confusion and hinder effective communication and policymaking in the field of school safety.

Effectiveness

Critics of lockdown drills argue that these exercises are ineffective because they have not prevented further emergencies in schools. However, it is important to recognize that lockdown drills are designed primarily as harm mitigation practices rather than prevention strategies (Schildkraut & Nickerson, 2022; Schildkraut et al., 2022). The concerns and debates surrounding the implementation of these drills raise the critical question: *do the benefits outweigh the costs?* This question remains unanswered due to a lack of evaluative studies examining the effectiveness of lockdown drills. The current literature is limited, and this gap highlights the pressing need for more comprehensive research to assess the true impact and utility of lockdown drills in school safety protocols.

Section 2 Summary

- School safety drills, such as fire drills and civil defense drills, have long been integral to U.S. schools, evolving from responses to natural disasters and nuclear threats in the mid-20th century to modern emergency preparedness practices.
- Lockdown drills became prominent following the 1999 Columbine High School shooting. These drills focus on creating physical barriers (e.g, locking doors) to protect against active threats, especially active assailant scenarios.
- The implementation of lockdown drills has sparked debates on the psychological impact of drills (especially those with active assailant scenarios), controversial procedures, and discrepancies in terminology.



Section 3.

The Current (2014-Present) State of Lockdown Drills

Currently, approximately 96% of U.S. public schools implement lockdown drills to some extent (Musu-Gillette et al., 2018; Wang et al., 2020). Much of those drills include those for active assailants. From 2009 to 2022, school safety drills increased for active assailant scenarios from 84 to 96% (Wang et al., 2020)

Planning and Preparation

Conducting lockdown drills effectively requires a proactive and well-structured approach, making planning and preparation a central area for examination. According to several professional organizations, including the National Association of School Psychologists (NASP), National Association of School Resource Officers (NASRO), National Center for School Safety, and experts in school safety, effective planning and preparation involve the following:



Develop a Multidisciplinary Team

Schools must create a multidisciplinary safety team to guide lockdown discussions and decision-making. Such teams should include school mental health professionals with expertise in crisis mitigation (e.g., psychologists, counselors), school nurses, school administrators, school resource officers, school staff, parents, and student representative, and should coordinate with law enforcement and emergency responders (PASS, 2023; McIntosh et al., 2019; NASP & NASRO, 2021). This structure is not always implemented effectively. For example, school counselors' participation in lockdown drills varies, as do the specific roles they play in these drills (Eckhoff & Goodman-Scott, 2023). As counselors and other school mental health practitioners are integral parts of school mental health systems, their inconsistent involvement can hinder the ability to ensure students' well-being during and after drills.

There is limited research on the current state of multidisciplinary teams in assessing active assailant lockdown drills, especially regarding research partnerships. While researchers discuss procedures for examining the effectiveness of lockdown drills, many do not provide information about the composition of the school safety teams they worked with or the extent of their collaboration (Jonson et al., 2020; Schildkraut et al., 2020). This lack of information makes it difficult to evaluate the current state of safety teams and their efficiency in planning lockdown drills.

Discuss Drill Approach & Frequency

Drill Approach

Traditional lockdown drills are commonplace for active assailant scenarios. These drills can include students and staff, ensuring that everyone understands the procedures necessary to create a safe environment. Lockdown drills should not include simulation and sensorial components. However, school safety teams are having increased discussions about whether to continue to use lockdown drills or engage in alternative approaches, such as options-based (multi-option) drills and full-scale simulation.

In 2013, the U.S. Department of Education recommended schools practice options-based drills rather than lockdowns to account for numerous circumstances that can happen. *Options-based (or multi-option) drills* are those that provide students and/or staff with multiple strategies for responding to an active threat. Strategies include lockdown procedures as well as barricading, evacuating, and actively resisting an assailant depending on the specific circumstances. Examples of multi-option responses include Run-Hide-Fight (Federal Emergency Management Agency [FEMA], 2015) and Alert, Lockdown, Inform, Counter, Evacuate (ALICE; ALICE Training Institute, 2018). Options-based drills should not include simulation and sensorial components (NASP & NASRO, 2021). Supporters of options-based drills note that lockdown drills may leave students helpless, especially if an active assailant is successful in getting into a

classroom (e.g., Jonson et al., 2020). They also note that, realistically, students are not always behind classroom doors and need to be taught additional strategies beyond lockdown (PASS, 2023). Critics of options-based drills note the risk of increased harm to students and staff and the practicality of students retaining options-based information in the event of an actual emergency (e.g., Rygg, 2015; Schonfeld et al., 2020).

Full-scale simulation drills were originally designed for adult stakeholders to test their protocols in responding to threats. These drills involve a comprehensive simulation of an active assailant scenario to evaluate the effectiveness of the response plan and identify areas for improvement. Schools should consider conducting a cost-benefit analysis when considering the use of full-scale simulation. The chances of an active assailant causing harm to children and school staff on school grounds are rare (Schildkraut et al., 2018), though not impossible. As such, schools should consider the cost of full-scale simulations and whether the resources needed to engage in them will reduce resources from other safety activities or general mental health promotion activities (NASP & NASRO, 2014). Additionally, these drills are rarely appropriate for students (NASP & NASRO, 2021; Schonfeld et al., 2020). If the goal of a full-scale simulation is to prepare adult responders, schools should consider using adult actors to portray children and conducting the drill outside of regular school hours. If deciding to engage children in the simulation, schools should consider the use of volunteers from a drama club or those interested in a law enforcement career (Schonfeld et al., 2020), though it is still important to consider the potential psychological impact on these students and provide appropriate support before, during, and after the simulation.

Generally, if schools decide to engage in drills besides the traditional lockdown, they should think about the components of said drill, resource availability, and age and developmental considerations.

**‘Oppose any training that has
the potential for student
or staff physical or psychological harm’**

--NASP & NASRO (2021)

Relatedly, schools should discuss whether to conduct drills preannounced or unannounced. Preannounced drills involve notifying participants in advance and during the drill itself that it is

only a drill and not a real emergency. In contrast, unannounced drills occur without prior warning, though participants are informed that it is a drill once it begins. While unannounced drills can help rehearse and assess real-time responses, they are not recommended for active assailant scenarios due to the risk of re-traumatization of school staff and students (NASP & NASRO, 2021).

Drill Frequency

Finally, when considering the frequency of lockdown drills, schools must strike a delicate balance between preparedness and the potential for inducing stress or fear among students and staff. The U.S. Department of Education (2013) recommends that schools conduct drills at least once per year to ensure that all students and staff are familiar with emergency procedures. However, the frequency can vary based on local policies, the specific needs of the school community, and recent events that might heighten the need for increased readiness. For example, if a school has high turnover, they may consider conducting drills more frequently to ensure all school staff are up to date on procedures (Eckhoff & Goodman, 2021). Importantly, increasing frequency may have the potential to increase perceptions of risk (NASP & NASRO, 2021; Schildkraut et al., 2020).

Communicate with Participants

Regardless of the type of drill, all direct (e.g., school staff and students) and indirect (e.g., parents and community) participants should be notified of a drill taking place and informed about what to expect (NASP & NASRO, 2021; PASS, 2023). Clear communication is crucial to ensuring that everyone understands the purpose of the drill, the procedures that will be followed, and the importance of practicing these safety measures. For parents, notification should be timely and comprehensive, ideally delivered through multiple channels, such as letters, emails, and/or school messaging apps. Letters to parents, specifically, should include the following:

- The exact date and time of the drill
- An explanation of what a lockdown drill is and why it is conducted
- Reassurance about the safety and controlled nature of the drill
- The students' role in the drill and what they will be asked to do
- Potential anxiety that may come with a drill
- Support that is provided to students and staff
- Guidance on how parents can talk to their children about the drill at home,
- Options for opting students out of the drill, and
- Contact information for school administration and/or school mental health professional.

By keeping parents well-informed, schools can foster a collaborative environment where parents feel included in the safety planning process, aligning with trauma-informed and CARE (i.e., culturally responsive, anti-racist, and equitable) practice.

Sample Letter

Dear Parent/Guardian:

At [School Name], the safety and well-being of our students and staff are our top priorities. As part of our ongoing efforts to ensure a secure environment, we will be conducting a lockdown drill on [Date] at [Time]. This drill is a routine part of our school's safety procedures and is designed to prepare everyone to respond quickly and effectively in the event of an emergency.

During the drill, students will remain in their classrooms, and teachers will guide them through the necessary steps to ensure their safety (e.g., remaining quiet, following teacher direction). We want to assure you that this drill will be conducted in a calm and controlled manner, with clear instructions provided to all students.

We understand that some children may feel anxious or uncomfortable about the drill. Our teachers will discuss the drill with students beforehand to help them understand its purpose and to reassure them that they are safe. We encourage you to talk with your child at home as well, reassuring them that the drill is simply a practice to help everyone stay safe.

If you prefer that your child not participate in this drill, please contact [school administrator's name] by [opt-out deadline] at [contact information] to discuss alternative arrangements. Additionally, if you have any questions or concerns about the drill, please do not hesitate to contact [Contact Person's Name] at [Phone Number] or [Email Address]. We appreciate your support in helping us maintain a safe school environment for all.

Thank you for your continued partnership.

Best,

[Your Name]
[Your Title]
[School Name]

The broader community, including local emergency responders and community organizations, should also be notified of the drill to avoid unnecessary panic or confusion. This can be achieved through public announcements, social media, and coordination with local authorities. The inclusion of the community not only helps to prevent misunderstandings but also reinforces the collective effort required to maintain school safety.

Training and Education

Training and education are critical elements of comprehensive emergency safety plans in schools. A poignant example of the consequences of inadequate training is the tragic shooting at Marjory Stoneman Douglas High School in Parkland, Florida, on February 14, 2018 (Schildkraut & Nickerson, 2022). In the absence of sufficient instruction on how to respond during an active shooter incident, many students and staff were unsure of the appropriate actions to take. During

the shooting, teachers and students on the second floor stayed in place, while those on the third floor, confused by the situation, began evacuating as though it were a fire drill. Tragically, this decision led to several fatalities among those on the third floor, highlighting the life-or-death importance of clear, comprehensive training for both students

These can be categorized into two primary components: instructional activities (often called discussion-based exercises) and drill implementation (exercises). Instructional activities encompass lectures, workshops, and group discussions using scenarios, providing a foundation of knowledge and understanding. Drill implementation, on the other hand, involves the practical application of this knowledge through drill execution. Best practices for instructional activities involve:



Progressive Approach to Training and Education

Schools should take a step-by-step approach to instructional activities, starting with basic information and gradually moving to more complex ones like scenario-based discussions and classroom walkthroughs. The NASP and NASRO (2021) provide a hierarchy for such instructional activities: Introductions → Orientations → Workshops → Tabletops

Introductions involve sharing the school’s broader emergency preparedness plan with school staff and students. They might also include familiarizing students and staff with professionals, such as firefighters, to help them understand how these experts would assist in an emergency and how the school can best support their efforts. Orientations help schools become familiar with the school’s layout, including key areas like school exits, which is especially important if options-based training is anticipated. Workshops then offer more detailed instructions on specific safety protocols for active assailant scenarios. Finally, tabletop exercises provide low-stress opportunities for students and staff to discuss and practice safety protocols for active assailant scenarios within small groups. These tabletops may include vignettes that require participants to strategize responses and then report their plans to the larger group.

Developmental Appropriateness

Children and adolescents should participate in instructional activities to the extent that their involvement enhances their preparedness for active assailant emergencies (Schonfeld et al., 2020). As such, ensuring the developmental appropriateness of training content is essential for helping students understand how to respond during an active assailant emergency. Instructional activities should be designed with the following questions in mind:

- What do students at this developmental level typically know about school-based danger?
- What can we expect students at this developmental level to do in response to school-based danger?
- Is the content suitable for the age and comprehension levels of all participants?

According to NASP and NASRO (2021), all students should be provided with clear and simple language to understand the purpose of drills. Young students can understand simple instructions like “get out” (evacuate) and “hide out” (stay out of sight with lights off; lockdown) whereas older students can understand more sophisticated language. For example, when providing an active assailant lockdown drill training, Zhe and Nickerson (2007) used the following clear language: “This drill helps you prepare for situations when something inside or outside the school is unsafe.” Similarly, in an instructional activity for an options-based protocol, Jonson and colleagues (2020) used the terms “dangerous person,” “put things in front of the door,” and “throw things and run away from the danger,” for elementary-school aged children and, “dangerous intruder, determine if you can safely evacuate,” and “counter only as a last resort and when in immediate danger” for students in 6th-12th grade.

Training for preschool and elementary school students should focus on the concept of danger and safety. Training content should emphasize the role of teachers and school staff in maintaining safety. As students progress to upper elementary levels, they can also be taught to “keep out” (barricade) to further enhance their understanding of safety protocols. Tabletop vignettes may include discussing atypical procedures, such as what to do during a lockdown drill if they are outside. Instructional activities for middle and high school students may include having them generate examples of common dangers active assailant scenarios can address, with a focus on understanding the difference between probable and possible dangers. If schools elect to, options-based safety drill training content may be presented to middle and high school students.

Additionally, educators and trainers should consider the emotional and psychological impact of the training on students. Younger children, for example, may need more reassurance and simpler explanations to avoid causing unnecessary fear, while older students may benefit from more detailed discussions that encourage critical thinking and personal responsibility. The goal is to create a balance between providing necessary information and maintaining a supportive, reassuring environment where students feel safe and empowered.

Effectiveness of Active Assailant Lockdown Drills

The execution of lockdown drills represents the culmination of planning and training efforts made by a school to ensure the safety of students and staff in the event of an emergency. Implementing these drills requires careful evaluation to determine their effectiveness. However, research on the effectiveness of lockdown drills, specifically for active assailant scenarios in K-12 schools, is limited, with only a handful of evaluation studies. So far, effectiveness in the literature has been examined using both self-report survey and observational data and has been operationalized as knowledge of drill procedures/preparedness and adherence to drill procedures.

Zhe and Nickerson (2007) evaluated 5th and 6th grade students' perceptions of their knowledge of drill procedures after participating in a training and a traditional lockdown drill involving an active assailant scenario. The training directed students to "remain quiet, listen to their teachers' directions, and move to a safe corner or wall not visible through the door or window." Students who underwent the training felt significantly more prepared to complete drill procedures than those who did not. However, observational data revealed mixed results, as students who received training were just as likely as those who did not to fail to remain silent as instructed.

Schildkraut and colleagues (2020) assessed the knowledge of 6th-12th grade students regarding drill procedures after participating in a training on the Standard Response Protocol (SPR-X) by I Love U Guys Foundation (<https://www.iloveguys.org>), which covers lockdown drills as well as other emergency preparedness protocols like fire drills and evacuations. Students reported increased familiarity with lockdown and other emergency preparedness procedures following SPR-X training; however, perceptions of knowledge varied: boys generally felt more knowledgeable about drill procedures than girls, and students in traditional middle (6th-8th grade) and high schools felt less knowledgeable compared to their peers in preK-8th grade schools. Importantly, anecdotal evidence suggested increased hands-on involvement of teachers in preK-8th grade schools versus the traditional middle and high schools, which may contribute to more effective delivery and understanding of emergency preparedness protocols.

Section 3 Summary

- Planning and preparation for lockdown drills involves developing a multidisciplinary team that guides decision-making, considering whether to use traditional or alternative drill approaches, and communicating clearly with all direct and indirect participants.
- Training and education for lockdown drills include two primary components: instructional activities and drill implementation. Instructional activities should take a progressive approach to training and consider developmental appropriateness.
- Evaluating the effectiveness of lockdown drills is essential and involves examining knowledge of drill procedures, preparedness, and adherence, though research on this effectiveness is currently limited and mixed.



Section 4.

Psychological Considerations

Psychological considerations are an important aspect of preparing for and implementing safety drills in schools, as they can directly affect students’ mental well-being (Nickerson & Schildkraut, 2021; Riggs et al., 2023).

Impact of Drills on Students, School Staff, and the Community

The intensity of lockdown drills, especially those simulating high-stress scenarios like active assailants, are cause for public concern (Limber & Kowalski, 2020). News reports detailing “lockdown drills” gone awry—such as those involving simulated gunfire and fake blood in the presence of students (Aronowitz, 2014; Richter, 2019; Pierpoint, 2019)—underscore these worries. However, it is crucial to recognize that *many of these dramatic procedures depicted in the media do not adhere to recommended best practices and are not trauma-informed*. Instead, the focus should be on evaluating the psychological impact of drills conducted in alignment with evidence-based guidelines from reputable organizations like NASP and NASRO. Despite the importance of understanding these impacts, research on the psychological effects of lockdown drills, especially those involving active assailant scenarios, remains limited and mixed. Below, we discuss available literature regarding the psychological impact of drills on students, school staff, and the broader school/neighborhood community.

Student Impact

Zhe and Nickerson's (2007) evaluation of active assailant lockdown drills found that students who participated in the lockdown training and drill did not show significant differences in their anxiety levels or perceptions of school safety than those who did not receive the training and drill. In contrast, Schildkraut and colleagues' (2020) study on SPR-X revealed a decrease in students' perceptions of safety over time. Notably, the authors reported that three students in the school district were killed due to neighborhood violence during the study period, which may have influenced students' perceptions of safety beyond the effects of SPR-X. Indeed, Rich and Cox (2018) note, "children who live in high-crime urban neighborhoods may be more susceptible to stress during or after lockdowns...because so many of them have been exposed to gunfire in their communities." Additionally, racial differences were observed in perceptions of safety: White and Asian students generally felt safer in school compared to Black students, while Black students felt safer than biracial/multiracial students. Though the authors did not specify at which timepoint this data was analyzed, this could indicate that students' perceptions of safety are influenced by both immediate effects of training and drill and external factors such as racial disparities, suggesting that comprehensive safety measures should consider these broader contextual factors. Jonson and colleagues (2020) found that 4th-12th grade students engaged in instructional activities on ALICE (multi-option) were not more fearful of ALICE procedures than other emergency preparedness protocols like tornado drills.

Finally, a retrospective study examined University students' experiences in active assailant lockdown drills in high school and their perceptions of fear and risk (Huskey and Connell, 2021). There was a positive association between experiencing an active assailant drill in high schools and levels of student fear. Attending an urban high school was also predictor of student fear. Additionally, increases in perceptions of school climate and security awareness were associated with lower levels of student fear. Regarding risk, experiencing an active assailant lockdown drill in high school was associated with higher levels of perceived risk. Similarly, students who attended an urban high school had increased perceptions of risk. Finally, higher perceptions of school climate predicted lower levels of perceived risk. Overall, these studies underscore the variability in effectiveness, though more research is warranted.

School Staff Impact

Schildkraut and colleagues (2022) conducted a study involving 3,000 school personnel to assess perceptions of safety, preparedness, and lockdown drills. Their findings indicated that there was no significant change in overall perceptions of school safety, which remained high throughout the study. The research highlighted several demographic differences: as age increased, perceptions of school safety tended to decrease, with Black personnel more likely than White personnel to report feeling safe. Additionally, administrators generally felt safer than faculty and staff.

Community Impact

Finally, there is limited research to assess the impacts of lockdown drills on school communities. ElSherief and colleagues (2021) examined the psychological impact of 114 K-12 schools' active assailant lockdown drills on school communities' mental health. The study used machine learning, analyzing 54 million social media posts. Findings indicated that symptoms of anxiety, stress, and depression increased by approximately 40% following the drills, and this trend was sustained at least 90 days following the drills, though it is important to note that there are limitations to this observational data.

Generally, the literature is mixed as it relates to the psychological impact of lockdown drills, especially those with an active assailant focus. There is a critical need for more comprehensive studies to assess how such drills affect students' mental health and to develop strategies that minimize potential harm.

Trauma-Informed Practice

Trauma-informed approaches are crucial for effectively managing and supporting students during lockdown drills, especially in high-stress scenarios such as active assailant situations. **Trauma-informed practice** is a framework that guides the delivery of services in schools. School staff who are trauma-informed understand the widespread impact of trauma on students' learning and behavior and respond with practices and policies that are sensitive to such knowledge (SAMHSA, 2023; Thomas et al., 2019). This perspective is essential in ensuring that lockdown drills are conducted in ways that do not exacerbate existing trauma or contribute to additional stress. Many scholars have called for the use of trauma-informed practice in lockdown drills with active assailant scenarios (Goodman-Scott & Eckhoff, 2020; ElSherief et al., 2021; Schildkraut & Nickerson, 2022; Schildkraut et al., 2024). However, similar to the broader research on lockdown drills, there is limited research specifically outlining trauma-informed practices for these drills beyond the guidelines provided by NASP and NASRO (2021). NASP and NASRO discuss trauma multiple times in their guidelines, including the following notes:

- Schools should always account for students with specific vulnerabilities, such as previous trauma, during the planning and implementation of lockdown drills.
- Individuals with severe trauma histories should avoid participating in unannounced or full-scale simulation drills.
- Staff should be trained to recognize trauma symptoms in themselves, their students, and their colleagues.

Erbacher and Poland (2019) provide a case example of a trauma-informed lockdown drill designed for active assailant scenarios. This drill, aimed at testing both emergency responders and students, utilized actors from a local community college as well as senior classrooms that were thoughtfully picked by the school psychologist. Students were allowed to opt-out of volunteering. During the drill, students with a history of trauma related to guns were paired with

their guidance counselors. These students were identified by the school psychologist, who was part of the multidisciplinary planning team. The drill was announced in advance to all students, staff, and parents. On the day of the drill, there was no increase in school absences, indicating that the approach effectively mitigated potential distress. Reminders about the drill were communicated to students and staff on the morning of the event, and updates were posted on social media to ensure clarity and reduce confusion in the community. The drill resulted in positive results regarding students' and emergency responders' demonstration of drill protocol.

Incorporating trauma-informed approaches into the planning and execution of lockdown drills is vital to safeguarding the well-being of students, particularly in high-stress scenarios like active assailant situations. While the NASP and NASRO guidelines provide a foundational framework, the field would benefit from further research exploring specific trauma-informed practices for lockdown drills. The case example by Erbacher and Poland (2019) demonstrates the potential for such approaches to minimize distress and enhance the effectiveness of emergency preparedness. Moving forward, a concerted effort to integrate trauma-informed principles into lockdown drills, coupled with rigorous research, will be essential for creating safe and supportive environments that address the diverse needs of all students.

Section 4 Summary

- Many public concerns about the negative effects of active assailant lockdown drills may stem from those instances that do not follow best practice or trauma-informed guidelines, such as those involving simulated gunfire and fake blood, which can exacerbate anxiety and stress.
- Research on the psychological impact of lockdown drills, particularly those with active assailant scenarios, is mixed. While some studies show no significant differences in students' anxiety levels, others indicate increased anxiety, stress, and depression, highlighting the need for more studies.
- While more research is needed to operationalize trauma-informed practice within the context of lockdown drills, NASP and NASRO (2021) as well as other scholars recommend the need for such approaches to mitigate negative psychological impact.



Section 5.

Considerations for Lockdown Drills

Because lockdown drills are universal, school-wide initiatives, these drills are practiced by students (and staff) who hold many intersecting identities. These identities and the corresponding lived experiences of students are important to account for when planning for implementing trauma-informed lockdown drills. The following section highlights some identities and lived experiences that may impact the way in which students interact with lockdown drills, and suggestions for how schools can best support these students.

Students with Disabilities

Under the Americans with Disabilities Act and Individuals with Disabilities Act, school safety teams must consider students with disabilities in the planning and execution of lockdown drills. NASP and NASRO (2021) outline four specific areas of concern, including:

- Physical disabilities that might impede mobility,
- Physical disabilities that might impede access to instructions,
- Sensory disabilities that might increase distress or hinder response to instruction, and
- Cognitive disabilities that might impede understanding a situation and/or instructions.

The guidelines lack specific practices for students with disabilities, and similar to the broader literature base on lockdown drills, there is limited research and guidance on purposively planning for lockdown drills with students with disabilities.

While the research is limited and burgeoning, some experts in the field have begun to outline broad steps that schools can take to plan for supporting students with disabilities. Gay and Schultz (2021) provide a six-step approach:

1. *Gather Your Team*: The school planning team should be interdisciplinary in nature and ideally should include stakeholders such as (but not limited to) educators, nurses, parents, disability advocates, and mental health professionals.
2. *Identify Special Needs*: It is important to identify each individual on campus who may need additional support or access during lockdowns and lockdown drills.
3. *Build Individual Teams*: These smaller teams are made to support individual students during lockdown drills. The team members working on these individualized plans should be people who know and work with the student.
4. *Create an Individual Safety Plan (ISP)*: Each student should have an ISP that considers their specific needs and appropriate accommodations.
5. *Share the ISP*: Once the plan is developed, it should be shared with all staff who work with the student, as well as staff who might work with the student during a lockdown drill.
6. *Review and Adjust*: It is important to review the ISPs annually and adjust as needed. For example, changes may be necessary depending on adjustments to lockdown drill protocols.

A crucial aspect of this six-step process is creating the ISPs, which some experts instead refer to as Individual Emergency Lockdown Plans (IELPs). A more comprehensive exploration of this part of the six-step process is described below.

Developing an Individual Emergency and Lockdown Plan

Scholars encourage the use of tailored lockdown plans for students with disabilities (Schildkraut & Nickerson, 2022). Embury and colleagues (2019) describe the creation of IELPs to address the specific strengths and needs of children with disabilities. It includes components such as student information (e.g., age, grade, and disability category), medical needs, communication needs, sensory needs, and other critical information and specific supports needed for emergencies. The IELP should be created with a multidisciplinary team, including school psychologists and others with expertise in disability (NASP & NASRO, 2021), and reviewed annually.

IELPs can provide a structured approach to prepare for lockdown drills. They ensure that students with disabilities receive the appropriate support and accommodation during both instructional activities and drill implementation. For example, children with autism spectrum disorder (ASD) may have difficulties with self-regulation and sensory processing. One might consider adding language to the IELP around minimizing loud noises or bright lights during drills and providing a designated quiet area if needed. Similarly, cognitive disabilities, for example, may impede a student from understanding instructional activities during lockdown

training and education. To address this, the IELP could include provisions for using simplified language and visual aids to communicate lockdown drill procedures effectively. By using IELPs, schools can ensure that students with disabilities are effectively supported during lockdown drills, enhancing their safety and comfort in emergencies.

Embury and colleagues (2019) created a checklist that can be used by school staff when finalizing an IELP. Example questions from the checklist include:

- Does the IELP created for the student address mobility or other physical needs? Have accommodations been made to safely evacuate or shelter in place if necessary?
- Does the IELP address medication needs? How and when medication will be secured and administered in the event of an emergency?
- Does the IELP address communication needs? is there a communication board or other communication method available?
- Is the student able to explain her or his IELP and/or what she or he may need in a crisis? If not, how will the team address this?
- Have all teachers and paraprofessionals working with the student reviewed the IELP?

Students with Autism Spectrum Disorder

Jackson (2024) recently published an article summarizing practices that can be used for lockdown drills with students with autism spectrum disorder (ASD), repurposing common evidence-based strategies for specific lockdown scenarios. The authors address to utility of modeling, prompting, motivation/reinforcement, and evaluation when teaching skills to students with ASD, and provide examples throughout the paper for strategies that could translate to lockdown-specific skill building. Some examples they provide include social stories related to the lockdown drill, as well as role playing. Though this paper provides a helpful place to start, the authors make it clear that much more research is needed to better understand how to best support students with ASD during lockdown drills.

Cultural Considerations

Racial Trauma and Law Enforcement

Racial trauma refers to the psychological impact experienced by individuals from racially marginalized communities due to racial discrimination and violence (Comas-Díaz et al., 2019). A significant body of research has documented the adverse effects of police presence in schools, particularly for Black students and other racially minoritized groups. Studies such as Homer and Fisher (2020) highlight how the presence of law enforcement can exacerbate racial discipline disparities, leading to increased surveillance and punitive measures disproportionately targeting these students. Additionally, several other scholars have found that the presence of police can amplify feelings of anxiety and lower perceptions of school safety among Black and other racially minoritized students, potentially undermining the trust and safety they feel within their

educational environments otherwise (Legewie & Fagan, 2019; Nakamoto et al., 2018; Rauk et al., 2023; Sewell & Jefferson, 2016). While minimal literature to date exists to examine racial trauma in lockdown drills, there have been instances of lower perceptions of safety among racially minoritized students (Rich & Cox, 2018). Additionally, Goldstein and colleagues (2020) highlight a correlation between the active involvement of law enforcement in lockdown drills and the increase in elaborate simulations of school shootings. The involvement of law enforcement in active assailant lockdown drills may be intended to enhance safety and preparedness, however, for students with negative experiences or perceptions of police, these drills can evoke fear and distress rather than a sense of security.

Consider a scenario where a school in a predominantly Black neighborhood conducts a lockdown drill involving police officers. If these students have witnessed or experienced aggressive policing in their community, the sudden appearance of officers during a drill could rekindle fears of mistreatment and injustice, rather than fostering a sense of protection. This reaction may not only be due to direct involvement in drills, but also due to the broader implications of police presence in educational settings where students may feel surveilled rather than protected. Such experiences underscore the need for schools to approach lockdown drills with a sensitivity to the racial dynamics and histories of their student populations, ensuring that all safety measures are inclusive and do not inadvertently reinforce existing societal inequities.

While lockdown implementation considerations are important, considerations for law enforcement in lockdown drill planning should also be considered. Lockdown drills should be planned by a multidisciplinary team (PASS, 2023; McIntosh et al., 2019; NASP & NASRO, 2021), including members of the community. Community members may harbor concerns about police involvement even in the planning stages of emergency preparedness due to mistrust built on historical trauma (Canelo et al., 2023). Such involvement can affect the perceived inclusivity and safety of the planning process, as the presence of law enforcement, even if not directly participating in the drill, can lead to perceptions of surveillance rather than protection.

These complex dynamic underscores the need for careful consideration and sensitivity when integrating law enforcement into safety protocols in educational environments. While best practices are sparse as it relates to racial trauma and lockdown drills, NASP & NASRO (2021) do recommend implementing trauma-informed practices. This recommendation may call for *culturally responsive* trauma-informed practices as students from different backgrounds may conceptualize potentially traumatic experiences differently, such as racially minoritized students with a history of negative experiences with law enforcement. Culturally responsive, trauma-informed care within the context of active assailant lockdown drills may look like 1) ensuring school psychologists and community liaisons are part of the multidisciplinary planning team and are engaged meaningfully in the planning process, 2) determining the goals of the lockdown drill and whether police presence is necessary to meet those goals, and, if police are involved, 3)

providing training for officers on the impact of racial trauma. Additionally, researchers should conduct research to fill gaps in knowledge around racial trauma and lockdown drills.

English Language Learners

English Language Learners (ELLs) constitute a significant portion of the student population in many schools, bringing a rich diversity of languages and cultures. However, during emergency situations like lockdown drills, ELLs face unique challenges due to language barriers, which can impede their understanding of critical instructions and affect their overall safety. Similar to other areas of lockdown literature, minimal research exists to examine best practices in drill procedures for ELLs. Practitioners can repurpose common evidence-based strategies that are often used in school settings (e.g., Educational Development Center, n.d.) for these students to provide culturally and linguistically responsive drill planning and implementation. For example, schools should provide drill-related communications in multiple languages that reflect the linguistic diversity of the student body. Furthermore, training for staff should include strategies to support ELL students during drills, such as using visual aids, simplified language, or having bilingual staff and students serve as peer supports. It's crucial for the effectiveness of these drills that all students, regardless of their English proficiency, are fully prepared and know what to expect and how to respond. This approach not only enhances the safety of ELL students but also fosters a more inclusive and supportive environment during potentially traumatic situations.

Section 5 Summary

- Schools must comply with the ADA and IDEA when planning lockdown drills, ensuring physical, sensory, and cognitive needs are addressed. Experts recommend creating Individual Emergency Lockdown Plans (IELPs) to tailor accommodations, including communication supports and sensory-friendly strategies, with a multidisciplinary team reviewing the plans annually.
- The presence of law enforcement during lockdown drills can evoke fear among racially marginalized students, particularly Black students, due to prior negative experiences with policing. Schools are advised to adopt culturally responsive trauma-informed practices, involving community input in planning, minimizing police involvement where possible, and training officers on the impact of racial trauma.
- ELLs face unique challenges during drills due to language barriers. Schools should provide multilingual drill instructions, use visual aids, and incorporate bilingual staff or peer support to ensure ELL students understand procedures and feel prepared, fostering a more inclusive environment.



Section 6.

Conclusion

School safety drills have been a staple in U.S. schools since the 1950s, beginning with fire drills and civil defense exercises for nuclear threats (Schildkraut & Nickerson, 2022; Cowan & Kuenster, 1996). Lockdown drills, emerging after the 1999 Columbine shooting, are designed to create a physical barrier between students and threats by locking doors, turning off lights, and remaining silent (National Center for School Safety, 2021; Keyes & Deffner, 2015). Despite their widespread adoption following events like the Parkland shooting, these drills face criticism for potentially traumatizing students and lacking standardized implementation practices (Aronowitz, 2014; Herron, 2019; Schildkraut et al., 2020). Challenges include variations in drill procedures and terminology, and a need for more research on their effectiveness and impact on school safety.

Effective planning and preparation for lockdown drills are crucial, encompassing several key components. Schools should establish a multidisciplinary safety team, including mental health professionals, administrators, resource officers, and student representatives, to guide and coordinate lockdown procedures (PASS, 2023; McIntosh et al., 2019; NASP & NASRO, 2021). Despite this recommendation, inconsistent involvement from school counselors and variations in team composition can hinder drill effectiveness (Eckhoff & Goodman-Scott, 2023). Training and education form another critical element, involving progressive instructional activities and developmentally appropriate content tailored to students' age and comprehension levels (NASP & NASRO, 2021). Options-based drills and full-scale simulations are debated, with considerations around their potential benefits and drawbacks, including the risk of psychological impact and resource allocation (FEMA, 2015; ALICE Training Institute, 2018). Schools must also decide on drill types—preannounced or unannounced—and ensure comprehensive

communication with all participants to minimize anxiety and confusion (NASP & NASRO, 2021). Integrating these elements effectively supports a well-rounded approach to school safety.

Psychological considerations are crucial in the planning and execution of school safety drills, given their potential impact on students' mental well-being (Nickerson & Schildkraut, 2021; Riggs et al., 2023). Concerns about lockdown drills, especially those simulating high-stress scenarios like active assailants, are often heightened by media reports of distressing practices such as simulated gunfire (Aronowitz, 2014; Richter, 2019). Research on the psychological impact of these drills is limited and mixed. For example, Zhe and Nickerson (2007) found no significant difference in students' anxiety levels following drills, while Schildkraut et al. (2020) reported decreased safety perceptions over time, potentially influenced by external violence. Racial disparities in safety perceptions and heightened stress in high-crime areas also complicate the picture (Rich & Cox, 2018). For school staff, perceptions of safety remain generally high, though demographic differences exist (Schildkraut et al., 2022). Community-wide impacts suggest increased anxiety and stress post-drills (ElSherief et al., 2021). Incorporating trauma-informed practices, such as considering students' trauma histories and providing advance notice, is essential to minimize distress and enhance drill effectiveness (SAMHA, 2023; Erbacher & Poland, 2019). Further research is needed to better understand and address the psychological effects of lockdown drills on students and school communities.

Under the Americans with Disabilities Act and Individuals with Disabilities Education Act, school safety teams must accommodate students with disabilities in lockdown drills (NASP & NASRO, 2021). Key considerations include mobility, access to instructions, sensory processing, and cognitive understanding. However, specific practices for these students are under-researched. Scholars advocate for tailored Individual Emergency Lockdown Plans (IELPs) to address students' unique needs, such as mobility issues, medical requirements, sensory sensitivities, and communication challenges (Embury et al., 2019). IELPs should be developed with a multidisciplinary team and reviewed annually to ensure they provide effective support during drills. For example, IELPs can include modifications like minimizing noise for students with autism spectrum disorder (ASD) and using simplified instructions for those with cognitive disabilities. A checklist for IELPs includes considerations for physical, medical, sensory, communication, and emotional needs, ensuring that all school staff are trained to support these students effectively (Embury et al., 2019). Jackson (2024) further highlights strategies for adapting lockdown practices specifically for students with ASD, underscoring the importance of customized approaches to enhance safety and comfort during emergencies.

In conclusion, ensuring the safety and well-being of all students during lockdown drills requires a nuanced approach that considers their diverse needs. Effective implementation involves adhering to evidence-based practices, integrating trauma-informed strategies, and developing individualized plans, particularly for students with disabilities. As the research and guidelines evolve, it is crucial for schools to continuously refine their procedures and training to address the

psychological impact of drills and support all students effectively. A commitment to these practices will foster a safer and more inclusive environment for emergency preparedness.

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