Elementary School Staff Perceptions of ALICE Active Shooter Training

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ABSTRACT

ELEMENTARY SCHOOL STAFF PERCEPTIONS OF ALICE ACTIVE SHOOTER TRAINING

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Northern Illinois University, 2022
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This exploratory descriptive research study examined elementary school staff perceptions of ALICE active shooter response training and how participating in the training impacted staff perceptions of their own preparedness and their perceptions of their school’s level of safety. This study also examined elementary staff experiences of ALICE training. Participants answered a pre-survey, engaged in a half-day, scenario-based ALICE training, and then answered a post-survey. Results showed that participating in ALICE training had an overall positive impact on elementary staff perceptions of preparedness, confidence, and empowerment in regards to responding to an active shooter incident at their school. Elementary staff expressed an overall positive perception of the training’s value and found aspects such as the scenario-based format, the classroom training setting, and law enforcement officers acting as trainers to be beneficial. Implementing ALICE training with students emerged as a concern of staff.

Findings from this study were used to create recommendations for leaders and trainers who may be considering or planning to implement an options-based approach to active shooter drills, such as ALICE, in an elementary school setting. A key recommendation involves creating a communication plan that is clear, consistent, and helps participants to know what to expect during training and to understand what information will be shared with their students. Other recommendations include the importance of having a well-planned and consistent training protocol, skilled trainers, and an overall comprehensive school safety plan. The physical and
emotional safety of staff and students are the over-arching consideration of all recommendations and ensuring that any involvement of elementary students in active shooter drills is carefully considered and age-appropriate is of the upmost importance.
ELEMENTARY SCHOOL STAFF PERCEPTIONS OF ALICE ACTIVE SHOOTER TRAINING

BY

JENNIFER TAVINE CRAIG

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A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
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FOR THE DEGREE
DOCTOR OF EDUCATION

DEPARTMENT OF LEADERSHIP, EDUCATIONAL PSYCHOLOGY
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Doctoral Director:
Kelly H. Summers
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DEDICATION

I dedicate this dissertation to teachers.

They take care of their students in so many ways every day. They are amazing.
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CHAPTER 1
INTRODUCTION

Researchers have found that teachers make around 1,500 decisions a day (Klein, 2021), but arguably nothing weighs on the minds of teachers more than the thought of having to protect their students from deadly force. Active shooter training and drills in schools are now an annual requirement and part of the school routine just like fire drills, but the emotions they can elicit are much different than other standard safety drills. The year 2018 was the worst year for school shootings to date with 24 shootings resulting in 35 people killed and 79 people injured (Education Week, 2018). After a decrease in 2020, perhaps due to the impact of Covid-19 on in-person school attendance, school shooting incidents increased in 2021 to 34 incidents killing 14 people and injuring 54 people (Education Week, 2021). Rogers (2019) found in his nation-wide survey of public high school principals that of the five societal challenges examined, principals identified the threat of gun violence as the challenge affecting schools most. The responses showed that the fear of gun violence crosses rural, suburban and urban settings. Further, Rogers’s (2019) findings also included:

On average, principals indicated they spend more than two hours a week working to counter the threat of gun violence by taking on one or more of these three roles: responding to immediate threats, managing the problem by alleviating stress and communicating with the public, and creating conditions to prevent and respond to school shootings. (p.3)

Research shows that although only a small percentage of schools experience an active shooter
incident, the possibility of a school shooting is an ever-present concern in the lives of those who work in schools.

In recent years, there has been a nationwide shift in thinking regarding active shooter preparedness. In 2013, the Department of Education determined lockdown was no longer sufficient and that an options-based approach that allows individuals to make their own decisions was a more effective plan for active shooter training. While the majority (56.3%) of the 160 active shooter incidents between 2000 and 2013 ended with an action by the shooter, 13.1% of the time, unarmed individuals faced the shooter and ended the incident (U.S. Department of Justice & Federal Bureau of Investigation, 2014, p. 21). The National Association of School Psychologists (NASP) and the National Association of School Resource Officers (NASRO) (2014) discussed the addition of options-based approaches to active shooter drills including ALICE training and the Run, Hide, Fight model, which allow individuals to make their own decisions as an incident evolves (NASP & NASRO, 2014). NASP and NASRO (2014) concluded that “such drills have the potential to empower staff and save lives, but without proper caution, they can risk harm to participants” (p.1). Some of the practices the two organizations recommend in order to maximize benefits and minimize harm include considering participants’ developmental stages and mental health, along with developing a comprehensive communication plan (NASP & NASRO, 2014). They also note that “effective drills should result in staff who inspire calm and confidence in students” (NASP & NASRO, 2014, p.1).

Theoretical Framework

Teacher self-efficacy provided a framework for this study, as it can influence how teachers experience active shooter drills, and consequently, how they perceive their levels of
safety and security at school. Bandura (1977) discussed a theoretical framework of perceived self-efficacy and its relationship to behaviors in which he defined an efficacy expectation as “the conviction that one can successfully execute the behavior required to produce the outcomes” (p. 193). While skills involved in performing a specific task also influence whether an individual will achieve the desired level of performance, Bandura (1977) concluded that “Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences. The stronger the perceived self-efficacy, the more active the efforts” (p. 194). Bandura (1993) also examined the link between perceived self-efficacy and affective processes:

People who believe they can exercise control over threats do not conjure up disturbing thought patterns. But those who believe they cannot manage threats experience high anxiety arousal. They dwell on their coping deficiencies. They view many aspects of their environment as fraught with danger. They magnify the severity of possible threats and worry about things that rarely happen. (p. 132)

Thus, while teachers’ levels of self-efficacy in responding to an active threat drill scenario may have a relationship to the effectiveness of their responses, self-efficacy may also impact how the teacher experiences the drill and the feelings he or she has about their overall preparedness to respond to an active shooter and also their feelings about the level of overall safety and security at their school.

Problem Statement

Preparing to respond to such an intense and potentially traumatic event as an active shooter incident is a very personal experience and one that can elicit much thought and emotion. There is arguably no bigger weight on teachers than for them to consider how they would respond to an incident that threatens their own lives and the lives of their students.
Understanding how training impacts teachers and their perceptions about their own preparedness and the level of safety in their schools will add an important perspective to school safety literature.

**Purpose of the Study**

The purpose of this study was to describe elementary school staff members’ perceptions of their own preparedness to respond to an active shooter incident, their perceptions of the experience of ALICE training, and how ALICE training impacts their perceptions of their own preparedness and their perceptions of safety at their schools.

**Significance of Study**

While research shows that options-based approaches like ALICE (Alert, Lockdown, Inform, Counter, Evacuate) are more effective responses to active shooter incidents from a survivability perspective, exploring their impact on teachers’ self-efficacy and perceptions of safety is also important research. Most teachers participating in active shooter drills are not statistically likely to be in situations requiring them to put what they learn into practice, but teachers will all continue to do their jobs with their students with the worst case scenario in the back of their minds to some degree. Finding an approach that leads to the most positive mindset and emotional state will benefit the teachers and their students.

In addition, this study focused on elementary educators, those who work with the youngest, most dependent students in the school system. This study utilized a pre-post survey format, so as to measure how elementary educator perceptions change from before participating in ALICE training to after the training. Results of this study can inform policy makers and school
leaders as to how elementary staff experience ALICE training and how ALICE training impacts their perceptions of preparedness and overall safety at school. The findings may inform district decisions in how they train and implement ALICE in the elementary school setting. In addition, the findings will provide leaders with information that can help them alleviate staff concerns and build a training and implementation plan that both prepares and empowers staff to high levels, enabling staff to remain focused on the important daily work of teaching children.

Research Design

This study utilized an exploratory descriptive research design to determine staff perceptions of ALICE training and how the training impacted staff perceptions of their own preparedness and perceptions of their school’s level of safety. Participants completed surveys before and after ALICE training, which led to the ability to examine the same people over time as a panel study (Creswell & Guetterman, 2019). The 25 five-point Likert scale items were written by the researcher and also curated from three existing instruments: The ALICE Staff Survey (Dain, 2015), The Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015), and The ALICE Training Questionnaire (Gleich-Bope, 2016). All 25 Likert-scale items were asked on both the pre-survey and the post-survey so that comparison data could be analyzed. A series of three password security type items were asked of each participant on both the pre-survey and post-survey in order to link each participant’s pre and post responses, while maintaining the anonymity of participants. The mean scores for each item were calculated for both the pre-survey and post-survey. The researcher analyzed a comparison of the pre and post means for each item and the amount of change observed in the responses. Thus, the researcher examined staff perceptions regarding preparedness and school
safety and any changes in the perceptions after respondents participated in scenario-based ALICE training.

The two open-ended items on the pre-survey and the four open-ended items on the post-survey were written by the researcher in consultation with the school district in order to inform the district’s current and future training efforts. These qualitative, open-ended items were also coded for themes, analyzed, and contributed to the findings for the corresponding research questions.

Context of Study

The researcher administered the survey in the weeks immediately before and after the participating school district implemented their first scenario-based ALICE training for elementary school staff in January 2020. This was prior to the school district and the local community experiencing any significant impacts of the COVID-19 pandemic, which caused a shifting of priorities. The survey was also conducted prior to the death of George Floyd and the resulting protests and nationwide discussions regarding law enforcement, which is relevant to the context of the study due to the role that law enforcement played in the ALICE training.

Research Questions

This study was guided by the following research questions (RQ):

1. What are elementary school staff members’ perceptions of their own preparedness to respond effectively to an active shooter incident?

2. How does participating in ALICE training impact elementary staff members’ perceptions of their own preparedness to respond effectively to an active shooter incident?
3. How does participating in ALICE training impact elementary school staff members’ perceptions of school safety?

4. What are elementary school staff members’ perceptions of the experience of ALICE training?

Definition of Terms

**Active shooter drill:** As of 2019, 16 states encouraged or required active shooter drills in schools (Temkin, et al., 2020). These exercises involve practicing procedures for reacting to a shooter in the school. Often local law enforcement officers are present and/or conduct the drill.

**Active shooter incident:** One or more individuals actively engaged in killing or attempting to kill people in a populated area. Implicit in this definition is the shooter’s use of one or more firearms. The active aspect of the definition inherently implies that both law enforcement personnel and citizens have the potential to affect the outcome of the event based upon their responses to the situation (FBI, 2019a, p. 3).

**ALICE:** ALICE is an acronym for an active shooter response training and response protocol that is options-based. It is program offered by the company Navigate 360. A stands for alert, or the first notification of danger. L stands for lockdown, or barricading the room. I stands for inform, or communicating the violent intruder’s location and direction in real time. C stands for counter, or creating noise, movement, distance, and distraction with the intent of reducing the shooter’s ability to shoot accurately. E stands for evacuate, or removing yourself from the danger zone when it is safe to do so (ALICE, n.d.b).

**Options-based approach:** Multiple government agencies including the United States Department of Homeland Security (2008) now endorse an approach to active shooter
preparedness in which each individual decides the most effective action to take in order to keep him or herself safe. Actions can include evacuating, hiding from the shooter, and attempting to disrupt the shooter.

**Self-efficacy:** Self-efficacy is “the conviction that one can successfully execute the behavior required to produce the desired outcome” (Bandura, 1977, p. 193).
CHAPTER 2
LITERATURE REVIEW

Prevalence of Active Shooter Incidents in School Settings

The study of active shooters in American schools is complex. It is a sad story of the most disturbing of worries seeping into childhood, the stage of life that should be filled with innocence and carefree days and into schools, places that are meant to foster growth and create positive memories. It is a story that travels down numerous political, philosophical, and psychological paths, as those who embarked on a career teaching children are faced with making decisions involving metal detectors, surveillance systems, and active shooter drills. It is a story that is most definitely tragic, but one that is also essential to examine if our nation does not want this chapter to remain a permanent one in our collective history.

A Story Behind Every Statistic

Every school shooting incident holds multiple stories - those of the shooter(s), the victim(s), the witnesses, their family members, and the whole school community. Although data does not always provide a face to the stories, it does provide a description of the scope of the school shooting problem in the United States in recent years.

The Center for Homeland Defense and Security at the Naval Postgraduate School (CHDS, n.d.b) maintains a database of “each instance a gun is brandished, is fired, or a bullet
hits school property for any reason, regardless of the number of victims, time of day, or day of week” in K-12 schools across the United States (para.4). This CHDS school shooting data includes accidents, suicides, and other incidents that are not deliberate acts to do harm to others. The CHDS database shows a steady increase in the overall number of school shooting incidents over the past five decades with the average annual number of incidents for each decade as follows: 16.4 from 1970 to 1979, 21.9 from 1980 to 1989, 27.4 from 1990 to 1999, 35.5 from 2000 to 2009, and an average of 50 shooting incidents annually during the past decade. In the time period of 1970 through 2019, the United States experienced the largest number (116) of school shooting incidents in the year 2018 (CHDS, n.d.a).

CHDS also analyzes data specific to active shooter incidents in schools. The Federal Bureau of Investigation (FBI) (2019a), defines an active shooter incident as:

One or more individuals actively engaged in killing or attempting to kill people in a populated area. Implicit in this definition is the shooter’s use of one or more firearms. The active aspect of the definition inherently implies that both law enforcement personnel and citizens have the potential to affect the outcome of the event based upon their responses to the situation. (p.3)

According to the CHDS (n.d.a), the average number of active shooter incidents occurring in schools each year has also been on the rise over the past fifty years with annual averages being 1.3 incidents for the decade 1970-1979, 2.8 for 1980-1989, 3.1 for 1990-1999, 4.5 for 2000-2010, and 5 for 2010-2019. The year 2018 was not only the year with the highest number of total school shooting incidents in the U.S., but it was also the year the nation experienced the greatest number of incidents specifically defined as active shooter incidents in schools with a total of 11 occurring that school year (CHDS, n.d.a).

Cox and Rich (2018, March) examined the Washington Post analysis of school shootings from April 1999 through March 2018 and found that at least 130 educators, staff, and family
members were killed in shootings during school hours and 254 were injured, with 43% of the
total deaths from school shootings during this timeframe resulting from three attacks- Columbine
High School, Littleton, Colorado in 1999, Sandy Hook Elementary School, Newtown,
The Post included only those incidents that happened on campuses immediately before, during,
or just after classes; they excluded suicides that posed no threat to other children, shootings at
after-hours events, and accidental discharges that caused no harm to anyone other than the
person handling the gun (Cox & Rich, 2018 March).

In the most recent two decades, the Federal Bureau of Investigation (FBI) (2019b) found
that 39 active shooter incidents occurred in the United States in elementary, middle, and high
schools between the years 2000 and 2018, resulting in 93 victims killed and 133 people
wounded. Although each organization and researcher who studies school shootings defines their
terms and examines the data differently, all conclude that 2018 was the worst year to date for
school shootings with a 60% increase in the number of gun-related incidents in schools from the
previous high in 2006 (Walker, 2019). Despite the spike in active shooter incidents in schools in
2018, the likelihood of a school experiencing an active shooter incident are a fraction of a
percent. However, citing statistics does not help to erase the images and stories Americans see
and hear on the evening news when a tragic mass shooting occurs.

**Media Coverage of School Shootings**

While school shooting data indicates that most children in the U.S. are highly unlikely to
experience a gun-related incident at school, the coverage of mass shootings via television, online
news sources, and more recently, social media, strikes an emotional chord in Americans and
gives a name, face, and voice to the statistics. The numbers may say that it is unlikely that a loved one will experience a school shooting, but the story on the nightly news elicits empathy and thoughts of, “That could be my child,” or a kind of moral panic. Cohen first studied moral panic in the 1970s, and he described the phenomenon as “a condition, episode, person, or group of persons emerges to become defined as a threat to societal values and interest” (Cohen, 2011, p.1). Cohen (2004) continued to describe how moral panic develops; once someone or something is defined as a threat, the media excessively portrays the magnitude of the threat, then the constant attention causes public concern, fear, and a cry for action to grow (as cited in Jonson, 2017, p. 959). For example, in the month following the Sandy Hook shooting, 87% of Americans reported they were following the story closely or very closely (Saad, 2012).

With the inception of 24-7 news coverage beginning with CNN in 1980 and the addition of the news ticker’s constant scroll of news during the September 11, 2001 terrorist attacks, Americans have been accustomed to watching news stories closely and repeatedly, even those that do not directly impact their own lives. Adadi (2019) asserts, “As months turned into years, observers began to recognize the news ticker as a reflection of a country that was perpetually on edge, and of news outlets that were willing to capitalize on viewers' fears” (para. 10). With the addition of Facebook, Twitter, and other modes of social media in the past twenty years, along with the invention of the smartphone, Americans literally have news at their fingertips at all times. While none of these developments in journalism and mass communications makes it any more likely for a child to experience a school shooting, the resulting feelings and fears that are experienced by parents, school staff, and any American citizen tuning into coverage are very real.
School Shootings as a Social Problem

Approximately, only 0.2 percent of the 36,000 deaths caused by guns each year in the United States occur due to a shooting in a school setting (Walker, 2020, p.1), but the fact that school shootings, especially the few that result in mass casualties, occur at all and are covered heavily by the media most certainly affects schools on a broader level. Schools experience a multitude of impacts, including the societal calls for action and evolving expectations of districts, schools, and individual staff related to school safety. Experiencing or witnessing school shootings, perhaps even in a removed manner, can impact students’ emotional well-being, school performance, and sense of security. Although few schools are impacted directly by school shootings; all are impacted indirectly.

Impact on Students

The impact of school shootings on students extends beyond the number of physical casualties. Cox and Rich (2018 March) examined a *Washington Post* analysis that was conducted to determine how many children have been affected by K-12 school shootings, beyond those killed or injured, since the 1999 shooting at Columbine High School. While homicide is the second leading cause of death among children ages 5-18, less than 2% of these homicides occur on school grounds or on the way to or from school or a school event (Centers for Disease Control and Prevention [CDC], 2019). While the overall percentage of schools experiencing shootings is small, and the number of children killed or wounded by gunfire at school is also relatively small, these incidents impact all of the children who attend these schools and also, to a lesser degree, all children who learn about such incidents via media coverage.
The Washington Post found that since Columbine in 1999, “more than 187,000 students attending at least 193 primary or secondary schools have experienced a shooting on campus during school hours,” (Cox & Rich, 2018 March, p. 5). Students who attend schools where gun violence occurs or even just live in the community can be impacted emotionally and psychologically, despite averting physical harm. In 2015, the journal, Pediatrics, published a study that concluded that children who witness an attack involving a firearm or knife can be just as traumatized as those who have been directly injured by such weapons (Mitchell, et al., 2015). Sharkey, et al. (2012) found that trauma from exposure to gun violence can affect overall school enrollment numbers, students’ ability to maintain attention, and students’ performance on standardized tests (as cited in Everytown et al., 2020 February). Finally, psychiatrist and childhood trauma expert, Bruce D. Perry has stated, “It’s no longer the default that going to school is going to make you feel safer. Even kids who come from middle-class and upper-middle-class communities literally don’t feel safe in schools,” (Cox & Rich, 2018 March, p. 6).

The Centers for Disease Control (2020) includes “witnessing violence in the home or community” on their list of Adverse Childhood Experiences (ACES). Since the original CDC - Kaiser Permanente ACES study conducted 1995-1997, continued work has validated the original findings that the higher the number of ACES an individual reports experiencing between the ages of birth through 17, the more likely the individual is to experience negative impacts on their health, such as increased risk of injury, suicide, cancer, and heart disease, as well as other negative impacts to their overall well-being like risk of depression and unstable work histories (CDC, 2020). While witnessing violence is just one of many possible ACES, the potential trauma of witnessing violence at school or in the community is an important consideration when
examining the issue of school shootings. When shootings occur on school campuses, harm to children extends beyond just that which is caused directly by gunfire.

**Impact on Parents**

Parental fear for their children’s physical safety tends to increase immediately after highly-publicized school shooting incidents. The largest increase, as measured by Gallup’s annual Work and Education poll, was after the shooting at Columbine High School in 1999 when 55% of parents surveyed expressed fear for the safety of their oldest child at school. This rate decreased over time and then rose to 33% after the shooting at Sandy Hook Elementary School in 2012 (McCarthy, 2014). Jonson (2017) contends that after each major school shooting event the increase of parental fear is also accompanied by an increased demand for districts to take action in order to increase safety and security in their schools.

**Impact on Teachers**

Despite the statistical unlikelihood of experiencing a school shooting, teachers have concerns related to shootings on their minds. The National Education Association, one of the two large teacher unions in the United States, conducted a survey of 1000 of its members in March 2018, and found that 60% of teachers surveyed indicated they were worried about the possibility of a mass shooting at their school (Walker, 2018). Educators for Excellence (2018) also conducted a survey of a nationally representative sample of 1000 full-time public school teachers and found that of eight safety issues provided, including fighting among students and violence against teachers, the top concern of participating teachers was gun violence/school shootings. The Educators for Excellence (2018) also found that 54% of surveyed teachers indicated that
they felt their school does an excellent or good job training teachers how to address school violence, while 46% rated their schools as fair or poor in this area. Bosworth, Ford, and Hernandaz (2011) asserted that “a more important measure (than safety incident statistics) of the relative safety of any school campus may be the perceptions of safety among students, faculty, and staff” (p. 195).

Furthermore, teachers’ perceptions of their own safety may certainly impact the reality of the school experience for themselves and their students. Research has shown that at the very least a correlational relationship exists between teachers’ perceptions of their school climate and their own self-efficacy beliefs; teachers who reported feeling safe in their school had significantly higher levels of self-efficacy (Reaves & Cozzens, 2018). Self-efficacy describes people’s beliefs about their own capabilities (Bandura, 2012). Over 40 years of educational research has shown positive links between teacher self-efficacy and students’ academic adjustment, patterns of teacher behavior and practices related to classroom quality, and factors underlying teachers’ psychological well-being (Zee & Koomen, 2016). Reaves and Cozzens (2018) analyzed survey data from the Safe and Supportive School Questionnaire and Attitude Toward Teaching Survey and concluded that “there is a connection among a teacher’s perceptions of elements of a safe and supportive school climate to motivation and self-efficacy” (Reaves & Cozzens, 2018, p. 59). Thus, teachers’ perceptions of their own safety may be influencing reality for both teachers and students.

Impact on School Leaders

Since Columbine, the amount of time and number of tasks related to school safety have expanded for district and school leaders. Rogers (2019) found, in his nation-wide survey of
public high school principals, that of the five societal challenges examined including gun violence, political division, the spread of untrustworthy information, opioid addiction, and changes in immigration policy, principals identified the threat of gun violence as the challenge affecting their schools most. The surveyed principals also expressed their beliefs that students and students’ learning are negatively impacted by fear of gun violence. The responses showed that this fear of gun violence crosses rural, suburban and urban settings (Rogers, 2019). Rogers’s (2019) study also found that a majority (between 72% and 86%) of principals who responded to the survey had faced the following problems at least one time:

1. Students have expressed concerns about the threat of gun violence occurring in school.
2. Students have expressed concerns related to the threat of gun violence in the community surrounding the school.
3. Students have lost focus in class or missed school entirely due to the threat of gun violence.
4. Parents and other community members have expressed concerns about the threat of gun violence in the school or surrounding community. (p.2)

Again, although a small percentage of the nation’s schools have experienced any incidents of gun violence, the media accounts of the tragic incidents of mass casualties occurring at schools like Columbine in 1999, Sandy Hook in 2012, and Majory Stoneman Douglas in 2018 have caused a fear of mass shootings to permeate our society and increased demands for schools to take more proactive measures.

The Evolution of School Responses to Active Shooter Incidents

Lockdown: The Initial Approach to Active Shooter Drills

Active shooter drills in schools originated on a nationwide level after the 1999 shooting at Columbine High School in Littleton, Colorado with many schools initiating lockdown
protocols (Temkin et al, 2020). The lockdown approach to active shooter drills typically involves all students and staff moving into locked classrooms, moving out of sight, often huddled into one corner of the room, and staying quiet. According to Hendry (n.d.) in his research for the ALICE Training Institute, the term “lockdown” originated in the California Prison system in 1973, and lockdown school procedures began to be utilized in the mid-1970s in Southern California as a response to drive-by shootings and street crime occurring outside of school buildings (p.5). In these types of situations, lockdown procedures made perfect sense. Students and staff moving to the ground, away from the windows and doors would be the best approach for trying to avoid gunfire that may enter through the windows until the police are able to intervene in the criminal activity happening outside the school; evacuation was not an option because the threat was outside of the school building. Although the conditions present during an active shooter situation inside a school are vastly different than those present when the danger is outside of the school building, districts began using the lockdown approach in schools after Columbine. The percent of public schools implementing lockdown drills grew to 40% by the 2005-2006 school year and had increased to 95% by the 2015-2016 school year, which was three years after the Sandy Hook Elementary School shooting in Newtown, Connecticut (Walker, 2020, p. 2).

Targeting Hardening, Resource Officers, and the Price of Prevention

Every major school shooting that has occurred in the United States in the recent past, has stirred the national conversation about how to best prevent any future incidents from occurring. For example, the 2018 shooting at Marjory Stoneman Douglas High School in Parkland, Florida that killed 17 students and staff heightened national debate and discussion about a number of related issues including gun laws, mental health, and school security. In an attempt to create
more secure schools and to soothe the anxieties of parents, students, and staff, many school districts have been spending money to “target harden” their schools through the purchase of items such as surveillance technology, metal detectors, fortified entries, bullet-proof whiteboards, and facial-recognition software (Walker, 2019). Some districts have made significant expenditures in this area. According to Zhang et al. (2019), the percentage of public schools reporting the use of security cameras increased from 19 percent in 1999–2000 to 81 percent in 2015–16, and the percentage of public schools reporting that they controlled access to school buildings through the use of some measure of security at the main entrance increased from 75 percent to 94 percent during this period (p.113). Rogers (2019) found that the majority of principals interviewed as a follow-up to his nationally representative survey were addressing gun violence prevention through investing in safety upgrades to their facilities including security cameras, electronic doors, safety locks on classroom doors, stronger windows, limiting entry and exit to their sites, and safety coating on glass (p. 4).

According to Cox and Rich (2018, November), school security has become a $2.7 billion market. As Jonson (2017) asserted in her study of the effectiveness of school safety measures, “Many of these security measures were implemented with little or no consultation of the empirical literature. This failure to enact evidence-based responses has had fiscal and latent consequences that are only now being discovered” (p 956). Jennings et al. (2011) studied the effectiveness of various school security measures and found that access control measures and visitor identification measures had no significant effect on preventing violent crimes on school grounds (as cited in Jonson, 2017, p. 964). The 2012 shooting at Sandy Hook Elementary School serves as an example, as the shooter was able to penetrate the school’s attempts at access control by shooting through the adjacent window (Sandy Hook Advisory Commission, 2015). Tillyer et
al. (2011) examined the effects of various school crime prevention practices including police presence, metal detectors, and locker checks on student violent victimization, risk perception, and fear of crime. The researchers found that the measured crime prevention practices did not significantly reduce levels of violent victimization or risk perception, and only one strategy, metal detectors, was significantly related to lower levels of student fear (p. 270). National Education Association (NEA) Vice-President, Becky Pringle offered the perspective, “We cannot convert our schools into prisons and treat our students like prisoners. We need to balance the improvement of the physical security of the schools without compromising our principles and our values around learning” (Walker, 2019, para. 16). Finally, Kenneth Trump, a school safety expert, stated, “A skewed focus on target hardening neglects the time and resources needed to spend on professional development training, planning, behavioral and mental health intervention for students, and other best practices” (Walker, 2019, para. 7).

The Washington Post set out to examine how well safety measures do and do not protect students during active shooter incidents via surveying all schools who have experienced a shooting since the Sandy Hook Elementary School incident in 2012 (Cox & Rich, 2018 November). Seventy-nine schools, including Sandy Hook, were contacted and 34 administrators provided answers; only one school suggested safety technology may have made a difference to prevent the shooting incident at their school (Cox & Rich, 2018 November). The shooting at Marjory Stoneman Douglas High School in Parkland, Florida provides an example of school surveillance technology not only being ineffective, but actually being a harmful distraction and source of misinformation. About nine minutes after the gunman entered the high school on February 14, 2018, the assistant principal and school security officer entered the camera room to view surveillance video. All assumed the video was a live feed, but it was actually on a 20-
minute delay. The gunman had already fled the school, but police continued to search the building based on the information being relayed to them from the video, delaying aid to the injured (Alanez et al., 2018). The 2018 *Washington Post* survey results were consistent with a 2016 federally-funded study by Johns Hopkins that concluded the evidence in the literature on short-term and long-term effectiveness of school safety technology is limited and conflicting (as cited in Cox & Rich, 2018 November, p.5). Johns Hopkins University (2016) stated:

> Decisions about whether to invest in school security technology for a school or school district are complex. Many choices about the technology selected, however, may be made with incomplete information or with information that is influenced more by political or reactionary consideration than by local conditions. (as cited in Cox & Rich, 2018 November, p.17)

Research on the effectiveness of school resource officers in reducing crime and preventing school shootings is mixed. The analysis of school shooting incidents between 1999 and 2018 by the *Washington Post* discovered that 68 of the 193 K-12 schools who had experienced active shooter incidents employed a police officer or security guard, however since gunfire lasted only a few seconds, all but a few of the shootings ended prior to any response of any type by law enforcement (Cox & Rich, 2018 March, p.20). On the other hand, according to Cox and Rich (2018 March), the threat of encountering resistance influenced an alleged school shooter’s plan in 2016 when a 14-year-old attacked his elementary school rather than his current middle school due to the latter having armed security (p. 21). There were also several active shooter incidents, including a 2010 incident in Tennessee, when school resource officers were able to save lives without having to fire their weapons (Cox & Rich, March 2018, p. 22). While schools have been responsive to the call for increased safety measures, continued evaluation of the measures being implemented will be important in order to ensure dollars are spent in ways that are most effective in protecting students and staff.
Police Response to School Shootings

The evolution of law enforcement’s protocol for active shooter response contributes to the history of school shootings in the United States. Police serve and protect; they are the ones students, staff, and parents rely upon to do all they can to prevent, stop, and minimize the damage done by school shooters. When law enforcement responded to the Columbine active shooter incident in 1999, they did not enter the building for approximately 47 minutes (Cullen, 2009, p. 57). A more rapid response would have most likely decreased the casualties of 13 killed and 23 wounded (CNN Editorial Research, 2020). An FBI study of active shooter incidents in the United States 2000-2013 found that of 63 incidents with known timeframes, 44 (69.8%) incidents ended in five minutes or less with 23 of the incidents ending in just two minutes or less (Blair & Schweit, 2014, p.8). Law enforcement has learned from studies of tragic school shootings, starting with Columbine, and has drastically changed their response protocols. The Police Executive Research Forum (2014) stated:

Today’s police departments focus on stopping the shooter as quickly as possible, with fast action by the officers who arrive first, rather than waiting for SWAT teams to arrive. Speeding the response by even a minute or two can result in many lives being saved. Police also are taking the lead in educating the public and encouraging community members to think about how they will behave if they ever encounter an active shooter. (p.40)

Police now use rapid deployment procedures to immediately enter the locations where active shootings are occurring and work with paramedic teams to initiate rescue teams as quickly as possible. Many local law enforcement agencies also provide community training on proactive, options-based approaches to active shooting response and partner with school districts on implementation of those approaches.
Evolving from Lockdown to Options-Based Approaches

In their 2008 publication of recommendations for responding to active shooter incidents, the U.S. Department of Homeland Security asserted that evacuation should be the first option considered, and then “if evacuation is not possible, find a place where the active shooter is less likely to find you” (p.3). As a last option, the U.S. Department of Homeland Security recommended that people faced with “imminent danger should attempt to disrupt and/or incapacitate the active shooter” (p.4). In recent years, there has been a nationwide shift in thinking regarding active threat preparedness that reflects these recommendations.

The shooting at Sandy Hook Elementary School in 2012 is a tragic illustration of the limitations of the lockdown approach. After a shooter breached a secured entrance at the school and gunshots were audible throughout the building, adults began to initiate lockdown procedures, bringing students into bathrooms and closets. Twenty students and six staff were killed (Sandy Hook Advisory Commission, 2015) with the incident lasting two minutes and 41 seconds, as the shooter took his own life once police arrived (CNN, n.d.). How an active shooter incident unfolds inside a school is completely different from the types of street crimes to which the California schools were responding to in the 1970s when they began to use the lockdown approach. Furthermore, lockdown protocols do not provide students and staff with any strategies in the event that they are the first to encounter the shooter; in every incident there is always a classroom or a group that is the first target before a lockdown can even be initiated (Jonson, 2017, p.966). In 2013, the Department of Education determined a lockdown approach was no longer sufficient and that an approach with multiple options that allows individuals to make their own decisions was a more effective approach to active shooter training.
ALICE: An Options-Based Approach

O’Regan (2019) found that while traditional lockdown still remains the most common approach to active shooter drills in American schools, in the last decade, the popularity of options-based training has grown. The federal government and FBI both endorse an approach called Run, Hide, Fight, which was developed by the City of Houston Mayor’s Office of Public Safety and Homeland Security in 2011 as a free resource. According to O’Regan (2019), 42 states now have laws requiring emergency drills in schools with eight of them specifying that these must be “active shooter drills.” Since schools are rarely equipped to conduct this kind of training on their own, they look to law enforcement agencies and private companies like ALICE for resources, support and training. The ALICE Training Institute was created in 2000 by two former Texas police officers Greg Crane and Allen Hill under the name, Response Options. Later, Hill left the company and Crane gave it the ALICE acronym for alert, lockdown, inform, counter, and evacuate (O’Regan, 2019). In 2020, ALICE Training Institute joined with NaviGate Prepared, and SafePlans to form Navigate 360, a company focused on the safety components of prevention, preparation, response, and recovery (Griffin, 2020). The ALICE mission includes the belief that “individuals should be prepared for active shooter events and empowered to make their own life-saving decisions...Individuals must be trained in proactive active shooter response options rather than a passive, mandated, one-size-fits-all response” (ALICE, n.d.a, para. 5).

Participating school districts typically send a small number of staff to a two-day ALICE trainer training, and then provide a structure for them to train others; ALICE also provides an online introduction module for all staff at a cost to districts.
The ALICE approach encourages individuals to make situational-based decisions to keep themselves safe. The five components - alert, lockdown, inform, counter, and evacuate - are not sequential steps, but represent optional actions a person may choose to take in the event of an active shooter incident. ALICE (n.d.b) describes the five components as follows. The alert component of training teaches participants how to recognize the signs of danger. ALICE teaches lockdown as an option to take only if evacuating safely is not possible. ALICE asserts that all lockdowns should be enhanced with barricading if possible, and once in a lockdown, individuals should prepare to evacuate when possible and counter if necessary. The inform component of ALICE teaches participants to communicate clear information about the situation to others as soon as possible. ALICE teaches counter as a last resort option; it is not necessarily fighting, but is using “noise, movement, distance and distraction with the intent of reducing the shooter’s ability to shoot accurately” (ALICE, n.d.b, para. 7).

Abbinante (2017) studied the processes school districts use when deciding to adopt an options-based approach to active shooter drills including ALICE or Run, Hide, Fight. For her case studies of high schools in three different school districts in the Illinois/Indiana area that had all adopted options-based approaches to active shooter drills within the past five years, Abbinante (2017) interviewed a school resource officer, teacher, and administrator from each school. She found that participants had an overall positive view of options-based response policies and also that the interviews included five common themes. In all three districts, partnership and communication were identified as highly valued, as the local law enforcement agency initiated the idea of changing to an options-based approach. The participants also identified the following goals: the goal of empowering staff and students to take responsibility for their own safety, the goal of preparing staff and students for the complex world in which they
live, the goal of providing staff and students with freedom to make their own decisions about how to survive an attack, and the importance of respecting the intelligence of staff and students (Abbinante, 2017, p. 121).

According to Cox and Rich (2018 November), ALICE active shooter drills have grown in popularity in recent years, and many schools, including some surveyed by the *Washington Post*, have credited the lockdown and evacuation training with saving lives (p.21). The *Washington Post* analysis also found that “adults who were not members of law enforcement have subdued more than a dozen school shooters over the past 19 years - including on at least three campuses that underwent ALICE training” (Cox & Rich, 2018 November, p. 23). The U.S. Department of Justice and the FBI (2014) found that while the majority (56.3%) of 160 active shooter incidents between 2000 and 2013 ended with an action by the shooter, in 13.1% of the time, unarmed individuals faced the shooter and ended the incident (p. 21). Jean-Paul Guilbault, chief executive of the ALICE Training Institute, stated:

According to a recent study conducted by The U.S. Secret Service, most school shootings last for two minutes or less, and nearly half of the events studied ended within one minute. That means it is up to us to keep ourselves safe for those seconds that will feel as slow as a lifetime. We drill so everyone has a plan when faced with danger, to give people a chance at survival. (Eaton-Robb, 2020, para. 9)

Advocates of options-based approaches assert that individuals encountering active shooter situations need to have the autonomy to do whatever it takes to protect themselves. School settings, though, are different in many ways from offices, movie theaters, and stores, and districts should consider best practices when planning for implementation.
Best Practices in Options-based Approaches to Active Shooter Incidents

Jonson, Moon, and Hendry (2018) used simulations to study which paradigm informing active shooter drills, traditional lockdowns or options-based response, is the most effective. The data for both the traditional lockdown and the options-based simulations were collected during two-day ALICE Instructor Certification Courses between June 2016 and April 2017. The researchers found the options-based approach to be the most effective based on data from the simulations. The ALICE options-based response ended more quickly with fewer people self-reported being hit with the Airsoft gun compared to the traditional lockdown simulation performed during the training. The average number of participants “shot” in the simulation decreased by approximately 50 percent when moving from a traditional lockdown to a multi-option response like ALICE (Jonson et al., 2018, p. 9). This study validated the recommendations made by the U.S. Department of Education, FBI, and numerous other government agencies and law enforcement organizations as well as the claims made by the ALICE Training Institute that an options-based approach will increase the survival rate in an active shooter incident. Greg Crane, founder of the ALICE Training Institute, explained that using lockdown as the one-and-only strategy to prepare for and respond to an active shooter incident in a school is problematic because it does not provide flexibility. Crane stated, “The problem with that policy is it doesn’t answer the question for when the environment and circumstances don’t fit the response,” then added, “These scenarios, these shooting events, they’re all unique, they’re all dynamic, they’re all chaotic. There’s not a one-size-fits-all plan” (Widmer, 2018, para. 6-7).
The Participation of Students in Active Shooter Drills

The involvement of students in active shooter drills continues to be discussed as districts move toward options-based approaches. Jackie Miller, part of the City of Houston team that created the Run, Hide, Fight program said, “We have talked to schools over the years about it being for the teachers, for the administrative staff, and not necessarily the tool to train kids” (O’Regan, 2019, para. 32). Tom Czyz, a former Onondaga County Sheriff’s detective and a SWAT operator who founded the school-security company Armoured One in 2012 believes that teachers are the ones who need to be prepared; his company trains children in situational awareness and preventative measures but does not include them in active shooter training. Czyz does not believe in utilizing scenario-based training that is realistic and/or frightening; he posed, “When we do fire drills, have you ever seen a school light a room on fire?” (O’Regan, 2019, para. 45).

Zhe and Nickerson (2007) conducted a study to evaluate the effectiveness of school crisis drills and the effects of children’s crisis drill participation on their knowledge, skills, state of anxiety, and perceptions of school safety (p. 501). They utilized a between-subjects post-test only control group design on a sample of 74 students in the fourth, fifth, and sixth grades. The researchers administered an intervention of a training session and an intruder drill with the treatment group. The training session provided to the intervention group included research-supported behavioral and cognitive behavioral techniques for training children in emergency skills and was also based on best practices for teaching practical skills through task analysis (Zhe & Nickerson, 2007, p. 503). Both the treatment group and the control group completed measures to assess the participating children’s knowledge of safety drill procedures, State-Trait Anxiety
Inventory for Children (Spielberger, 1973), a 10-item measure to assess perceptions of school safety that was adapted from the School Violence Anxiety Scale (Reynolds, 2003) and the School Crime Supplement to the National Crime Victimization Survey (National Center for Education Statistics and Bureau of Justice Statistics, 2001). The results showed that while the intervention group demonstrated a higher level of knowledge of drill procedures, the results did not show any differences in state anxiety or perceptions of school safety (Zhe & Nickerson, 2007, p. 501). Zhe and Nickerson (2007) stated that their results suggest that when children participate in drills that “incorporate best practice recommendations and use preventative measures to minimize a sense of threat, they may experience a level of anxiety and a sense of safety comparable to what they feel on a typical school day” (p. 506). It is important to note that the intruder drill procedures utilized in the training and practice by the intervention group followed the lockdown model. However, this study shows that school staff can support students in growing their knowledge of how to implement safety drill procedures without elevating anxiety and fear if developmentally-appropriate teaching strategies are utilized.

Dr. Laurel Williams, associate professor at Baylor College of Medicine and chief of psychiatry at Texas Children’s Hospital, recommends schools consider the following points if they determine active shooter drills involving children are necessary:

- Provide adequate notice to families and staff regarding the need for the drills and provide an orientation for both staff, parents and students before drills occur.
- Provide education to staff and teachers about trauma-informed best practices and seek training for non-mental health professionals on how best to respond in the moment of crisis. Mental Health First Aid is a commonly employed training.
- Allow for staff and children who already have experienced trauma to be excused from participating or have very close support before, during and after the drills.
- Emphasize during the drills that it is just practice and continuously state the purpose. (Shalchi, 2019, para. 3)
The objective of active shooter drills is to keep children safe, so it is important to implement the procedures in a way that protects children’s emotional safety.

**Threat Assessments and Tip Reporting as Proactive Safety Measures**

Finally, an important best practice for schools implementing options-based approaches to active shooter drills is to be cognizant that drills alone are not sufficient for creating safer schools. In his study of U.S. high school principals, Rogers (2019) found that in addition to a variety of target-hardening measures, principals were employing proactive, options-based approaches like ALICE, and applying a public health approach to preventing gun violence via mental health services and threat assessments (p.4-5). Threat assessments and establishing clear methods for reporting concerning behavior are two preventative measures that are not extremely costly and that provide the opportunity for schools to intervene before danger is imminent.

Several of the schools responding to the survey from *The Washington Post*, stated their beliefs that the only thing that could have stopped the shooting incident at their facilities would have been a tip from someone who suspected a shooting might happen (Cox & Rich, 2018 November, p. 27).

School safety expert and president of the firm National School Safety and Security Services, Kenneth Trump, advocated for schools creating clear ways for students to safely report suspicious behavior. “The number-one way we find out about plots to harm others is through kids who come forward and report to an adult,” he said. “Create a culture and climate where kids feel comfortable reporting something” (Widmer, 2018, para. 19). Chapman (2017) analyzed 12 case studies of rampage school shootings, having multiple victims and at least one death, and validated the use of the five-prong model developed by Newman et al. (2004) as a framework for threat assessments. The model provides warning signs and indicators that school threat assessment teams could utilize to avert school shootings (Chapman, 2017, p. 180). An analysis by the National Threat Assessment Center (NTAC) of the United States Secret Service (2019)
found that 100 percent of school shooters in incidents between 2008 and 2017 had demonstrated concerning behavior (p. 43) and 77 percent of them had told at least one person, usually a peer, about their plans (p.47). Similarly, in their work with The Violence Project, Peterson and Densley (2019) found that nearly all mass school shooters were students at the targeted school and that they exhibited warning signs prior to the shooting incident. Thus, Everytown et al. (2020, February) concluded that data supports the use of anonymous reporting systems and evidence-based threat assessment programs at schools as a proactive, preventative measure against school shootings (p.13). A growing number of districts have been developing threat assessment procedures and establishing anonymous tip lines as a way to report concerns. However, as of 2018, these measures had not yet been included as safety and security measures in the annual *Indicators of School Crime and Safety* report, which is assembled by the National Center for Educational Statistics based on numerous data gathered from surveys of students, teachers and staff. With an increased focus on social-emotional learning standards and an increased awareness of the importance of providing mental health supports for students, preventative measures such as tip lines and threat assessments may soon be just as prevalent in school safety conversations as door locks, security cameras, and drills.

In their threat assessment case study on school shooting prevention, Chapman and Summers (2018) suggest the following pertaining to training and drills, “Schools are encouraged to effectively communicate the importance of such trainings and attempt to create scenarios that closely simulate a real attack” (p.12). The main finding of their study was that a “comprehensive behavioral threat assessment process can be an effective way to mitigate the risk of a potential rampage school shooting” (p.13), but they also note the roles that overall school climate, mental health supports for students, opportunities for students and staff to report suspicious or worrisome behavior, facility design, and training play in preparedness (Chapman & Summers, 2018). An important consideration for schools regarding school safety is to be comprehensive when designing and implementing plans. As the response of schools to active shooter incidents
continues to evolve, triangulating the information from statistics, experts, and also schools that have the unfortunate opportunity to give first-hand feedback will be essential in order to determine best practices.

Criticisms of Options-based Approaches to Active Shooter Incidents

Some of the more significant criticisms of the options-based approaches to active shooter preparedness concern the safety and appropriateness of teaching children to counter or fight a shooter and the psychological impact of children participating in active shooter drills. Other criticisms involving the training for options-based active shooter drills include the cost, the potential for accidental injury, and the lack of standardization.

According to Cox and Rich (2018 November), critics of the ALICE approach to active shooter preparedness, including some school psychologists, consultants, safety experts, and parents, believe that teaching children to physically confront shooters is dangerous and irresponsible under any circumstances (p. 21). Dr. Nancy Rappaport, an associate professor of psychiatry at Harvard Medical School stated, “There is no evidence that lockdown drills with kids learning to barricade or defend themselves enhances security.” She also claimed that the drills “may have unintended consequences of creating terror for students” (O’Regan, 2019, para. 6). Kenneth Trump, school security expert, believes lockdowns can provide an effective strategy, especially in K-12 settings where options-based methods like ALICE and Run, Hide, Fight that include self-evacuation and countering aspects can put too much responsibility on students. Trump stated, “We are asking children to make executive decisions that even adults struggle with” (Widmer, 2018, para. 8). Janet Shapiro, dean of the Graduate School of Social Work and Social Research and director of the Center for Child and Family Wellbeing at Bryn Mawr
College, spoke to the significant psychological toll that active shooter drills can take on younger students:

Young children have a hard time telling the difference between fantasy and reality especially when stressed or anxious, which is why you hear about so many younger students crying inconsolably during drills. Even second and third graders can regress under the stress of a lockdown drill and the fear and anxiety they may cause - the drill itself calls attention to the possibility of a mass shooter in the school, and kids vary in terms of their ability to reassure themselves that the drill is not real. (Long, 2019, para. 18)

Dr. Laurel Williams, associate professor at Baylor College of Medicine and chief of psychiatry at Texas Children’s Hospital, expressed concern over children being included in school active shooter drills:

From the perspective of a child psychiatrist, I believe that it’s psychologically distressing for a young child to practice active shooters coming into your area. It’s not clear to them that the drill is not real. The younger the child, the less likely they are to understand that an act of violence is not occurring during a drill. (Shalchi, 2019, para. 2)

Along with the potential to frighten or traumatize children, some critics point out that including students in training may be giving information to potential perpetrators. Peterson and Densley (2019, February) created a database of the 160 mass shootings in the United States since 1966 for a project funded by the National Institute of Justice; they found that 91% of school shooters were current or former students at the school. Everytown et al. (2020, February) finds this statistic a concern relative to conducting safety drills with students, as “the preparedness protocols and procedures are being shared with the very individuals most likely to perpetrate a school shooting” (p.11). Everytown et al. (2020) asserts that school-based interventions like threat-assessment programs and comprehensive student support and counseling programs can be effective components of school violence prevention programs (p.31). Dr. Dewey Cornell, forensic clinical psychologist and director of the University of Virginia Youth Violence Project,
believes that schools have erred in recent years by focusing on security over prevention. Dr. Cornell stated, “They’re in a reactive mode and preparing for violence. Certainly, crisis response and crisis response planning is needed, but that’s only one part of the equation.” (Widmer, 2018, para. 9). Dr. Cornell advocates for early intervention and assessment in schools, as well as ongoing mental health and counseling resources for students.

Adopting options-based programs can also cost districts significant dollars. Costs for districts can add up; the Alisal Union School District in California spent $32,100 over three years for the district leaders to attend the two-day ALICE train-the-trainer course and for all remaining district employees to participate in online training (O’Regan, 2019). Jerry Loghry, a member of the Iowa School Safety Alliance and a manager at EMC insurance, said he has seen a significant increase in claims for medical bills for injuries related to school active shooter drills (O’Regan, 2019). Additionally, Tom Czyz, a former Onondaga County Sheriff’s detective and SWAT operator who founded the school-security company Armoured One in 2012, cited concerns about quality-control in the active shooter training arena. He explained that there are no national standards or licensing requirements as to who can start an active shooter training company (O’Regan, 2019). There are also no standard requirements about districts attending training in order to utilize an options-based approach; ALICE requires staff attend training, but the similar approach, Run, Hide, Fight, can be adopted without any staff receiving training by an expert.

Perspective of Teachers and Major Organizations

Overall, teacher organizations and other professional organizations affiliated with education endorse a proactive, options-based approach to active shooter preparedness. However, such endorsements come with cautions and caveats regarding what components are appropriate
to be shared with children and the importance of developmentally-appropriate ways of sharing such information with students.

The National Association of School Psychologists (NASP) and the National Association of School Resource Officers (NASRO) (2014) discussed the addition of options-based approaches to active shooter drills including ALICE training and the Run, Hide, Fight model which allow individuals to make their own decisions as the incident evolves (NASP & NASRO, 2014, p1). NASP & NASRO (2014) concluded that “such drills have the potential to empower staff and save lives, but without proper caution, they can risk harm to participants” (p.1). Melissa Reeves, former president of NASP, asserted that unannounced active shooter drills could possibly “trigger either past trauma or trigger such a significant psychological reaction that it actually ends up scaring the individuals instead of better preparing them to respond in these kinds of situations” (Walker, 2020, para. 16). Katherine C. Cowan, spokesperson for NASP, shared a common concern related to teaching children to counter or fight the shooter:

There is no research/evidence...that teaching students to attack a shooter is either effective or safe. It presumes the ability to transform psychologically from a frightened kid to an attacker in the moment of crisis, the ability to successfully execute the attack on the shooters (e.g., hit the shooter with the book or rock, knock them down, etc.) again in a crisis situation, the ability to not accidentally hurt a classmate, the reality that unsuccessfully going on the attack might make that student a more likely target of the shooter. (Cox & Rich, 2018 November, p. 25)

Some of the practices the two organizations recommend in order to maximize benefits and minimize harm include considering participants’ developmental stages and mental health and developing a comprehensive communication plan (NASP & NASRO, 2014, p.1). They also note that “effective drills should result in staff who inspire calm and confidence in students” (NASP & NASRO, 2014, p.1).
Lily Eskelsen Garcia, president of the National Education Association (NEA), one of the two large, nationwide teachers’ associations in the United States stated:

Everywhere I travel, I hear from parents and educators about active shooter drills terrifying students, leaving them unable to concentrate in the classroom and unable to sleep at night. That is why, if schools are going to do drills, they need to take steps to ensure the drills do more good than harm. (Walker, 2020, para. 5)

An ALICE training session for teachers in Monticello, Indiana received national news coverage in 2019 when teachers voiced concerns over the way the training was conducted and the lack of preparation they received. The Indiana State Teachers Association claimed, “Four teachers at a time were taken into a room, told to crouch down and were shot execution style with some sort of projectiles — resulting in injuries to the extent that welts appeared, and blood was drawn” (Zraick, 2019, para. 4). Teachers raised the concern that they were not informed that this would occur, nor were they asked about their health histories. Dan Holub, the executive director of the Indiana State Teachers Association explained that teachers understand the need for safety training but feel the risks of engaging in training with such a high level of realism outweigh the benefits (Zraick, 2019). Similarly, Abby Clements, who taught second grade Sandy Hook Elementary School at the time of the 2012 shooting and currently teaches at a different school, stated:

Our students knew what to do. We taught them what to do in an emergency. We knew evacuation routes and where a safe spot was in the room, where nobody could see inside. But frightening students with some type of active drill, I think that is barbaric. There is no way you could possibly be prepared for the infinite number of ways that a shooting could go down with these weapons of war. (Eaton-Robb, 2020, para. 11)

Many teachers and teacher associations advocate for training without unnecessary trauma for themselves or their students.
Everytown for Gun Safety (Everytown) is a non-profit organization created in 2013 with the goal of ending gun violence (Everytown, n.d.). Two other organizations form the core of Everytown, Mayors Against Illegal Guns, founded in 2006 by New York City mayor Michael Bloomberg and former Boston mayor Tom Menino, and Moms Demand Action for Gun Sense in America, a grassroots group founded the day after the Sandy Hook Elementary School shooting in 2012 (Everytown, n.d.). In 2019, Everytown worked with the nation’s two largest teachers’ associations, the American Federation of Teachers (AFT) and the NEA to develop a proactive, comprehensive safety plan for schools based on gun safety policies and school-based intervention strategies (Everytown, 2020 February, p.1). Everytown, AFT, and NEA emphasized the importance of schools having comprehensive plans that included important aspects beyond just active shooter drills, including early intervention threat assessments and proactive efforts to enact gun violence prevention policies (Everytown, 2020 February. p.5).

The comprehensive school safety plan to prevent gun violence in schools created by Everytown et al. (2020, February) consists of these main components:

1. Act on warning signs with Extreme Risk laws
2. Enact, enforce, and raise public awareness of secure firearm storage laws
3. Raise the minimum age to purchase semi-automatic firearms to 21
4. Require background checks on all gun sales
5. Create evidence-based threat assessment programs in schools
6. Implement expert-endorsed school security upgrades
7. Initiate effective, trauma-informed emergency planning
8. Create safe and equitable schools. (p.14-23)

Recommendations five, six, and seven relate most closely to the purposes of this review of the literature. Everytown et al. (2020, February) asserts that the most effective measure in preventing a school shooting is to intervene before the person commits any act of violence. They cite the Comprehensive Student Threat Assessment Guidelines (CSTAG), formerly known as the
Virginia Student Threat Assessment Guidelines, as a model program (p. 19). While the counselor-to-student ratio has widened to 1:700 in many states, The American School Counselor Association recommends a minimum of one counselor for every 250 students to appropriately support the mental health and emotional well-being of students (Walker, 2019).

After studying various safety and security analyses like the Sandy Hook Advisory Commission and the Marjory Stoneman Douglas High School Public Safety Commission, Everytown et al. (2020, February) endorsed “basic security measures universally recommended by school safety experts, like access control and internal door locks, while recommending that schools also consider other expert-endorsed security measures based on local conditions” (p.21).

A study by Hurford et al. (2010) provided the foundation for some of the Everytown et al. (2020, February) school safety recommendations. Hurford et al. (2010) developed the School Violence Survey (SVS) and conducted a validity study of their instrument. In their study involving 806 middle school and high school students in the Midwest, Hurford et al. (2010) found that when students perceive one group of students as receiving preferential treatment by the adults in a school and/or being allowed to exercise control over other students, the likelihood of violent behavior increased (p. 51). This study supported school climate being one of the biggest predictors of school violence and provides a basis for the assertions of Everytown et al. (2020, February) that school safety plans must not rely on drills alone.

Everytown, AFT, and NEA together recommend training for school staff on trauma-informed responses to active shooter incidents, including training on lockdown, evacuation, and emergency medical training. However, Everytown and the collaborating teachers’ associations do not recommend active shooter training for students. They assert that if a school does include students in active shooter drills, they should be mindful of the potential impact on the students
and follow these six guidelines that align with the recommendations by NASP and NASRO (2014):

1. Drills should not include simulations that mimic or appear to be an actual shooting incident;
2. Sufficient information and notification must be provided to parents or guardians in advance about the dates, content, and tone of any drills for students;
3. Drills should be announced to students and educators prior to the start of any drill;
4. Drill content should be created by a team including administrators, educators, school-based mental health professionals, and law enforcement and be age and developmentally appropriate. The content should incorporate student input;
5. Drills should be coupled with trauma-informed approaches to directly address the well-being of students and educators as standard practice; and
6. Information about the efficacy and effects of the drills should be tracked by schools including symptoms and indications of trauma, so drill content can be re-evaluated if students and/or educators are exhibiting signs of trauma. (Everytown, 2020, February, p. 4)

Although professional organizations in the education arena advocate for the emotional development and mental health of students to be key considerations during active shooter drill planning, they also acknowledge the need to work toward prevention of school shootings and prepare to respond effectively.

Theoretical Framework: Self-Efficacy

Safe school climates are important to teachers (Sobol, 2009; Bosworth et al. 2011, & Reaves & Cozzens, 2018). A school shooting may be statistically unlikely, but the threat of such an incident is a present concern in U.S. schools. Of the many decisions teachers make in a day, arguably nothing weighs more heavily on the mind of a teacher than the thought of having to make a decision in response to an active shooter. Although active shooter training and drills are now annual requirements and part of the school routine just like fire drills, they elicit emotions that are much different from other safety drills. Teachers expect to answer the demands of lesson
planning, grading, classroom management, a plethora of paperwork and documentation, and numerous other duties, but in recent decades, educators have realized that preparing for an active shooter incident is now part of their job responsibilities. Although the vast majority of teachers will never encounter an active shooter, feeling prepared to do so, or developing a higher level of self-efficacy in this area, will foster a stronger sense of security and allow teachers to focus on the important work of educating children.

Self-efficacy describes peoples’ beliefs about their own capabilities (Bandura, 2012). The concept of self-efficacy is rooted in social cognitive theory, which asserts that human functioning is a result of the reciprocal influences that an individual’s own behavior, social forces, and environmental forces all have with one another (Bandura, 2012). Bandura (1977) developed a theoretical framework of perceived self-efficacy and its relationship to behaviors in which he defined an efficacy expectation as “the conviction that one can successfully execute the behavior required to produce the outcomes” (p. 193). Maddux (2012) explained that self-efficacy is not merely a perceived skill, but an individual’s belief about what he or she can do with skills under certain conditions; it is a person’s beliefs about his or her “ability to coordinate skills and orchestrate skills and abilities in changing and challenging situations” (p. 228). Thus, teacher self-efficacy for responding to an active shooter is not merely about feeling capable of tasks such as locking a door leading students out of the school; it is about choosing the right action and successfully executing the action under the most unpredictable, stressful, and dire circumstances.

While the actual skills involved in performing a specific task certainly influences whether an individual will achieve the desired level of performance, the amount of effort employed matters as well. Self-efficacy can play a significant role in impacting effort. Bandura (1977) concluded, “Efficacy expectations determine how much effort people will expend and how long
they will persist in the face of obstacles and aversive experiences. The stronger the perceived self-efficacy, the more active the efforts” (p. 194). Weinberg et al. (1979) conducted a study that provided early, empirical support of Bandura’s self-efficacy theory and showed that self-efficacy expectations “mediated subsequent performance on a competitive motor task” (p. 329). Prior to the study, the researchers found no difference in participants’ estimates of how long they could hold a leg extension, but once the researchers manipulated their efficacy by assigning a competitor, the high-efficacy participants reported a significantly higher expectation of success than the low-efficacy participants (Weinberg et al., 1979). The researchers found the participants’ performance levels were significant in addition to their expectation levels; they also found that when the participants experienced failure, the persistence of the high self-efficacy group increased but that of the low self-efficacy group decreased (Weinberg et al., 1979). This confirmed Bandura’s (1977) assertion that those with higher levels of self-efficacy will demonstrate higher levels of persistence when faced with adversity. There is no more important time to exercise persistence despite adversity than when encountering an active shooter; thus, it is of paramount importance that teachers receive the support they need in order to develop high levels of self-efficacy relative to handling active shooter incidents.

Once Bandura introduced self-efficacy theory in 1977, it quickly became a framework for inquiry and/or a studied construct across a variety of fields. Prussia et al. (1998) studied the impact of self-leadership skills and perceived self-efficacy on task performance. The subjects were 151 college students in undergraduate entrepreneurship courses. The researchers assessed the measures for self-leadership, which included behavioral focused strategies such as identifying long-term goals, natural reward strategies such as seeking work that is enjoyable, and constructive thought strategies such as positive self-talk to facilitate performance, and the
measures for self-efficacy beliefs, which included efficacy strength and school skills efficacy through a survey instrument. Task performance was assessed via classwork in three areas: writing, oral performance, and exam (Prussia et al., 1998). Prussia et al. (1998) found that self-leadership strategies influence self-efficacy perceptions and that self-efficacy has a positive, significant relationship with task performance. Furthermore, they found that self-efficacy mediates the relationship between self-leadership and performance. Prussia et al. (1998) discussed the practical implications of their research for trainings:

Organizations emphasizing empowerment should utilize training programs aimed at demonstrated skill development and practice of self-leadership strategies. By equipping and allowing trainees to apply self-leadership strategies to specific work activities, their confidence and performance back on the job can be enhanced. (p. 536)

These findings also have implications for active shooter training in the school setting. If teachers feel empowered to take action and have confidence in their capabilities, they are more likely to take actions toward saving their own lives and those of their students, should they encounter the worst-case-scenario of an active shooter in the school.

Researchers have conducted meta-analyses regarding self-efficacy over several decades, found similar themes, and have utilized their findings to make recommendations regarding improving performance. Hysong and Quinones (1997) conducted a meta-analysis of 28 empirical studies to examine the relationship between self-efficacy and task performance; Stajkovic and Luthans (1998, September) conducted a meta-analysis examining 114 studies on the relationship between self-efficacy and work-related task performance; Cherian and Jacob (2013) completed a meta-analysis of 14 empirical studies pertaining to the relationship among self-efficacy, employee motivation, and work-related performance of the employee. All three sets of researchers concluded that self-efficacy and task performance have a significant, positive

As Hysong and Quinones (1997) examined the moderators of self-efficacy, they found significant differences in the results dependent upon the type of task; they found that self-efficacy was highest for problem tasks, then fuzzy tasks, and lastly simple tasks. The researchers asserted that problem tasks and fuzzy tasks both include uncertainty or probabilistic information while simple tasks do not, so Hysong and Quinones (1997) contended that this causes individuals to rely more on their self-efficacy in order to move forward and accomplish such tasks. Simple tasks provide complete information and individuals are more likely to be able to fully perform them without thought to their own level of self-efficacy. For example, adults typically do not consider their self-efficacy for tying their shoes; it is something simple that they know how to do and can accomplish quickly. However, if an adult is putting together a piece of furniture with many parts and multi-step directions, the individual would be more likely to reflect on their capabilities. Responding to an active shooter in the school setting is certainly a complex, problem task, and thus would cause teachers to rely on self-efficacy in order to take action.

Both Stajkovic and Luthans (1998, September) and Cherian and Jacob (2013) concluded that the relationship between self-efficacy and performance is mediated by task complexity and locus of control; however, their findings regarding task complexity were different than those of Hysong and Quinone (1997). Both sets of researchers found that a higher level of task complexity resulted in a lower level of self-efficacy, and both sets of researchers developed recommendations for maximizing the potential of self-efficacy to positively impact performance (Stajkovic & Luthans 1998, September; Cherian & Jacob, 2013). The recommended strategies include providing clear, detailed descriptions of tasks and providing explanations of what skills
and means are necessary for completion of the task (Stajkovic & Luthans, 1998, September; Cherian & Jacob, 2013). Stajkovic and Luthans (1998, September) also recommended: providing a work environment free from distractions, training employees for coping with complex tasks, establishing clear standards for measuring performance, and attaching personal consequences to performance. Cherian and Jacob (2013) asserted that providing explanations on how to select the best method among all available methods to perform tasks can improve employees chances of accomplishing tasks effectively and maintaining the influence of self-efficacy on motivation and performance. All of these recommendations have implications for active shooter training, as in order for teachers to feel efficacious in responding to an active shooter incident, they will need detailed information about the tasks involved in responding, instruction on performing the tasks, and instruction on how to determine the best course of action in a specific situation.

Four Sources of Self-Efficacy

Self-efficacy is a dynamic construct for each individual. A person’s level of perceived self-efficacy can change in response to different types of information. Bandura (1997) explained:

Self-efficacy beliefs are constructed from four principal sources of information: enactive mastery experiences that serve as indicators of capability; vicarious experiences that alter efficacy beliefs through transmission of competencies and comparison with the attainments of others; verbal persuasion and allied types of social influences that once possess certain capabilities; and physiological and affective states from which people partly judge their capableness, strength, and vulnerability to dysfunction. (p. 79)

Pajares (1997) explained that information from these four sources do not translate directly into a person’s assessment of self-efficacy, but rather, “the selection, integration, interpretation, and recollection of information influence judgments of self-efficacy” (para. 14).
Enactive Mastery Experience

Enactive mastery experiences involve individuals having direct participation in a specific activity, and the level of success or failure they experience impacts their perception of their own self-efficacy (Bandura, 1977). Bandura (1977) describes the various ways a person may access such experiences including: participant modeling, performance desensitization, performance exposure, and self-instructed performance. Bandura and Adams (1977) concluded that desensitization enhances efficacy expectations and that mastery experiences have the strongest influence on self-efficacy. Stajkovic and Luthans (1998) concurred that succeeding at a challenging task is the strongest information that can influence efficacy beliefs, as it provides direct performance information to the individual. Self-efficacy is not altered solely by a person’s accomplishment of a task. How the person perceives and interprets their own performance is a key factor. Stajkovic and Luthans (1998) also described the role that both situational factors and a person’s conception of his or her own ability play in how mastery experiences can influence self-efficacy. Situational factors include: available resources, the interdependence of the task with other functions in an organization, physical distractions, danger present in the environment, external help received, and the type of supervision (Stajkovic & Luthans, 1998). To increase an individual’s self-efficacy through enactive mastery experiences, Maddux (2012) suggests providing people with tangible evidence of success. Goals and strategies to attaining the goals should be as specific as possible. Maddux (2012) stated, “When people actually see themselves coping with difficult situations, their sense of mastery is likely to be heightened” (p. 233).

ALICE scenario-based training provides participants with simulated enactive mastery experiences. Of course, it is impossible to have an authentic mastery experience of responding to
an active shooter unless a person encounters a real incident. During the training, the participants role play a variety of scenarios as if they were experiencing them in their schools. Throughout the training, the mastery experiences, via different scenarios, are guided, as participants practice using techniques that the trainer teaches them in order to utilize the various components of ALICE—alert, lockdown, inform, counter, and evacuate (ALICE Training Institute, 2018). Before each drill, participants are told they can take whatever action they feel they need to keep themselves safe, as long as they are within the safety parameters of the training. After each drill, the trainer debriefs and takes data on how many of the participants were hit by the simulated gunfire. Seeing the tangible results fosters an increase in self-efficacy (Maddux, 2012). As Bandura (1997) stated, “Successes build a robust belief in one’s personal efficacy” (p. 80).

**Vicarious Experience**

Gaining information through vicarious experiences involves seeing other people similar to oneself succeed at a task (Bandura, 2012). Modes of induction include either live or symbolic modeling (Bandura, 1977). Maddux (2012) provides some examples of vicarious experiences that can be used for teaching skills and promoting self-efficacy for those skills, including modeling, modeling via video, testimonials, and support groups. Stajkovic and Luthans (1998) explained, “The greater the perceived similarity between the model and the observer in terms of personal characteristics that are assumed to be relevant to performance accomplishment, the greater the model's influence on observers' learning” (p. 71). Bandura (1997) discusses this in terms of performance similarity and attribute similarity. He also shares the finding that model competence has a heavy influence on the information a person receives during a vicarious experience with competent models having a more significant influence on the learner (Bandura,
Maddux (2012) explains that a person can “gain a sense of control over a feared situation by imagining a future self that can deal effectively with the situation” (p. 234).

ALICE training includes vicarious experiences through the online training module, which includes videos of actual events and of drill simulations. There is also opportunity throughout the scenario-based training for participants to observe how others perform during the drills (ALICE Training Institute, 2018). Vicarious experiences are a stronger source of self-efficacy if the models are similar to the participants and if they are competent (Bandura, 1997; Stajkovic & Luthans, 1998). Since most school districts conduct trainings within the district, participants typically have a similar familiarity level with the program and techniques; most educators do not attend trainings with law enforcement or security personnel unless they are attending the certified trainer training. Thus, ALICE training for schools typically provides both attribute and performance similarities to participants.

**Verbal Persuasion**

Verbal persuasion can occur via suggestion, exhortation, self-instruction, and interpretive treatments (Bandura, 1977). Individuals who are told they possess the ability to master a task are more likely to expend and sustain effort to greater extents (Bandura, 1997). Stajkovic and Luthans (1998) explain verbal persuasion as an “enhancement” of beliefs; they assert that for verbal persuasion to be effective in increasing an individual’s level of perceived self-efficacy, the individual must already have evidence to believe he or she possesses or can acquire the skill to accomplish the task. In their study of the impact of self-efficacy on individuals’ performance on a competitive motor task, Weinberg et al. (1979) found that people perform poorly if they are...
given feedback that they are inefficacious, even if the feedback is inaccurate, and perform at a high level if they are persuaded that they are efficacious.

ALICE training provides information in the form of verbal persuasion to participants as well, mainly via the instructor(s). In the school setting, instructors are often school administrators and/or local law enforcement officers. Bandura (1997) stated, “Evaluative feedback highlighting personal capabilities raises efficacy beliefs” (p. 102), so personalized feedback has more influence on self-efficacy than general feedback to the group. The verbal persuasion provided during ALICE training is highly dependent on the effort of the trainer(s) to provide feedback and encouragement and also somewhat on the size of the group being trained. The lower the trainer to participant ratio, the more the trainer is able to observe each participant and provide feedback. While the quantity and quality of the verbal persuasion provided at ALICE training can vary, it is a source of self-efficacy that can supplement the mastery and vicarious experiences at the core of the training.

Physiological and Affective States

Maddux (2012) explained that physiological and affective states influence self-efficacy when “we learn to associate poor performance or perceived failure with aversive physiological arousal and success with pleasant feeling states” (p. 231). People typically feel more self-efficacious when they are calm than when they are distressed (Maddux, 2012). Bandura (2012) explained that levels of perceived self-efficacy can be increased by “reducing anxiety and depression, building physical strength and stamina, and correcting the misreading of physical and emotional states” (p. 13). Individuals may attain information via a change in their physical or emotional states through attribution, relaxation and biofeedback, symbolic desensitization, and
symbolic exposure (Bandura, 1977). During their snake phobia study, Bandura and Adams (1977) taught subjects relaxation techniques throughout the various steps in the desensitization process. Stajkovic and Luthans (1998) contend that people tend to experience higher levels of self-efficacy if they are not agitated emotionally, but that individuals differ in how likely they are to be distracted by emotional agitation.

Physiological and affective state play a significant role in how options-based training like ALICE can positively influence teacher self-efficacy for responding to an active shooter incident. Teachers, of course, would feel anxious, stressed, or fearful at the idea of encountering a shooter and having to respond in a way to protect themselves and their own students. While ALICE training does not place teachers in the exact situation and certainly does not intend to desensitize them to violence, it does guide teachers through scenarios and giving them options of strategies can result in lowering anxious feelings for some. Bandura (2012) stated that developing the skills to perform a specific task can reduce the anxiety a person may feel about performing it.

While the Indiana teachers did not like how it felt to be made to stay in a corner of the room when a shooter enters (Zraick, 2019), lockdown has been the protocol in many schools for years. In the past, many teachers understood that if a shooter came into the building, they had to sit in the corner of their room and hope the shooter did not select their classroom. Options-based training gives them strategies and choices like evacuating, barricading, and doing things to distract the shooter (ALICE Training Institute, 2018). Merely knowing there are options and that they have the power to make a decision could potentially lower anxiety for teachers anticipating the worst-case scenario. Bandura and Adams (1977) stated:

In the social learning theory of anxiety, it is mainly the perceived lack of efficacy to
manage potentially aversive aspects of the environment that makes them fearsome. People fear potential aversive events that they construe as exceeding their coping capabilities, but do not find them fearsome if they believe they can manage them. (p. 298)

Options-based approaches to active shooter drills have a much greater potential of helping teachers feel they can manage a dangerous situation in their classroom than a lockdown approach does. Having strategies from which to choose could then help decrease feelings of worry and stress as Bandura (1993) explained in his examination of the link between perceived self-efficacy and affective processes:

People who believe they can exercise control over threats do not conjure up disturbing thought patterns. But those who believe they cannot manage threats experience high anxiety arousal. They dwell on their coping deficiencies. They view many aspects of their environment as fraught with danger. They magnify the severity of possible threats and worry about things that rarely happen. (p. 132)

A teacher’s level of perceived self-efficacy in responding to an active shooter drill scenario may impact how the teacher feels about his or her overall preparedness to respond to an active shooter, and also his or her feelings about the level of overall safety and security at their school.

Self-Efficacy Influencing Action: Other Considerations

Integration of Self-Efficacy Information

Bandura (1997) explained that all individuals have their own unique process of integrating information from the four different sources as they make their own efficacy judgments. Some people can be influenced by the levels of performance they see others demonstrate. Affect can also impact personal and social judgements. People all have a set of ever-changing feelings, impressions, and assessments of themselves and their abilities. Bandura (1997) asserted that self-referent experiences are most likely to influence self-esteem and social
valuation and can produce self-exaggeration or self-belittlement. Efficacy beliefs then produce their effects through the mediating cognitive, motivational, affective, and selective processes (Bandura, 1993).

**Domain-Specificity**

Maddux (2012) described self-efficacy as “a set of beliefs about the ability to coordinate skills and abilities to attain desired goals in particular domains and circumstances” (p. 229). Self-efficacy has been applied to various domains of psychological functioning including: “motivational changes, affective reactions of stress and depression, psychosocial dysfunction, development of cognitive skills, achievement strivings and accomplishments, athletic feats, career choice and pursuits, and self-regulation of motivation and refractory behavior” (Bandura, 1986, p. 360). Bandura (2012) cautioned against studying self-efficacy as if it were a general trait. Rather, he explains that people differ in their efficacy levels across domains and also across different facets of a given domain. Bandura (1986) stated, “Self-perceptions of efficacy vary across different activity domains, different levels of demands within activity domains, and different environmental circumstances of performance” (p. 371). People do not simply fall into categories of having high or low self-efficacy. An individual may have a high level of self-efficacy regarding academic tasks but a low level regarding athletic tasks. An individual can have a high level of self-efficacy toward a specific task within a domain, such as running, while he or she has a low level of self-efficacy toward another task in the same domain such as dunking a basketball. The impact of environmental factors can be strong such as a person having a high level or self-efficacy toward math, but in testing situations feeling anxiety that impacts his or her self-perceptions and also his or her performance.
Domain-specificity is an important consideration when examining teacher self-efficacy in responding to an active shooter incident. Teachers may be highly self-efficacious in regard to their teaching capabilities, but this does not necessarily apply to their perceptions of their ability to respond in the event of an active shooter in their school. Hoy (2000) asserted that student teaching and the first several years of teaching are crucial in the development of teacher self-efficacy. Through the experience of impacting students’ learning, the vicarious experiences of observing other teachers’ effective practices, and receiving verbal persuasion via support from colleagues and feedback from administrators, students, and parents, teachers build their self-efficacy (Hoy, 2000). However, teaching and protecting one’s self and students from someone wielding a deadly weapon are two completely different tasks. The vast majority of teachers have had no direct or vicarious experiences that provide them with the information needed to build self-efficacy toward responding to an active shooter. Active shooting incidents bring with them many unique environmental factors while also significantly impacting people emotionally. While levels of self-efficacy toward other types of tasks may impact teacher self-efficacy toward responding to an active shooter incident, it must be examined as a unique construct. In a study of Rhode Island teachers’ perceptions of preparedness to respond to a crisis, Perkins (2018) refers to teachers as “the true first responders” and calls upon school leaders to implement strategies to raise teachers’ self-efficacy in this domain.

**The Role of Knowledge in Determining Action**

Responding to an active shooter is a complex problem that requires extremely rapid decision-making in order to solve. Such complex decisions require a process of moving knowledge into action (Bandura & Wood, 1989). “Knowledge structures provide the rules and
strategies of effective action that serve as cognitive guides for the behaviors” (Leslie & Moilanen, 2010, p. 576). Learning through observation, verbal instruction, activities that allow for exploration, and cognitive synthesis of acquired knowledge are all means of constructing knowledge (Bandura, 1997). In order for teachers to respond effectively in an active shooter situation, they first need to possess knowledge to inform their action, and then have the confidence in that knowledge and in their own capabilities to put the knowledge into action. Training is therefore essential, and training that includes opportunities for teachers to receive instruction, observe effective strategies and techniques, and explore utilizing the strategies and techniques is optimal. Bandura (1997) stated, “Effective exercise of control requires the orchestration of knowledge, subskills, and resources to manage changing situations” (p. 27). Self-efficacy plays an important role in a teacher acting upon his or her acquired knowledge. Leslie and Moilanen (2010) stated, “Individuals with high self-efficacy beliefs tend to exhibit greater situational adaptability and are much more confident in their intuitive decision-making. Those with low self-efficacy beliefs may forego opportunities or not implement workable courses of action” (p. 576). Individuals with high self-efficacy are more likely to act. Acting, especially with all due speed, is crucial in an active shooter situation.

Self-Efficacy Theory and Active Shooter Drills in School Settings

Self-Efficacy and Perceptions of Preparedness

Several studies have examined teachers’ perceived self-efficacy at responding to school crisis incidents such as active shooters. Graveline (2003) conducted a small-scale, qualitative study to investigate teachers’ perceptions of their own self-efficacy to respond to a school crisis
and the amount and types of crisis training teachers report they need. The researcher interviewed a total of 12 classroom teachers at three different Connecticut high schools (Graveline, 2003). Graveline (2003) found that the teachers participating in the study recognized their responsibility to ensure their students’ safety and also reported that they need to be permitted to use their own professional judgement when responding to a crisis. Graveline (2003) found that “the teachers in this study reported being fairly confident or confident in their abilities to manage a school crisis; yet, in contradiction, they also reported that they were not prepared or only somewhat prepared to respond to school violence” (p. 279). Very few indicated they had ever participated in training on how to respond to school violence, and very few indicated they were comfortable physically intervening in a crisis (Graveline, 2003). Teachers reported the fear of escalating a crisis situation by failing to respond more often than the fear of physical harm, and the high levels of fear articulated by participating teachers could likely inhibit their self-efficacy. (Graveline, 2003).

Werner (2007) conducted a survey of Missouri school counselors to study their perceptions of their own level of crisis preparedness and that of their school as a whole. Werner (2007) found that 69% of Missouri counselors responded that they felt moderately to extremely prepared for a major school crisis compared to a national survey of counselors by Allen, Burt, Bryan, Carter, Orsi, and Durkin (2002) which indicated that 57% of school counselors felt minimally or not at all prepared to handle a major school crisis (as cited in Werner, 2007, p. 22). Werner (2007) named the development of the Missouri Comprehensive Guidance Model as a likely reason for this discrepancy (Werner, 2007). In other words, when a specific response model was implemented, staff expressed a higher level of perceived self-efficacy in handling a crisis situation. Werner (2007) found that “school counselors who reported exercising the crisis
Rider (2015) and Wheeler (2017) both utilized self-efficacy theory as a framework for their studies on teacher preparedness for active shooter incidents. Rider (2015) studied high school teachers’ perceptions of their ability to respond to an active shooter incident using a quantitative survey research design. The researcher found a strong correlation between teachers' perceptions of their school's planning procedures and their perceptions of their ability to respond effectively to active shooter incidents. Rider (2015) also found a strong correlation between teachers' participation in practice/drills and their perception of their ability to respond effectively to active shooter incidents; the more practice and drills teachers participated in, the more prepared they felt. Wheeler (2017) conducted a qualitative, transcendental phenomenological study on how elementary teachers use mental imagery to prepare for active shooter events. After an examination of documents and conducting interviews and focus groups, the researcher concluded that teachers will do whatever it takes to protect the lives of students, that any training a teacher receives will help him or her in responding to an active shooter event, and the more training a teacher received, the more confident he or she was in his or her ability to react to an active shooter event (Wheeler, 2017). Both studies, each from a different research approach, concluded that planning and training directly impacts teachers’ perceived self-efficacy regarding responding to an active shooter incident.

Rinaldi (2016) conducted a mixed-methods study in a K-12 non-public New Jersey School to assess teachers’ perceptions of preparedness before and after the implementation of a school safety and security plan. The major themes that emerged from teacher interviews
included: concern over how to protect their classrooms, the desire to obtain more training so that they are prepared to act in stressful situations, and the desire to understand specific responsibilities when facing a crisis. Despite these concerns for more training and clarity, the quantitative pre-post questionnaire data indicated that teachers’ perceptions of their own self-efficacy to respond in an emergency significantly improved after participating in training related to their school’s new safety and security plan (Rinaldi, 2016).

Perkins (2018) conducted a mixed-methods study of the 307 Rhode Island teachers’ perceptions of their own preparedness to respond to a crisis in their schools. Sixty-three percent of responding teachers answered that they never or rarely participated in crisis preparation training. Common themes emerging included: the need for consistent policy and procedures, the desire for clear and continuous communication, a desire for scenario-based trainings with police and fire personnel present, and the request that the district “properly train a trainer who is very knowledgeable in the plan” (Perkins, 2018, p. 77).

In summary, studies on the self-efficacy and preparedness of school staff have resulted in some important implications to consider when planning for active shooter training. Teachers hold the belief that they are responsible for their students’ safety (Graveline, 2003) and will do what it takes to protect them (Wheeler, 2017). There are mixed results as to whether teachers feel prepared to respond to an active shooter incident (Graveline, 2003; Werner, 2007), but teachers have expressed concern over being prepared to physically intervene to stop a shooter (Graveline, 2003) and knowing the right way to respond to protect their students in specific crisis situations (Graveline, 2003; Rinaldi, 2016). Teachers have expressed the need to be able to use their own judgement (Graveline, 2003), but studies have consistently found that teachers also express a desire for more training (Graveline, 2003; Rinaldi, 2016; Wheeler, 2017; Perkins, 2018). The
teachers in the most recent study (Perkins, 2018) specifically requested scenario-based training with the presence of first responders and knowledgeable trainers. Studies have consistently yielded results indicating the more school staff participate in drills, training, and practice, the higher the levels of confidence, preparedness, and/or self-efficacy they report (Werner, 2007; Rider 2015; Rinaldi, 2016; Wheeler, 2017).

**Self-Efficacy, Preparedness, and Active Shooter Training**

In early 2019, an active shooter training at Meadowlawn Elementary School in Monticello, Indiana received national news coverage. Participating teachers were understandably upset that the pellets fired at them during the drill caused pain, welts, cuts, and bruises (Zraick, 2019). Teachers were also upset at the lack of information they were given about the training and also about its realistic nature. A spokesperson for the Indiana State Teachers Association posted on Twitter, “Four teachers were taken into a room, told to crouch down, and were shot execution style with some sort of projectiles” (Zraick, 2019, para. 4). The drill exercise in question is one scenario in a series of exercises by the ALICE Training Institute. ALICE stands for alert, lockdown, inform, counter, and evacuate, and it is an options-based training method for active shooter preparedness used by a growing number of schools, businesses, and in some cases, entire municipalities (ALICE, n.d.b). While no one can blame the Indiana teachers for being upset by the physical injuries they sustained and the emotions they experienced, the distress that teachers felt being sitting targets and unable to attempt avoiding danger is what lockdown procedures can cause. Being made to sit in the corner as danger approaches is certainly not empowering, but as the Indiana teachers experienced, it has the potential to be frustrating, distressing, enraging, and terrifying.
In recent years, there has been a nationwide shift in thinking regarding active shooter preparedness. In 2013, the U.S. Department of Education et al. determined a lockdown approach was no longer sufficient and that an approach with multiple options that allows individuals to make their own decisions was a more effective approach to active shooter training. Preparing to respond to such an intense and potentially traumatic event as an active shooter incident is a very personal experience and one that can elicit much thought and emotion. There is arguably no bigger weight on teachers than for them to consider how they would respond to an incident that threatens their own life and those of their students. While research shows that approaches like ALICE and Run, Hide, Fight are more effective responses to active shooter incidents in terms of survivability rates, exploring their impact on teachers’ self-efficacy and perceptions of safety is also important research. Most teachers participating in active shooter drills are not statistically likely to be in situations that require teachers to actually use their training, but teachers all will continue to do their jobs with their students, some with the worst case scenario in the back of their minds. Finding an approach to active shooter preparedness that mitigates anxious feelings and fosters self-efficacy will benefit teachers and their students regardless of whether they ever have to implement what they learn in training and drills.

An options-based approach to active shooter training should have a greater likelihood of contributing to an individual’s perceived level of self-efficacy regarding active shooter response. Although the ALICE and Run, Hide, Fight approaches are nearly identical in philosophy and have similar protocols, ALICE will serve as the example as it provides a detailed training plan and as it was the method utilized by the district who participated in the study. Staff who participate in the ALICE trainer course participate in a two-day workshop with an instructor from the ALICE Training Institute. Most school staff participate in the standard training, so that
is what will be discussed. The standard training includes an hour introductory session by an ALICE trainer, usually a school staff member who attended ALICE trainer training and/or a police officer who is ALICE trained. Participants then participate in a 45-minute online training module and a half-day or full-day scenario-based training. The ALICE training protocol, if followed with integrity, provides participants with information via all four sources of self-efficacy.

Research on self-efficacy supports the adoption of an options-based approach to active shooter training like ALICE. Having a specific model for responding to a crisis fosters a higher perceived self-efficacy for staff (Werner, 2007). The ALICE approach provides participants with details about how to effectively respond to an active shooter, instruction on how to execute those responses, and information on how to decide which specific response to use, which will strengthen staff’s levels of self-efficacy and their aptitude for implementing what they learn (Cherian and Jacob, 2013). Lastly the approach includes the opportunity for participants to build their self-efficacy for responding to an active shooter via all four sources with the ALICE scenarios forming the foundation of the training as enactive mastery experiences.

The literature on active shooter drills includes several dissertation studies that focused on feelings of preparedness. Rider (2015) developed the *Active Shooter Preparedness Training Survey for High School Teachers* (ASPTS) to utilize in her study of 418 Mississippi high school teachers. While her study did not include information as to what approach to active shooter preparedness the participating teachers’ schools utilized - lockdown or options-based - some of Rider’s findings do contribute to the literature on overall teachers’ perceptions of their ability to respond to active shooter incidents. Rider (2015) found a strong, positive correlation between teachers’ perceptions of their ability to respond to an active shooter incident effectively and all
three of these factors: school safety planning, teachers’ participation in training and drills, and teachers’ perception of their principals’ abilities to respond to an active shooter incident effectively. In addition, Rider (2015) found that teachers who participated in active shooter training three or more times a year were more likely to perceive themselves as prepared to respond to an actual incident; the more training teachers have in active shooter response, the more confident they are in their ability to act effectively should a real incident occur (p. 145).

The work of three researchers who have studied perceptions of the implementation of the ALICE active shooter response training program in the school setting were examined. All three studies utilized a quantitative survey research design. One researcher studied staff and parent perceptions in a K-12 district, one studied district-level leaders’ perceptions, and another examined high school principals’ perceptions.

Dain (2015) conducted a survey in a K-12 school district in suburban Kansas City to study staff and parent perceptions of ALICE active shooter response training and found that, overall, staff and parents perceive schools as being safer due to the implementation of ALICE (Dain, 2015, p. 96). Findings specific to the staff survey included: elementary and middle school staff agreed more strongly than high school staff that the school has the ability to handle a critical incident; male staff agreed more strongly than female staff that they would be able to implement all aspects of ALICE during a critical incident; staff rated their perceptions of the alert, lockdown, inform, and evacuate aspects of ALICE higher than the counter aspect (Dain, 2015, p. 97). The counter aspect of ALICE is typically the aspect that is most different from traditional school training for active shooter incidents and the aspect that requires the most assertive action on the part of staff.
Gleich-Bope (2016) sent a mixed-methods questionnaire to 52 districts that had participated in ALICE training during the 2014-2015 school year. Thirty-one districts returned the questionnaire completed by a district representative. Findings included that 28 out of 31 districts indicated that their staff had an overall positive perception of ALICE. The responses indicated more variability and uncertainty in terms of how staff felt introducing ALICE to students (p. 50).

Dagenhard (2017) surveyed high school principals in the United States whose schools had been trained in ALICE active shooter response in the past three years; 98 principals from 22 states responded (Dagenhard, 2017, p. 18). Notably, 100% of responding principals indicated that they “felt ALICE training would be an effective response to an active shooter incident occurring in their school, as well as would recommend ALICE training to other public high schools” (Dagenhard, 2017, p. 71).

While research is somewhat limited on the relatively new options-based approaches to active shooter drills, these studies support the claim that active shooter drill training has a positive impact on feelings of preparedness. More specifically, the findings of Dain (2015), Gleich-Bope (2016) and Dagenhard (2017) suggest that the options-based ALICE approach increases both staff and parents’ perceptions of schools’ preparedness for responding to active shooter incidents. While only a fraction of a percent of schools experience a shooting, the worry and fear about the possibility of having to respond to such an incident are real feelings for teachers. Utilizing an approach to active shooter drills that not only increases survivability, but also empowers teachers and increases self-efficacy will lead to teachers feeling safe and able to focus on the job of teaching children. “Self-efficacy is an important motivational construct. It influences individual choices, goals, emotional reactions, effort, coping, and persistence” (Gist,
1992, p. 186). At no other time is it as crucial that all of these factors be influenced in the right direction than in the event an active shooter enters a classroom.

Need for Knowledge

Research from national organizations and government agencies support the addition of options-based approaches like ALICE or Run, Hide, Fight to active shooter training and drills. Recent research on ALICE is positive as to the perceptions of the program’s effectiveness to increase the level of safety and security. The research also generally supports the assertion that practice and preparedness lead to higher levels of perceived self-efficacy, and consequently, a higher perceived level of safety and security. The gap in the literature that this study will address is a focus on elementary school staff who work with the youngest, most dependent, learners. This study also collected data in a pre-post format with two surveys conducted with the same population before and after elementary educators’ participation in a half-day scenario-based ALICE training. The other studies specifically on perceptions of ALICE implementation in schools collected data solely after implementation of the program.
CHAPTER 3
RESEARCH METHODOLOGY

Purpose of Study

The purpose of this study was to examine elementary school staff members’ perceptions of ALICE training, perceptions of their own levels of preparedness for responding to an active shooter incident, and how ALICE training impacted perceptions of their school’s level of safety. This section will describe the methodology used in conducting this study, including descriptions of the research questions, research design, participants, study participants, and data collection.

Research Questions

In examining elementary educators’ perceptions of preparedness and safety, as well as their experiences of the options-based approach, ALICE, this study addressed the following research questions:

1. What are elementary school staff members’ perceptions of their own preparedness to respond effectively to an active shooter incident? (RQ1)
2. How does participation in ALICE training impact elementary staff members’ perceptions of their own preparedness to respond effectively to an active shooter incident? (RQ2)
3. How does participation in ALICE training impact elementary school staff members’ perceptions of school safety? (RQ3)
4. What are elementary school staff members’ experiences of ALICE training?

Research Design

An exploratory descriptive research design was used to determine staff perceptions of ALICE training and how the training impacted staff perceptions of their own preparedness and perceptions of their school’s level of safety. The exploratory aspect of this study supported the generating of ideas about the phenomena of elementary staff ALICE training including staff perceptions and experiences, and the descriptive nature worked toward creating a picture of the participation of elementary staff participating in ALICE training (Johnson & Christensen, 2012). Descriptive statistics, such as mean and standard deviation, were used to describe overall trends and distribution of data (Creswell & Guetterman, 2019). Participants completed surveys pre and post ALICE training, which led to the ability to examine the same people over time as a panel study (Creswell & Guetterman, 2019). This design allowed for the examination of staff perceptions regarding preparedness and school safety and any changes in the perceptions after respondents participated in scenario-based ALICE training. The descriptive design led to the identification of patterns in the data that may further understanding and improve decision-making (Loeb et al., 2017). While almost half of the participants completed surveys at both time-points, some participants answered only the pre-survey, and some only answered the post-survey. The responses of the elementary educators who responded to both surveys served as the sample for this study, as the two sets of responses provided comparison data before and after ALICE training (Gravetter & Wallnau, 2014). A set of three open-ended items similar to password security questions appeared at the beginning of both surveys; each participant’s
answers to these items on both surveys were matched to link pre and post responses while maintaining anonymity.

Participants

Overall, there were 170 participants in the study who completed the pre-survey, received the ALICE training, and completed the post survey. There were 164 (96.5%) females and 6 (3.5%) males who participated. The average number of years of experience amongst the participants was 15.45, with a range of less than one year to 35 years of experience. Additional categories of participant characteristics are presented below (See Table 1 and Table 2).

Table 1. Participant Job Titles

<table>
<thead>
<tr>
<th>Job Title</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Teacher</td>
<td>64</td>
<td>37.6</td>
</tr>
<tr>
<td>Specialist</td>
<td>66</td>
<td>38.8</td>
</tr>
<tr>
<td>Teaching Assistant</td>
<td>19</td>
<td>11.2</td>
</tr>
<tr>
<td>Administrator</td>
<td>5</td>
<td>2.9</td>
</tr>
<tr>
<td>School Secretary</td>
<td>6</td>
<td>3.5</td>
</tr>
<tr>
<td>Lunch staff</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>170</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 2. Grade Levels Where Participants Worked

<table>
<thead>
<tr>
<th>Grade level</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Grade</td>
<td>27</td>
<td>15.9</td>
</tr>
<tr>
<td>Second Grade</td>
<td>32</td>
<td>18.8</td>
</tr>
<tr>
<td>Third Grade</td>
<td>36</td>
<td>21.2</td>
</tr>
<tr>
<td>Fourth Grade</td>
<td>28</td>
<td>16.5</td>
</tr>
<tr>
<td>Fifth Grade</td>
<td>33</td>
<td>19.4</td>
</tr>
<tr>
<td>More than one grade level</td>
<td>77</td>
<td>45.3</td>
</tr>
</tbody>
</table>

Note: Participants could have selected more than one grade level or picked the option of “more than one grade level” as a result, the total is not 170

All elementary (n = 834) staff in a large suburban school district in the Midwest were contacted via email and invited to participate in the study, and approximately 20% took the surveys. Elementary staff includes teachers, administrators, specialists, paraprofessionals, secretaries, and student supervisors. The sampling for this study was purposive and of convenience and, thus, was non-probability based. As explained by Johnson and Christensen (2012), purposive sampling involves the researcher specifying characteristics of the population of interest to his or her study and then locating individuals with those characteristics (p. 231). In this case, the characteristics of interest included working in an elementary school and participating in initial ALICE training. As the purpose of the study was to examine how elementary staff members perceive the training experience and, in addition, to examine how
elementary staff members’ perceptions of their own preparedness and of their school’s level of safety were impacted by the ALICE training, the sample needed to consist of school staff ALICE in a district implementing ALICE training for the first time. Such a sample provided the researcher with pre-and-post data for comparison purposes. The sample for this study was drawn from a population of participants to whom the researcher had convenient access. Since this study is a pre-post format, there were three different samples: participants of the pre-survey, participants of the post-survey, and participants that completed both the survey prior to the ALICE training and the survey after ALICE training. For the purposes of this study, only survey data from participants who responded to both the pre and post survey were analyzed.

Study Procedures

Permission to conduct the study was obtained in November 2019 and confirmed via email in December 2019 by the Superintendent of the district and the Assistant Superintendent who led the district initiative to plan and implement ALICE districtwide. Approval by the Northern Illinois University Institutional Review Board (IRB) was also sought and obtained. Qualtrics was used to develop and deliver the survey. The initial (pre) survey was emailed to staff 10 days prior to the January 2020 ALICE training and remained open until five minutes before the training began. The second (post) survey was emailed to staff immediately following the three-hour ALICE scenario-based training and remained open for 12 days after the completion of the training. The vast majority of participants experienced ALICE training at their own schools with district personnel ALICE trainers and local law enforcement ALICE trainers leading the sessions.
Data Collection

The survey (see Appendix) utilized for this study included items from pre-existing instruments, items written by the researcher, and items designed with the school district in order to obtain feedback to further inform their implementation of ALICE. The opening section of the survey included a consent-to-participate and demographic information. The first three open-ended questions served the purpose of linking pre and post survey participants’ responses while maintaining anonymity. The remaining four demographic items were designed by the researcher and included: job title, grade level of assignment, gender, and years of experience working in a school setting. The post-survey also asked participants to indicate at which school they worked, allowing the researcher to filter training feedback by school for the district; this information was not used for the data analysis of this study. Demographic items were formatted in a multiple choice or short answer, open-ended format.

The 25 five-point Likert scale items were written by the researcher and also curated from three existing instruments. The ALICE Staff Survey (Dain, 2015) was piloted with a validation committee of experts including ALICE Institute trainers, school administrators at the district-level, and research faculty from Baker University (Dain, 2015, p. 67). According to Dain (2015), “Because this study involved an analysis of individual items, a reliability analysis was not needed” (p. 68). The Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015) was determined to be valid by an expert panel consisting of a former state superintendent of schools, a former district superintendent, a school resource officer, a school safety director, and a curriculum director (Rider, 2015, p. 102). Reliability was established via a pilot study (Rider, 2015, p. 102). The ALICE Training Questionnaire (Gleich-Bope, 2016) was
reviewed by a district research review committee for content validity (Gleich-Bope, 2016, p. 43). All 25 Likert-scale items were asked on the pre-survey and the post-survey so that comparison data could be analyzed with the following answer choices and corresponding numerical values: strongly agree (5), somewhat agree (4), neither agree or disagree (3), somewhat disagree (2), and strongly disagree (1).

The two open-ended items on the pre-survey and the four open-ended items on the post-survey were written by the researcher in consultation with the school district in order to inform the district’s current and future training efforts. The open-ended items on the pre-survey asked participants about their expectations and hopes for the ALICE training. The open-ended items on the post-survey asked participants about the most valuable aspects of the ALICE training, their suggestions for improving the training, their thoughts on the training experience, and their thoughts on introducing ALICE to their students. The open-ended items were also coded for themes, analyzed, and contributed to the findings for the corresponding research questions.
CHAPTER 4

RESULTS

Quantitative Survey Results

Items on the survey were utilized to answer specific research questions. All items were examined for range, mean, standard deviation, skewness and kurtosis, and all fell within acceptable ranges.

Six quantitative survey items were utilized to answer both research question one and research question two. As a reminder, research question one asked, *What are elementary school staff members’ perceptions of their own preparedness to respond effectively to an active shooter incident?* Research question two asked, *How does participation in ALICE training impact elementary staff members’ perceptions of their own preparedness to respond effectively to an active shooter incident?*

Overall, it appears that on the post-survey, most staff members utilized the part of the scale that indicates agreement with each statement (the range was 1-5 for each question with 5 indicating a response of *Strongly Agree*). In addition, it appears that from the administration of the pre-survey to the administration of the post-survey, participants became more aware of ALICE concepts and felt more confident in their own abilities to respond in the event of an active shooter situation within their schools, as the means increased from the pre-survey to the post-survey on all six items (See Table 3). In addition to the increased means, the standard
deviation for each of the six items decreased from the pre-survey to the post-survey indicating a decrease in the variability in participants’ responses after participating in ALICE training. This suggests that participating in the common experience of the scenario-based ALICE training somewhat closed the gap in variability of participant understandings of ALICE and their perceptions of preparedness relative to active shooter incidents in school.

Table 3. Quantitative Survey Items Corresponding to Research Questions One and Two

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre Mean (s.d.)</th>
<th>Post Mean (s.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand all the concepts of ALICE (Alert, Lockdown, Inform, Counter, and Evacuate)</td>
<td>4.00 (1.01)</td>
<td>4.87 (.45)</td>
</tr>
<tr>
<td>I am confident in my ability to respond appropriately in the event of an active shooter incident at my school.</td>
<td>3.08 (1.05)</td>
<td>4.26 (.71)</td>
</tr>
<tr>
<td>I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident at my school.</td>
<td>2.62 (1.13)</td>
<td>4.49 (.76)</td>
</tr>
<tr>
<td>I am confident that I can control my classroom in the event of an active shooter incident.</td>
<td>3.09 (1.20)</td>
<td>3.99 (.85)</td>
</tr>
<tr>
<td>I am confident that I can protect my students in the event of an active shooter incident</td>
<td>2.86 (1.18)</td>
<td>3.91 (.95)</td>
</tr>
<tr>
<td>I am confident in teaching my own students about ALICE.</td>
<td>2.55 (1.26)</td>
<td>3.55 (1.10)</td>
</tr>
</tbody>
</table>

The item with the mean that increased the least from pre-survey to post-survey was the
item with the highest pre-survey mean, *I understand all the concepts of ALICE (Alert, Lockdown, Inform, Counter, and Evacuate)*. The fact that participants indicated the highest degree of agreement with this statement on the pre-survey could be attributed to the fact that they all received an introductory session on ALICE by local law enforcement earlier that school year. Participants also had an opportunity to view an online module prior to the in-person ALICE scenario-based training. The mean that increased the most from pre-survey to post-survey was the item, *I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident at my school*. Since participants completed an ALICE scenario-based training between the pre-survey and post-survey, the greatest mean increase occurring on this item concerning training is not surprising. On the pre-survey, the item, *I am confident in teaching my own students about ALICE*, had one of the lowest means, with the item about training being slightly lower. After ALICE training, the item about training increased to have the second-highest post-survey mean, while the item about teaching students about ALICE had the lowest post-survey mean. Thus, of the areas measured by these six items, the participating elementary staff responses indicate that teaching their own students about ALICE may remain a concern.

A series of 14 questions were used to answer research question three, which asked, *How does participation in ALICE training impact elementary school staff members’ perceptions of school safety?* (See Table 4).

Similar to the results with research questions one and two, mean scores on most items increased as a result of participation in the ALICE training, indicating overall growth in participants’ perceptions of school safety. The greatest increase in mean pre-survey to post-survey was for the item, *I feel confident in our school's ability to handle an active shooter
incident. A variety of aspects of the ALICE training process may have contributed to the increase in participants’ agreement with that statement including: growing their own knowledge and skills.

Table 4: Quantitative Survey Items Corresponding to Research Question Three

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre Mean (s.d.)</th>
<th>Pre Mean (s.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel confident in our school's ability to handle an active shooter incident</td>
<td>3.02 (1.14)</td>
<td>4.23 (.83)</td>
</tr>
<tr>
<td>Overall, I feel our schools will be safer as a result of the ALICE training.</td>
<td>4.15 (.92)</td>
<td>4.73 (.54)</td>
</tr>
<tr>
<td>Due to ALICE training, our staff will feel better prepared to react to an active shooter incident.</td>
<td>4.10 (.79)</td>
<td>4.68 (.58)</td>
</tr>
<tr>
<td>My school works cooperatively with local law enforcement in developing a plan for active shooter incidents.</td>
<td>4.24 (.90)</td>
<td>4.79 (.55)</td>
</tr>
<tr>
<td>My school's plans for active shooter incidents are effective.</td>
<td>3.34 (.90)</td>
<td>4.37 (.84)</td>
</tr>
<tr>
<td>The possibility of an active shooter incident is taken seriously at my school.</td>
<td>4.44 (.77)</td>
<td>4.83 (.44)</td>
</tr>
<tr>
<td>My school provides instruction sessions about active shooter incident preparedness to staff.</td>
<td>3.48 (1.19)</td>
<td>4.47 (.83)</td>
</tr>
<tr>
<td>Instruction sessions about active shooter incident preparedness for staff will make our school safer.</td>
<td>4.26 (.89)</td>
<td>4.67 (.62)</td>
</tr>
<tr>
<td>My school provides classroom instruction about active shooter incident preparedness to students.</td>
<td>2.67 (1.25)</td>
<td>3.60 (1.08)</td>
</tr>
<tr>
<td>Classroom instruction about active shooter incident preparedness for students will make our school safer.</td>
<td>3.84 (1.09)</td>
<td>4.26 (.80)</td>
</tr>
<tr>
<td>I have anxiety/worry over the possibility of an active shooter incident in my school.</td>
<td>3.40 (1.20)</td>
<td>3.16 (1.25)</td>
</tr>
<tr>
<td>Staff and teachers often express worry/anxiety of the possibility of an active shooter incident.</td>
<td>2.88 (1.22)</td>
<td>2.78 (1.16)</td>
</tr>
<tr>
<td>Parents of my students often express worry/anxiety of the possibility of an active shooter incident.</td>
<td>2.38 (1.05)</td>
<td>2.46 (1.04)</td>
</tr>
<tr>
<td>My students often express worry/anxiety of the possibility of an active shooter incident.</td>
<td>2.19 (1.11)</td>
<td>2.17 (1.08)</td>
</tr>
</tbody>
</table>
in responding to an active shooter, observing that every member of the school staff was receiving
the same training, and learning information from local law enforcement about their response in
the event of an active shooter. The item, *the possibility of an active shooter incident is taken
seriously at my school*, had the highest mean on both the pre-survey and post-survey. While the
ALICE scenario-based training occurred mid-school year in January, the introduction session by
local law enforcement occurred in August and administrators likely had ongoing conversations
with staff leading up to the training. Thus, knowing that their district had invested in providing
the training and having the approach previewed likely conveyed to staff that their district and
school had prioritized active shooter preparedness.

Four of the items asked about anxiety/worry regarding school shootings, so a decrease in
the mean from pre-survey to post-survey on those items indicated a positive response, or a
decline in reported or perceived anxiety. The means of three of these four items decreased from
the pre-survey to the post-survey, indicating a decrease in participants’ reported anxiety levels
and in their perceptions of the anxiety levels of their colleagues and students. For the item
regarding parent anxiety, the mean increased slightly. This could be due to staff spending more
time considering parent feelings once staff had completed the ALICE training, or perhaps some
staff may have received questions from parents as parents learned about staff participating in the
training. For the four items concerning anxiety/worry, the highest mean, or strongest indication
of anxiety, participants reported was for themselves, then their colleagues, followed by parents
and then students; this order was the same on the pre-survey as well as the post-survey. Engaging
in the ALICE introduction session, online module, and scenario-based training likely caused
participants to reflect on their own feelings about the possibility of an active shooter and also
gave them the opportunity to observe their colleagues’ reactions or discuss the topic and become more aware of colleagues’ feelings. School shootings are not a topic most elementary teachers discuss with their students, so it is not surprising the mean indicates most staff do not see anxiety/worry in their students.

The standard deviation of the means decreased from the pre-survey to the post-survey on 13 of these 14 items, again indicating that variability of staff responses decreased after engaging in the ALICE training. While staff had participated in introduction activities for ALICE training prior to the pre-survey, their responses were likely also informed by their own personal history, beliefs, experiences, and emotional tendencies. The decrease suggests that the common experience of ALICE scenario-based training closes the gap on the variability of thoughts and perceptions regarding the topic. The standard deviation for the item, *I have anxiety/worry over the possibility of an active shooter incident in my school*, is the only one that slightly increased. It is noteworthy that this item is about participants’ own emotions regarding a school shooting incident. While the mean did decrease, meaning that overall, the participants reported feeling less anxious or worried after the training, it is not surprising that the variance grew a bit, as the scenario-based training had the potential to elicit anxiety or empowerment in different individuals. This will be further illustrated in analysis of the qualitative data.

In addition to the qualitative data listed below, seven Likert-scale items were utilized to answer research question four, *What are elementary school staff members’ experiences of ALICE training?* (See Table 5). The mean of each of these items increased from the pre-survey to the post-survey, indicating an overall increase in feelings of empowerment, perceptions of school safety, and valuing of the ALICE training experience. The mean for the item, *Our staff feels ALICE training is valuable and a good use of time*, increased the greatest from pre-survey to
post-survey, indicating an overall positive participant response to ALICE training. The item, *ALICE training will lead me to feel more empowered in the event of an active shooter incident*, had the highest mean on both the pre-survey and post-survey. This suggests that the information staff received prior to the ALICE training from the law enforcement introduction, online module, school-based discussions, and any information they sought on their own contributed to participants’ perceptions that the ALICE approach would empower them. The data further suggests that engaging in the ALICE scenario-based training had a positive relationship with the perception of empowerment among the participating elementary school staff.

**Table 5. Quantitative Survey Items Corresponding to Research Question Four**

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre Mean (s.d.)</th>
<th>Post Mean (s.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, I feel our schools will be safer as a result of the ALICE training.</td>
<td>4.15 (.92)</td>
<td>4.73 (.54)</td>
</tr>
<tr>
<td>ALICE training will lead me to feel more empowered in the event of an active shooter incident.</td>
<td>4.18 (.88)</td>
<td>4.75 (.58)</td>
</tr>
<tr>
<td>ALICE training will lead to a feeling of empowerment among our staff in the event of an active shooter incident.</td>
<td>4.17 (.78)</td>
<td>4.69 (.61)</td>
</tr>
<tr>
<td>ALICE training will lead to a feeling of empowerment among our students in the event of an active shooter incident.</td>
<td>3.45 (.98)</td>
<td>4.03 (.91)</td>
</tr>
<tr>
<td>Due to ALICE training, our staff will feel better prepared to react to an active shooter incident.</td>
<td>4.10 (.79)</td>
<td>4.68 (.58)</td>
</tr>
<tr>
<td>Our staff feels ALICE training is valuable and a good use of time.</td>
<td>3.98 (.88)</td>
<td>4.68 (.58)</td>
</tr>
<tr>
<td>ALICE training will help to lower my anxiety/worry.</td>
<td>3.45 (1.04)</td>
<td>3.89 (1.04)</td>
</tr>
</tbody>
</table>

Since self-efficacy serves as a theoretical framework for this study, Table 6 displays the quantitative survey items that are related to self-efficacy, so that they can be examined together.
The first five items also appeared in Table 3, and the last item also appeared in Table 5. As with most of the previous quantitative data, the means for these self-efficacy items all increased from the pre-survey to the post-survey indicating a positive relationship between the respondents’ participation in ALICE training and their levels of confidence and empowerment in responding to an active shooter incident. In addition to the increased means, the standard deviation for each of the six self-efficacy items decreased from the pre-survey to the post-survey indicating a decrease in the variability in participants’ responses after participating in ALICE training. This suggests that participating in the common experience of the scenario-based ALICE training could play a role in closing the gap in variability of participant self-reported levels of confidence and empowerment related to responding to active shooter incidents in school.

Table 6. Quantitative Survey Items Related to Self-Efficacy

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre Mean (s.d.)</th>
<th>Post Mean (s.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident in my ability to respond appropriately in the event of an active shooter incident at my school.</td>
<td>3.08 (1.05)</td>
<td>4.26 (.71)</td>
</tr>
<tr>
<td>I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident at my school.</td>
<td>2.62 (1.13)</td>
<td>4.49 (.76)</td>
</tr>
<tr>
<td>I am confident that I can control my classroom in the event of an active shooter incident.</td>
<td>3.09 (1.20)</td>
<td>3.99 (.85)</td>
</tr>
<tr>
<td>I am confident that I can protect my students in the event of an active shooter incident.</td>
<td>2.86 (1.18)</td>
<td>3.91 (.95)</td>
</tr>
<tr>
<td>I am confident in teaching my own students about ALICE.</td>
<td>2.55 (1.26)</td>
<td>3.55 (1.10)</td>
</tr>
<tr>
<td>ALICE training will lead me to feel more empowered in the event of an active shooter incident.</td>
<td>4.18 (.88)</td>
<td>4.75 (.58)</td>
</tr>
</tbody>
</table>
Qualitative Survey Results

Two open-ended questions were included in the pre-survey and four open-ended questions were included in the post-survey. The items were designed with input from school district personnel in order to provide information and feedback to guide their current and future training efforts. All questions were coded for common themes. Although 428 participants responded to the pre-survey and 330 participants responded to the post-survey, only data from the 170 participants who responded to both surveys were analyzed for this study. However, all participants were assigned an identification number prior to paring the dataset down to just those who had both pre and post data, thus some of the participant numbers for the example statements below are greater than 170.

Pre-Survey: Expectations of ALICE Training

Out of the 170 participants who responded to both the pre-survey and the post-survey, 114 provided a response to the pre-survey question - *What are your expectations of ALICE training?* An open coding method was used to read through all responses and break each response into discrete parts. Once that procedure was complete, axial coding was conducted in order to group the discrete parts of each response into an organizing theme. Five themes emerged from this process: Preparedness/Safety, Options, Scenario-based, Negative Emotional Reaction, and Elementary Students (See Table 7). Each theme along with representative quotes is presented below.
Table 7. Pre-Survey: Emergent Themes from Responses to Open-ended Questions

<table>
<thead>
<tr>
<th>Open-Ended Question</th>
<th>Theme</th>
<th>Theme Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Survey Item 1</td>
<td>1. Preparedness/Safety (58.7%)</td>
<td>Respondents expected the training to increase their level of knowledge and skills in responding to an active shooter incident.</td>
</tr>
<tr>
<td></td>
<td>2. Options (14%)</td>
<td>Respondents expected that ALICE training would provide them with options to inform their decision-making during an active shooter incident.</td>
</tr>
<tr>
<td></td>
<td>3. Scenario-Based (12.2%)</td>
<td>Respondents expected the training to be scenario-based and that it would provide opportunities for hands-on practice.</td>
</tr>
<tr>
<td></td>
<td>4. Negative Emotional Reaction (10.5%)</td>
<td>Respondents expected the training to elicit a negative emotional response such as anxiety, fear, or uncertainty.</td>
</tr>
<tr>
<td></td>
<td>5. Elementary Students (7.8%)</td>
<td>Respondents expected to learn how to introduce the ALICE concepts to elementary-aged students.</td>
</tr>
<tr>
<td>Pre-Survey Item 2</td>
<td>1. Preparedness (54.2%)</td>
<td>Respondents hoped the training would increase their level of knowledge and skills in responding to an active shooter incident.</td>
</tr>
<tr>
<td></td>
<td>2. Confidence (32.2%)</td>
<td>Respondents hoped to gain more confidence in their abilities to respond to an active shooter incident.</td>
</tr>
<tr>
<td></td>
<td>3. Decision-making (11.8%)</td>
<td>Respondents hoped to improve their ability to make decisions among existing options in the event of an active shooter incident.</td>
</tr>
<tr>
<td></td>
<td>4. Elementary Students (11.8%)</td>
<td>Respondents hoped to learn how to introduce ALICE to their elementary students.</td>
</tr>
</tbody>
</table>
Theme 1: Preparedness/Safety

The most common theme emerging from this item is that respondents expected the training to increase their level of preparedness in responding to an active shooter incident and, as a result, increase safety at their schools. Sixty-seven out of 114 (58.7%) respondents included the theme of preparedness in their responses. Select quotes from participants are presented below.

For example, Participant 12 stated,

I expect to be able to have a plan for my school in case of an active shooter incident. I want to feel like our schools will be safe and that we have active plans to keep students and staff safe.

Participant 36 stated,

I expect that ALICE training will better prepare me to respond to an active shooter situation in a calm and responsive way. My number one goal is getting my students and myself out of the building safely and quickly in a calm manner. It is my hope that our ALICE training will provide me with the tools I need to do so.

Participant 61 also provided an example statement on preparedness:

I hope to gain knowledge so that I can confidently handle an intruder situation. I want to make sure that I can keep my students safe so I need to be trained to do that.

Another example statement for this theme came from participant 236 who stated,

For the past ? years I have practiced a “lock down” situation with my students in which we have quietly hidden in the classroom with a locked door. After preparing for the ALICE training by watching the video, I am hoping to learn more and feel somewhat confident in what to do in case of an active shooter or intruder instead of having the students hide in the classroom.

The sixty-seven participants who discussed the theme of Preparedness/Safety elaborated on a number of related topics, some of which are included in the example statements above. Many participants mentioned the expectation that they would learn strategies for keeping their students and themselves safe. Participants also discussed learning a variety of specific strategies for
options such as lockdown and evacuation. Some participants discussed expectations that increasing their own levels of preparedness would also positively impact their emotional states when addressing an active shooter situation; participants used words like: *calm, confident*, and *empowered*. Lastly, participants discussed that having a plan to respond to an active shooter that includes more options would increase their overall preparedness. This topic was mentioned so frequently that it emerged as a theme itself.

**Theme 2: Options**

Sixteen of 114 (14%) respondents discussed their expectations that ALICE training would provide them with options to help inform their decision-making during an active shooter incident. Examples of responses with this theme included this one from participant 59:

Greater knowledge and confidence in the best way to react to an active shooter. Having better options than being passive.

This statement from participant 193 provided another example of this theme,

To teach me my options when confronted with an active shooter situation in any setting, not just at school. To make the whole school work uniformly so we will be safer should an active shooter situation take place.

Another example statement illustrating the theme of Options came from participant 226 who stated,

To allow staff to make the best decision for their students and not hide if their [sic] is the ability to move away from the danger as in the past practices.

Participants who discussed this theme mentioned having options depending on the specific situation, and generally spoke about options being a positive aspect of the ALICE approach, as opposed to using lockdown only. Some participants described having options as being more active as compared to the traditional lockdown-only approach being passive. Participants also
discussed expecting to learn about evaluating options during the scenario-based training in order to make good decisions if faced with a real situation.

**Theme 3: Scenario-based**

Fourteen of the 114 (12.2%) respondents discussed that they expected the training to be scenario-based and that it would provide staff with opportunities for hands-on practice. Examples of responses with this theme include the following statement from participant 106:

I hope to role play some scenarios. Many people, including myself, learn best through practice and experience rather than just reading/watching about it.

Another sample statement for this theme came from participant 162:

I expect that we will receive information about how to determine what to do if in a school situation with an active shooter and practice scenarios to help us better understand the decision making process.

Most participants who discussed this theme either stated in a neutral manner that they expected the training to include hands-on, scenario-based role playing or expressed that they felt this format would be a positive aspect of the training. Several participants stated that they expected the scenario-based format to elicit a negative emotional reaction; words stated by these participants included *anxiety* and *scary*.

**Theme 4: Negative Emotional Reaction**

Twelve out of 114 (10.5%) responses included the theme of expecting a negative emotional reaction to ALICE training such as anxiety, fear, or uncertainty. This statement for participant 48 illustrated this theme:

I expect to go through different scenarios of active shooters in our building. I expect there will be police officers doing the training. I expect it to be intense and intimidating. I have
been dreading this training since the 1st day of school, at our initial introduction session. I don’t enjoy role-playing situations in any training, and I know that is what we will be doing.

Another example statement of expecting a negative emotional reaction came from participant 144:

I am very nervous about the ALICE training. I think it will trigger my anxiety to be in a simulation-style situation

Participant 152 also provided a statement that illustrates the theme of negative emotional reaction:

I expect to sit through a presentation about expected procedures, and then to do some sort of training/simulation of an active shooting scenario. I hope they don’t do the training with real guns because I’ve done that and it’s very, very scary. I expect we will be exhausted and nervous afterwards, but I think it will probably be fine if they don’t use real guns in the simulation.

While only 10.5% of the responses included mention of expecting a negative emotional response, it is an important theme to acknowledge, as the goal of this study is to better understand elementary school staff members’ experiences and perceptions of ALICE training. Learning more about what aspects of the training elicits negative emotional responses may better inform future training efforts and lead to recommendations for further study. It is important to note that like the statement above from participant 144, several of the participants who discussed the theme of negative emotional reactions, also discussed positive expectations of the training.

**Theme 5: Elementary Students**

Finally, nine out of 114 (7.8%) respondents’ answers included the theme of concern regarding how to introduce elementary school-aged children to the ALICE protocols. Examples of these responses include this statement from participant 125:
Ideas/options for countering with young children and how to practice/prepare young children for an active shooter. Language to use when talking with young children and ways to prepare young children without making school seem like a scary or unsafe place.

An additional example statement on this theme came from participant 171:

That we will learn more specifics about how to lock our door hinges and barricade when there is one adult and a group of small children in the classroom. ALICE definitely seems the most appropriate model for high school, I am just not sure how to prepare elementary students for this model.

This last theme emerged from a relatively small number of participants but is an important one to include in analysis. This theme continued to emerge on post-survey qualitative items. Also, the three Likert-scale items that address introducing ALICE to students - *I am confident in teaching my own students about ALICE; My school provides classroom instruction about active shooter incident preparedness to students; Classroom instruction about active shooter incident preparedness for students will make our school safer* - did see an increase of means from pre-survey to post-survey, but had lower means on the post-survey relative to the majority of the Likert-scale items. Thoughts about how their students will be introduced to the ALICE approach were most definitely on elementary staff members’ minds as they, themselves, were experiencing their first ALICE training.

**Pre-Survey: Hopes for ALICE Training**

Out of the 170 participants who responded to both the pre-survey and the post-survey, 118 provided a response to the pre-survey question - *What do you hope to gain by participating in ALICE training?* An open coding method was used to read through all responses and break each response into discrete parts. Once that procedure was complete, axial coding was conducted in order to classify the discrete parts of each response into an organizing theme. Four themes
emerged from this process: Preparedness, Confidence, Decision-making, and Elementary Students (See Table 7). Each theme along with representative quotes is presented below.

**Theme 1: Preparedness**

Preparedness was once again the most prevalent theme that emerged from coding of this pre-survey item with 64 of 118 (54.2%) respondents providing statements regarding gaining knowledge and skills that will better prepare themselves for responding to an active shooter incident. One example was from participant 76 who stated,

That the school will be safer as a whole in an emergency situation by teaching the staff how to prepare and act if there is an active shooter in the building, therefore keeping staff and students safe.

Another example statement of this theme came from participant 192 who stated,

I’m hoping to be more prepared in the event of an emergency. I believe that it’s important for all of us to receive the same training, use the same verbiage, and generally be on the same page.

Participant 275 also discussed the theme of preparedness in the following statement:

To have a better understanding of what has worked and not worked in these situations. To know better what law enforcement expectations and needs are to better perform their jobs. To be better able to help protect my students and fellow staff members in these situations.

The 64 participants who discussed preparedness in their responses included thoughts on a number of related topics including their goal of keeping students safe and their hope of acquiring the information needed to make the best decision in the event of an active shooter situation, as well as the skills required to implement their chosen course of action. Some participants discussed their hope of learning specific information for responding to an active shooter related to the distinct physical characteristics of their classrooms and school buildings.
Theme 2: Confidence

Another theme that emerged for this item is that participants hope to grow in confidence. Thirty-eight of the 118 (32.2%) respondents discussed their hopes to gain more confidence in their abilities to respond to an active shooter incident at their schools. Select quotes from participants are presented below. One example statement for this theme came from participant 52,

 Obtaining and applying strategies for thinking on the spot during high stress situations. Gaining a sense of confidence in ability to make quick and appropriate decisions.

Participant 96 stated,

 I hope to gain confidence in my own ability to handle an active shooter situation should there ever be one in my school.

Participant 99 also provided an example statement of the confidence theme:

 I do have a great deal of anxiety about going through this training, so I truly hope I will gain confidence and feel empowered by this training.

This theme often emerged linked with the theme of preparedness, as 44.7% of the participants who discussed their hope to gain confidence also discussed a hope to become more prepared. Participants who discussed hoping to grow in confidence also discussed remaining calm in a crisis and hoping to have more confidence in their ability to make decisions that will keep themselves and students safe.

Theme 3: Decision-making

Fourteen of the 118 (11.8%) respondents discussed their hopes to improve their ability to make decisions among existing options in the event of an active shooter incident at their school. Participant 193 stated,
To instinctually [sic] know what to do in an emergency situation such as an active shooter. To feel better about having to make a decision about the safety of my class.

Another example statement for this theme came from participant 210:

I hope to learn ways to protect myself and my students if encountering a school shooter. I’d like to have some options to work with so I don’t have to be figuring everything out on the fly in a panicked state of mind.

Participants who discussed decision-making in their responses included topics such as understanding different options and having skills to enact the best option. The theme of decision-making was linked with the themes of preparedness and confidence for many participants. Of the 14 participants who discussed decision-making, 85.7% also discussed preparedness and/or confidence. The themes of preparedness, confidence, and decision-making were linked for many participants with 35.9% of participants who discussed preparedness also discussing confidence and/or decision-making. The relationship between various aspects of ALICE training and the impact on staff perceptions, confidence and self-efficacy will be discussed further in the next chapter.

Theme 4: Elementary Students

Fourteen of the 118 (11.8%) respondents discussed their hopes of learning how to speak to their elementary students about active shooters and ALICE training. This statement from participant 217 serves as an example of this theme:

I am curious to find out if we will get some support and instruction on how to present this to our students in a way that is developmentally appropriate and yet effective. I hope the district has a plan to roll this out to students. I am concerned that the classroom training and practice can inflict additional stress and worry upon children, and I’d like to know ways to counteract this.

Another example statement on speaking with elementary students came from participant 250:
Knowledge as to how best protect ourselves in a stressful situation. I would love to learn some calming strategies to help our students and others if this were to happen [sic]. Our students have more violence and have seen more violence (home or video games) than in past generations. We need to be aware/taught how to deal with the many questions we might get.

As previously stated, although a relatively smaller number of participants discussed this theme on the two pre-survey qualitative items, this theme continued to emerge in the responses to post-survey qualitative items. Quantitative items related to teaching ALICE concepts to students saw a lower pre-survey to post-survey increase than most other survey items, so how elementary staff think and feel about teaching students about ALICE is an important aspect to explore.

**Post-Survey: Most Valuable Aspects of ALICE Training**

Of the 170 participants who responded to both the pre-survey and the post-survey, 154 provided a response to the post-survey question - *What was the most valuable aspect of ALICE training?* An open coding method was used to read through all responses and break each response into discrete parts. Once that procedure was complete, axial coding was conducted in order to organize the discrete parts of each response into an overarching theme. Four themes emerged from this process: Scenario-based Training, Empowered, Law Enforcement as Trainers, and Classroom Setting (See Table 8). Each theme along with representative quotes is presented below.
<table>
<thead>
<tr>
<th>Open-Ended Question</th>
<th>Theme</th>
<th>Theme Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Survey Item 1</td>
<td>1. Scenario-based (69.4%)</td>
<td>Respondents discussed the benefits of the hands-on, scenario-based training format.</td>
</tr>
<tr>
<td>What was the most valuable aspect of ALICE training?</td>
<td>2. Options-based (22%)</td>
<td>Respondents discussed the benefits of the options-based approach. Empowerment emerged as a sub-theme from having options.</td>
</tr>
<tr>
<td></td>
<td>3. Law Enforcement as Trainers (14.9%)</td>
<td>Respondents discussed the benefits of having police officers serving as ALICE trainers for school staff.</td>
</tr>
<tr>
<td></td>
<td>4. Classroom Setting (14.9%)</td>
<td>Respondents discussed the benefits of participating in ALICE training in schools and classrooms in their own district.</td>
</tr>
<tr>
<td>Post-Survey Item 2</td>
<td>1. Increased Training Experiences (39.3%)</td>
<td>Respondents suggested increasing opportunities for training experiences such as practicing more scenarios or practicing in more locations in the school building.</td>
</tr>
<tr>
<td>How could ALICE training drills be improved?</td>
<td>2. Satisfaction with Training (27.8%)</td>
<td>Respondents provided an answer such as “none” or discussed their satisfaction with the training.</td>
</tr>
<tr>
<td></td>
<td>3. Other (Fewer than 10% per sub-theme)</td>
<td>Respondents discussed the following suggestions for improvement: decrease wait-time during training, provide more guidance on implementing ALICE with elementary students, provide follow-up or ongoing training, provide materials for staff to implement ALICE, and improve communication prior to training.</td>
</tr>
</tbody>
</table>

(Continued on following page)
### Table 8 (continued)

<table>
<thead>
<tr>
<th>Open-Ended Question</th>
<th>Theme</th>
<th>Theme Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Survey Item 3</td>
<td>1. Beneficial Training (44.4%)</td>
<td>Respondents expressed that the training was beneficial.</td>
</tr>
<tr>
<td></td>
<td>2. Work Space Considerations (20.2%)</td>
<td>Respondents discussed specific aspects of their own work space and how it could impact their options in responding to an active shooter.</td>
</tr>
<tr>
<td></td>
<td>3. Positive Emotional Reaction (19.1%)</td>
<td>Respondents discussed having a positive emotional reaction such as empowerment, confidence, comfort, or alleviation of anxiety.</td>
</tr>
<tr>
<td></td>
<td>4. Law Enforcement as Trainers (18.1%)</td>
<td>Respondents discussed the benefit of having police officers serve as ALICE trainers.</td>
</tr>
<tr>
<td></td>
<td>5. Other (between 4% and 11% per sub-theme)</td>
<td>Respondents discussed the following about their ALICE training experience: negative emotional reactions, implementing ALICE with elementary students, and other school security topics.</td>
</tr>
</tbody>
</table>

(Continued on following page)
Table 8 (continued)

<table>
<thead>
<tr>
<th>Open-Ended Question</th>
<th>Theme</th>
<th>Theme Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Survey Item 4</td>
<td>1. Concern for Negative Emotional Reaction in Students (47.8%)</td>
<td>Respondents expressed concern that students might have a negative emotional reaction to ALICE training.</td>
</tr>
<tr>
<td></td>
<td>2. Age-appropriate Instruction (35%)</td>
<td>Respondents shared opinions about using age-appropriate vocabulary and instruction when introducing ALICE to elementary students.</td>
</tr>
<tr>
<td></td>
<td>3. Uncertainty about Plans (31.6%)</td>
<td>Respondents expressed being uncertain about what the plans were for introducing elementary students to ALICE.</td>
</tr>
<tr>
<td></td>
<td>4. Other (Fewer than 10% per sub-theme)</td>
<td>Respondents discussed the following topics regarding introducing ALICE to elementary students: students’ abilities or willingness to follow ALICE procedures, concern over how to answer student questions, questions about communication to parents about ALICE, and concern about other staff members’ implementation of ALICE.</td>
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Theme 1: Scenario-based Training

The most common theme that emerged from this post-survey question was the hands-on, scenario-based nature of ALICE training and 107 of the 154 (69.4%) respondents discussed this theme in their responses. Select quotes from participants are presented below. Participant one stated,

Practicing the different situations. It was very helpful to actually do it rather than just talk
about it. I thought the training was done very well.

Participant 91 also discussed the value of the scenario-based training:

As much as I was dreading them, I do think the simulations were valuable.

Another example statement for this theme came from participant 260:

The scenarios were great! Knowing what would happen in a traditional lockdown versus a lockdown/barricade situation was helpful. Being able to practice what we could do in this situation is very valuable in making sure what options we have and how we can perform them.

Participants who discussed the value of the hands-on, scenario-based training format also included thoughts on the advantages of being able to actively practice decision-making and new skills, or the value of doing rather than just talking. They also discussed the value of spontaneously working through multiple real-world scenarios with their colleagues.

**Theme 2: Options-based approach**

Thirty-four of the 154 (22%) respondents discussed the value of the options-based approach to ALICE. Select quotes from participants are presented below. Participant 99 stated,

The most valuable aspect of the training is that we now have options. The traditional lockdown scenario was very eye opening as I felt like a sitting duck. I feel empowered that I can barricade or evacuate depending on my location to the situation.

Participant 236 also discussed the value of having options:

Knowing that I am able to make a choice in the event of an active shooter. I definitely feel more empowered.

Another example statement for this theme came from participant 280:

Having choices about dealing with possible events. Just locking down provided no alternatives and produced anxiety for students who just had to sit quietly.
A strong sub-theme that emerged is empowerment. Of the 34 respondents who discussed finding the options-based approach to ALICE training valuable, 47% discussed that this aspect of the training led them to feel empowered. Empowerment and self-efficacy will be discussed in depth in the next chapter, as the several Likert-scale items that measured empowerment all increased from pre-survey to post-survey, and an exploration of how ALICE training impacts elementary school staff’s perceptions and feelings is a central aspect of this study. Participants who discussed the value of the options-based approach also discussed the importance of decision-making skills. Some respondents provided some remarks contrasting the ALICE approach to traditional approaches to active shooter response.

Theme 3: Law Enforcement as Trainers

Twenty-three of the 154 (14.9%) respondents discussed the value of police officers serving as the ALICE trainers. Participant 156 stated,

Being reminded to do SOMETHING instead of sitting with my students passively. Hearing from trained police officers how to think about these situations rationally.

Participant 217 also discussed the value of having police officers as trainers:

The police were great at elaborating on the par-training [sic], clarifying what to do and why, and showed us how to do things. I also appreciate that we are going away from the ineffective passive plan and teaching staff to use our best judgement.

Participant 241 also provided an example statement for this theme:

Both the competence of the presenters, and participating in the drills left me feeling so much better prepared in the event of an active shooter.

Respondents who discussed the value of having police officers as ALICE trainers referenced their expertise and knowledge as well as the information police were able to share about specific school shooting incidents and how police respond to active shooter incidents. Respondents also
discussed the value of the specific instruction, feedback, and advice they received from the police trainers.

**Theme 4: Classroom Setting**

Twenty-three of the 154 (14.9%) respondents discussed the value of using actual district schools and classrooms for the training. Participant 38 stated,

Being able to think about how to barricade my room in the best way possible and to practice when it would be best to evacuate, lock down, and counter. Being able to practice made me more confident should the unthinkable ever happen.

Participant 252 also provided a statement that included discussion of the classroom setting theme:

The hands-on aspect and running through various scenarios was very helpful and meaningful. It was also helpful to use different classrooms/settings across the building. It was very helpful to hear from the trainers what specifically had occurred in other school shootings so that we could think and talk through those roadblocks effectively.

Participant 280 also provided an example statement for this theme:

And the most helpful was having officers look at our individual classrooms to give suggestions for blockading or evacuating. I recommend this for every classroom, since they were all so different.

Participants who discussed the value of doing training in their own schools and classrooms discussed the ways this added to the hands-on, real-world aspect, as they could consider options they would really have in their own workspace and brainstorm the best ways to act in order to stay safe and keep students safe. Participants also discussed a variety of aspects of their physical space and access to materials that may be helpful in responding to an active shooter incident. The means for Likert-scale items referring to classrooms, including *I am confident I can control my classroom in the event of an active shooter incident*, all increased from the pre-survey to the
post-survey. Being able to train in the actual work environment as opposed to an auditorium or a training room likely contributed to the growth of participants’ levels of agreement with such statements. While training in their own schools and classrooms seemed to positively impact staff’s experiences of the training and perceptions of their own preparedness, the inclusion of students is one major aspect of a teachers’ workplace that was not included in the training. Teaching ALICE to students is indeed the aspect that seems to cause the most uncertainty or concern for elementary staff as reflected in both the quantitative and qualitative data.

Finally, this response provided by participant two discussed all four themes that emerged for this qualitative item and provided a good summary of the aspects of ALICE training most valued by respondents:

Being able to see how what we’ve been doing to prepare is ineffective and that there are many other options for teachers and students in the event of an active shooter/attacker. The ability to participate in different scenarios has also helped increase my understanding of ALICE and what can be done. It was also very helpful to have the police offer to go into different spaces to help troubleshoot how ALICE could be used in that space.

Post-Survey: Suggested Improvements

Of the 170 participants who responded to both the pre-survey and the post-survey, 122 provided a response to the post-survey question - How could the ALICE training drills be improved? An open coding method was used to read through all responses and break each response into discrete parts. Once that procedure was complete, axial coding was conducted in order to group the discrete parts of each response into an organizing theme. Three themes emerged from this process: Increased Training Experiences, Satisfaction with Training, and Other (See Table 8). Each theme along with representative quotes is presented below.
Theme 1: Increased Training Experiences

Forty-eight of the 122 (39.3%) respondents suggested increasing opportunities for training experiences such as practicing more scenarios or practicing in more locations.

Participant three stated,

Practice more scenarios with an active shooter identified in different areas of the school to determine how we should react in different scenarios, including practicing on the second floor and discussing when/how to evacuate from the second floor.

Participant 263 also suggested increasing the types of experiences provided during the training:

If the trainers could have rotated through the rooms to give more feedback - I feel like the more input the better!

Participants who discussed increased training opportunities discussed a variety of ideas including: having fewer participants in each training group, changing the make-up of each group throughout the training, using more spaces throughout the school, having trainers rotate to work with all groups, utilize a bigger variety of materials and equipment, and having more time for individual skill practice after group practice.

Theme 2: Satisfaction with Training

Thirty-four of the 122 (27.8%) respondents provided an answer such as “None,” “N/A” or discussed their satisfaction with the training without including any suggestions for improvement. Participant 36 stated,

I thought they did an amazing job with this training. Even though this was a pretty intense and heavy training it was probably the best institute training I’ve ever attended. I wouldn’t change a thing based on our training at (school name).

Participant 145 also provided a similar statement of satisfaction:

I thought the training went very well. Those in charge gave good direction, tips on how to
secure the classrooms with what we had to use in the classroom and great follow-up.

These qualitative responses provide further evidence of the overall satisfaction with ALICE training that was shown by the change in responses on the quantitative items pre-survey to post-survey.

Theme 3: Other

A number of other themes emerged to a lesser degree from the responses. Ten of the 122 (8.1%) respondents discussed having too much down time or waiting during their training. Participant 182 stated,

It would be good if their [sic] were more instructors or instruction could be given before small groups go off so there isn’t a long wait before scenario begins.

Nine of the 122 (7.3%) respondents suggested addressing how to implement ALICE with elementary students. Participant 171 stated,

Maybe practicing on your own after practicing with your group. In reality, we would most likely be the only adult in a room with a group of young students in a real incident. It’s empowering to have a group of 15-20 adults working together, but that’s probably unrealistic in an elementary setting.

Nine of 122 (7.3%) respondents suggested that follow-up support and/or ongoing training would be helpful. Participant 12 stated,

I hope we can revisit the topic at a later date. It was a lot of information and emotion to process and I feel like there will be more questions that arise as the year continues.

Another example statement suggesting ongoing training came from participant 217:

I think we need to have regular follow-ups. I am not sure what the intervals should be but we will forget how to do things if we don’t practice.

Seven of 122 (5.7%) respondents suggested materials be provided for staff to better implement ALICE in their classrooms or work spaces. Participant 195 stated,
Make sure all classrooms and spaces have materials used to use for the drills. If the district is going to put time and effort into training then all classrooms should be supplied with materials to be able to execute strategies after law enforcement leaves the building.

Lastly, six of 122 (4.9%) respondents suggested improvements in communication prior to training. Participant 260 stated,

There was a lot of anxiety from teachers before the day arrived. I know for me it was anxiety of not knowing what the day was going to look like. I think if I had known beforehand that it was going to be small group situations in a classroom, it would have eased my anxiety. Possibly just making teachers aware of what the format would be.

From the varied information discussed in the qualitative responses, it was evident that the communication staff received prior to the training may have differed somewhat school to school.

**Post-Survey: Experiences of ALICE Training**

Of the 170 participants who responded to both the pre-survey and the post-survey, 99 provided a response to the post-survey question - *Is there anything else you would like to share about your experiences with ALICE training?* An open coding method was used to read through all responses and break each response into discrete parts. Once that procedure was complete, axial coding was conducted in order to organize the discrete parts of each response into an overarching theme. Five themes emerged from this process: Beneficial Training, Work Space Considerations, Positive Emotional Reaction, Law Enforcement as Trainers, and Other (See Table 8). Each theme along with representative quotes is presented below.
Theme 1: Beneficial Training

The theme that emerged most frequently from this item was that participants found the training to be beneficial. Forty-four of the 99 (44.4%) respondents discussed having such a view toward the training. Select quotes from participants are presented below. Participant one stated,

I am very impressed with the training. While it is unfortunate that we have to practice this, I appreciate that we do. I feel so much more prepared.

Participant 107 also discussed this theme:

It was scary but empowering. I think it is a good way to go about an active shooter incident. It is an improvement over our old lockdown system.

Participant 214 also discussed finding ALICE training to be beneficial:

I really appreciated the opportunity to receive ALICE training. It’s comforting to feel like there are multiple options in an active shooter situation instead of using only the traditional lockdown method.

An overall satisfaction with the training was a theme that emerged from the previous qualitative item as well. The quantitative data indicates this as well. The means for items such as: Our school feels ALICE training is valuable and a good use of time; and Overall, I feel our schools will be safer as a result of the ALICE training increased from the pre-survey to the post-survey, indicating a staff had a stronger degree of agreement after participating in ALICE training.

Theme 2: Work Space Considerations

Twenty of the 99 (20.2%) respondents discussed the theme of considering the specific aspects of their own work spaces, and how their environment could impact their options in responding to an active shooter. Participant 62 stated,

(Name of police officer) was very helpful afterwards by coming into my classroom and helping me figure out what to do with the size and the fact that I have 2 doors and am in
the front of the building.

Another example statement of this theme came from participant 280:

This made me consider how comfortable or uncomfortable I feel in different teaching spaces. Some teaching rooms make students/teachers feel trapped.

Participants who discussed this theme mainly focused on considerations for implementing specific components of ALICE in their work space and/or suggestions for materials that they believe would be helpful for following the ALICE approach to responding to an active shooter situation.

**Theme 3: Positive Emotional Reaction**

Nineteen of the 99 (19.1%) respondents discussed having a positive emotional reaction, such as empowerment, confidence, comfort, or the alleviation of anxiety, due to the training.

Select quotes from participants are presented below. Participant three stated,

I thought it was a very valuable experience. I was wondering if I would feel empowered after it and I absolutely do!

Participant 99 also discussed a positive emotional reaction:

I liked that there was a lot of talking, explaining, and coaching us through the scenarios before they went “live.” This greatly reduced my anxiety during the training.

Another example statement for this theme came from participant 204:

I am grateful to have had the experience of working through various situations. It has increased my confidence in my ability to keep kids safe.

On the pre-survey qualitative item, *What are your expectations of ALICE training?* 10.5% of participants discussed the expectation of having a negative emotional reaction to the training. On this post-survey qualitative item, 11% of respondents discussed a negative emotional reaction and 19.1% discussed a positive emotional reaction. On the Likert-scale items, staff
empowerment had an increase in the mean from pre-survey to post-survey and items about staff anxiety had a decrease in the mean from pre-survey to post-survey.

**Theme 4: Law Enforcement as Trainers**

Eighteen of the 99 (18.1%) respondents discussed that police officers serving as ALICE trainers was a positive aspect of the training. Participant two stated,

ALICE training seemed very “scary” for lack of a better term. The police department did a fantastic job making it less anxiety inducing and more of a beneficial training.

Participant 191 also discussed police officer trainers as a positive aspect:

I was so nervous, but the police handled the training so well. I learned a lot and actually enjoyed the training because I learned so much from it.

Participants also discussed the benefit of having police officers as trainers in the qualitative item, *What was the most valuable aspect of ALICE training?*

**Theme 5: Other**

Several other themes emerged less frequently about respondents’ ALICE training experiences. Eleven of the 99 (11.1%) respondents discussed negative emotional reactions related to the ALICE training. Participant 132 stated,

I agree the lockdown model needed to change but I am not okay with three hours of anxiety, stress and being shot at with nerf balls.

Eight of the 99 (8%) respondents discussed implementation of ALICE with elementary students. Participating 275 stated,

Adults think differently than children and our depth of knowledge is greater. Children will react differently and I would like more information on how that is going to be communicated to our kids and families.
Four of the 99 (4%) respondents discussed other school security topics. Participant 135 stated,

I think we need better safety at schools. Visitors should be checked for weapons and have license held before entering the building. Also, armed police officers should be employed at every building.

As the participating district correctly anticipated that introducing ALICE to their students would be on the minds of the elementary staff, the district was interested in learning staff responses to an open-ended item specifically about this topic.

**Post-Survey: Introducing ALICE to Elementary Students**

Of the 170 participants who responded to both the pre-survey and the post-survey, 117 provided a response to the post-survey question - *What thoughts, concerns, or questions do you have about introducing ALICE to your students?* An open coding method was used to read through all responses and break each response into discrete parts. Once that procedure was complete, axial coding was conducted in order to group the discrete parts of each response into an organizing theme. Four themes emerged from this process: Concern for Negative Emotional Reactions in Students, Age-Appropriate Instruction, Uncertainty about Plans, and Other (See Table 8). Each theme along with representative quotes is presented below.

**Theme 1: Concern for Negative Emotional Reactions in Students**

Fifty-six of the 117 (47.8%) respondents expressed concern that students may experience a negative emotional reaction to ALICE training. Select quotes from participants are presented below. Participant 275 stated,

I have concern over how our students will be taught this information. I already have students who are filled with anxiety and worry and this information will not empower them. I believe it will make them more afraid to come to school because something could
happen. They will be preoccupied with the possibility of something happening and not being in control.

Participant 282 provided another example statement for this theme:

I have many (thoughts, concerns, or questions). I teach 6-7 year olds and I want them to feel safe at school. I have concerns that this may cause anxiety for students and some children may develop school phobia due to the training and concept of the possibility of the shooter.

Theme 2: Age-Appropriate Instruction

The second most frequently emerging theme is that of age-appropriate instruction. Forty-one of 117 (35%) respondents discussed their thoughts that introducing elementary students to ALICE training should be done using age-appropriate vocabulary and instruction. Participant 99 stated,

Since I teach first grade I am concerned about how I will be introducing ALICE at an age/developmentally appropriate level. I am confident in the district’s research of how to best do this through lesson plans. I would be interested in getting the children’s book mentioned in the online training that I completed.

Participant 105 also provided a statement related to providing age-appropriate instruction:

I don’t want to scare them or have them perseverate on this topic. Clear language that is developmentally appropriate is critical. Parents should be aware of lesson plans as well or at least of the vocabulary used.

Theme 3: Uncertainty about Plans

Thirty-seven out of 117 (31.6%) respondents expressed feeling uncertain about what the plans were for introducing elementary students to ALICE. Participant 48 stated,

I don’t feel at all prepared in teaching this ALICE procedure to my students yet. We didn’t discuss it at all in our training. I think it will be difficult to balance them to feel prepared, but not scared.
Participant 165 also provided an example statement for this theme:

   We were not yet told what we say to elementary students. I’ve had students cry after lockdown drills. I can’t imagine how this will be presented.

**Theme 4: Other**

Several other themes emerged less frequently from the responses to this qualitative item. Eleven of 117 (9.4%) respondents discussed concern regarding students’ ability or willingness to follow ALICE procedures. Participant 23 stated,

   Elementary level has so many potential lock down/evacuate scenarios. That’s a lot of info for little kids to process. It gives new meaning to the importance of teaching kids to follow directions, something with which many students have GREAT difficulty.

Six of 117 (5.1%) respondents discussed concern over being able to answer questions that students will have about ALICE. Participant 39 stated,

   In the younger grades it is more difficult to explain all the different options to a student when there are no concrete answers to all of their what if questions.

Six of 117 (5.1%) respondents discussed questions regarding parent communication and involvement regarding ALICE. Participant 187 stated,

   I’m curious to see what curriculum the district comes up with for elementary students. And will parents be supportive? I’m worried parents will push back. I hope they take advantage of the info sessions offered to the community.

Five of 117 (4.2%) respondents expressed a concern about other staff members’ implementation of ALICE with students. Participant 141 asked,

   Will specialists be included on what is being told to the varying levels of students so we know how to respond when they are with us/in our rooms for a drill. [sic].
The qualitative data from the response to this open-ended item and others highlights that participants have a variety of questions and concerns on their minds related to introducing ALICE to elementary students.
CHAPTER 5
FINDINGS, DISCUSSION, AND RECOMMENDATIONS

This study was designed to examine elementary school staff members’ perceptions of ALICE training, perceptions of their own levels of preparedness for responding to an active shooter incident, and how ALICE training impacted staff members’ perceptions of their school’s level of safety. The quantitative data illustrated growth in elementary school staff perceptions from pre-survey to post-survey in the areas of understanding ALICE concepts, preparedness for responding to an active shooter incident, school safety, and personal empowerment. The data also illustrated a decrease in anxiety from pre-survey to post-survey in regards to responding to an active shooter incident. Common themes that emerged from the qualitative data include: staff expressed and overall satisfaction with ALICE training; staff believed the training was valuable; staff found aspects of the training helpful including scenarios, training in a classroom setting, and having law enforcement officers as trainers; staff suggested ongoing or increased training opportunities; staff expressed concerns about introducing ALICE to elementary students. In summary, elementary staff members expressed an overall positive perception of the value of ALICE training as reflected in both the quantitative and qualitative data.

ALICE Training and Self-Efficacy

Self-efficacy, or the belief in one’s own capability to successfully perform a task
(Bandura, 1977), provided a framework for this study. Staff responses on the six quantitative items that addressed self-efficacy all increased in a positive direction from the pre-survey to the post survey, suggesting that participating in ALICE training is related to higher levels of staff preparedness, confidence, and empowerment related to active shooter drills. While the prevalence of school shootings has increased over the past five decades, the chances of a teacher directly experiencing a shooting at school is, fortunately, still very low (CHDS, n.d.a; Walker, 2020). Despite these statistics, surveys of teachers in recent years have shown that they worry about school shootings and desire more training in how to effectively respond (Walker, 2018; Educators for Excellence, 2018). Utilizing an options-based approach, like ALICE, for active shooter drills is recommended by multiple government agencies and has been shown to increase survivability (U.S. Department of Homeland Security, 2008; U.S. Department of Education et al., 2013, Jonson et al., 2018). However, the relationship an options-based approach has with increased self-efficacy, as demonstrated in the results of this study and others, is also an important benefit (Dain, 2015; Gleich-Bope, 2016; Dagenhard, 2017).

Training is an essential factor impacting self-efficacy related to active shooter preparedness. Bandura (1986) discussed the domain-specificity of self-efficacy and explained that an individual’s level of self-efficacy can vary depending on the task at hand. Feeling capable and confident performing the job responsibilities typically related to teaching does not indicate a teacher would feel the same way about responding to an active shooter incident. Training and practice a specific skill can strengthen self-efficacy in that specific area. Studies have shown that teachers desire more training in the area of active shooter preparedness (Graveline, 2003; Rinaldi, 2016; Wheeler, 2017; Perkins, 2018). The more school staff participate in drills,
training, and practice, the higher the levels of confidence, preparedness, and/or self-efficacy they report (Werner, 2007; Rider; 2015; Rinaldi, 2016; Wheeler, 2017). The results of my study support earlier findings, as staff reported higher levels of the following after participating in ALICE training: understanding ALICE concepts, confidence in responding to an active shooter incident, confidence in protecting their students in the event of an active shooter incident, perception of school safety, and empowerment regarding responding to an active shooter incident. These findings were reinforced in the open-ended responses as well with common themes including a satisfaction with the training, a desire for more training experiences, and a positive emotional reaction, such as empowerment, confidence, comfort, or alleviation of anxiety, associated with the training.

The results of my study highlight the roles that two of the four sources of self-efficacy - enactive mastery experience and verbal persuasion - play in training (Bandura, 1977). Bandura and Adams (1977) concluded that enactive mastery experiences have the strongest influence on self-efficacy. The scenario-based format of ALICE training provides participants with simulated experiences, as a real enactive experience cannot occur without being actually involved in an active shooter incident. The scenario-based nature of ALICE training was the top theme that emerged from the post-survey item about the most valuable aspect of the training. Another common theme that participants discussed in response to this item was the benefit of training in their own schools and in classroom settings. Participants seemed to find it valuable to train using scenarios in their own work environments. The debriefing that occurs after each scenario in ALICE training further fosters an increase in self-efficacy, as seeing tangible results and evidence of success cultivates an individual’s belief in their own abilities (Bandura, 1997; Maddux, 2012).
The instruction, debriefing and feedback provided by the trainers during ALICE training provides participants with the verbal persuasion source of self-efficacy. Bandura (1997) stated that “Evaluative feedback highlighting personal capabilities raises efficacy beliefs” (p. 102). The elementary staff in my study participated in ALICE training led by law enforcement officers and school personnel trainers. Typically, there were two officers and two school administrator trainers at each site. Staffs ranged in size but were all broken into groups of approximately 8-15 during scenarios. Trainers typically rotated among the groups before and after each scenario, and then led more debriefing when they brought the whole group back together. In the open-ended, qualitative survey items, staff commented on the value of some of the trainer feedback, especially that offered by the police officers. The benefits of having law enforcement as trainers emerged as a theme in two of the post-survey items. In the open-ended item regarding ways to improve the training, increased training experiences emerged as the top theme with opportunities to have more scenarios and more interaction with the trainers as some of the points discussed by participants in their responses.

Engaging in active shooter training for the first time would naturally cause feelings of uncertainty and anxiety in educators. Responding to an active shooter incident is something completely outside of the traditional job description of being a teacher. On the open-ended pre-survey item regarding expectations for ALICE training, having a negative emotional reaction, such as anxiety, fear, or uncertainty, was one of the top themes that emerged from responses. However, on the post-survey, having a positive emotional reaction, such as empowerment, confidence, comfort, or alleviation of anxiety, actually emerged as a top theme on an item about staff experiences of ALICE training. Certainly ALICE training does not change any participant’s basic perceptions of an active shooter incident; no one ever wants to experience a school
shooting. Rather, the change from a negative emotional reaction on the pre-survey to the positive emotional reaction post-survey is related to self-efficacy. It is the change from a more passive approach to a more proactive approach that gives individuals options.

Implications for Policy Makers, School Leaders, and Trainers

**Adopting an Options-based Approach**

The *Final Report of the Federal Commission on School Safety* states, “It is widely agreed that a robust training and exercise program is essential to successfully addressing the complex active shooter threat,” (U.S. Department of Education et al., 2018, p. 143). As of 2019, 42 states required school districts to implement multi-hazard drills such as lockdown, shelter-in-place, and evacuation drills, and 16 states encouraged or required active shooter drills in schools (Temkin, et al., 2020). States may call drills by various names, but training for and conducting drills related to threats of violence inside a school building have now joined fire drills and severe weather drills as part of the annual safety routines. Although state statutes do not tend to specify approaches and techniques for active shooter drills, research supports school leaders considering the adoption of an options-based approach.

Though it was not the focus of this study, when discussing active shooter preparedness, survivability is unequivocally the highest priority factor to consider. Both the U.S. Department of Homeland Defense (2008) and the U.S. Department of Education et al. (2013) support the use of an options-based approach to active shooter drills in schools over a lockdown-only approach. The U.S. Department of Homeland Security (2008) asserted that evacuation should be the first option considered, followed by finding a place to hide from the shooter, and that individuals
facing imminent danger from a shooter should attempt to disrupt and/or incapacitate the perpetrator. Traditional lockdown protocols do not provide survivability strategies for people who may be in the position of being the first to encounter the shooter (Jonson, 2017). Options-based approaches like Run, Hide, Fight and ALICE do provide such options, such as the *counter* aspect of ALICE. The *Washington Post* analysis of school shootings found that “adults who were not members of law enforcement have subdued more than a dozen school shooters over the past 19 years - including on at least three campuses that underwent ALICE training” (Cox & Rich, 2018 November, p.23). Jonson et al. (2018) conducted a study of the effectiveness, in terms of survivability, of lockdown drills compared to options-based approaches and confirmed the claims made by the ALICE Training Institute and the recommendations made by numerous government agencies that options-based approaches are likely to increase survival rates in an active shooter incident. From a physical safety and survivability perspective, school leaders currently using a lockdown-only plan should consider an options-based approach to their active shooter protocol.

**Answering the Calls for Action**

According to the Center for Homeland Defense and Security (CHDS, 2019), there has been a steady increase in the number of school shootings in the U.S. over the past five decades. Although the overall number of school shootings is statistically low, shootings in schools are such abhorrent phenomena, that people do not have to experience them personally in order to join a public outcry for action, including a demand for increased school safety measures. Gallup’s annual Work and Education poll has shown that parental fear of school shootings increases after significant events like Columbine High School in 1999 and Sandy Hook
Elementary School in 2012 and then decreases over time (McCarthy, 2014). Further, Jonson (2017) asserts that after major school shootings, parental fear increases as well as their demands for school districts to increase safety and security.

Safety and security related to active shooter preparedness is now a common job expectation for school leaders. Rogers (2019) conducted a nation-wide survey of public high school principals and found that the majority (between 72% and 86%) of participants had faced each of a number of issues related to the threat of gun violence at least one time, including responding to parent, student, and community member concerns. The participating principals also ranked the threat of gun violence as the greatest societal challenge they face, over political division, the spread of untrustworthy information, opioid addiction, and changes in immigration policy (Rogers, 2019). As with any job expectation or challenge, school leaders should seek to address issues and perform tasks related to school safety as effectively and efficiently as possible. Although school security is now a $2.7 billion market, research on the effectiveness of a variety of school safety technology is limited and conflicting (Cox & Rich, 2018 November). There are a number of examples, including the shooting at Marjory Stoneman Douglas High School in 2018, of costly security measures such as video surveillance and school resource officers failing to prevent school shootings for a myriad of reasons. School security expert, Kenneth Trump, has stated, “A skewed focus on target hardening neglects the time and resources needed to spend on professional development training, planning, behavioral and mental health interventions for students, and other best practices” (Walker, 2019, para. 6). While working with school resource officers and implementing some target hardening features and security technology may bring some safety benefits to schools, training staff in the use of an options-based approach to active shooter drills, as recommended by a number of government agencies,
will answer the call to increase school safety and can produce benefits for all schools, including the vast majority of schools that are fortunate to never experience an active shooter incident.

**Benefits Beyond Physical Safety**

While survivability is the fundamental consideration of active shooter drills, this study focused on other aspects of adopting an options-based approach to active shooter drills, specifically the influence the approach has on staff perceptions of preparedness and safety and how the experience of an options-based ALICE drill impacts staff. The chances of an individual experiencing an active shooter incident in a school are statistically very low. Approximately 0.2 percent of deaths caused by guns each year in the United States occur due to a shooting in a school setting (Walker, 2020). However, thoughts of an active shooter incident still weigh on the minds of school staff. Two surveys of teachers conducted in 2018 illustrated this concern among teachers. The National Education Association surveyed 1000 of their members and found that 60% expressed worry about the possibility of an active shooter incident at their own school (Walker, 2018). Educators for Excellence (2018) conducted a separate survey of 1000 public school teachers who ranked gun violence/school shootings as the top concern among eight safety issues. In their study of school climate, Bosworth et al. (2011) asserted that perceptions of school safety can have a greater influence than actual incidents measured by statistics. Reaves and Cozzens (2018) studied teacher perceptions of school climate and the relationship of those perceptions to self-efficacy; the researchers found that there is at least a correlational relationship between the two. Since teacher perceptions of safety have a positive relationship to teacher self-efficacy, then it follows that teacher perceptions of safety are related to a number of other important factors that impact students’ education, as decades of research have linked teacher
self-efficacy to students’ academic adjustment, patterns of teacher behavior and practices related to classroom quality, and factors underlying teachers’ psychological well-being (Zee & Koomen, 2016). Thus, finding an approach to active shooter drills that positively impacts teacher perceptions of safety serves to not only increase the survivability rates in the event of an actual school shooting, but it also positively impacts the work experience for staff and the educational experience for students.

Recent research has affirmed the assets that school districts may gain by implementing options-based approaches to active shooter drills, such as Run, Hide, Fight or ALICE. Abbinante (2017) interviewed teachers, school administrators, and school resource officers whose high schools had adopted options-based approaches within the last five years. Participants had overall positive views of that approach to active shooter drills and identified four goals their schools and districts had in making the change to an options-based approach: empowering staff and students to take responsibility for their own safety; preparing staff and students for the complex world in which they live; providing staff and students with the freedom to make their own decisions about how to survive an active shooter incident; respecting the intelligence of all staff and students Abbinante (2017).

Dain (2015), Gleich-Bope (2016), and Dagenhard (2017) have all conducted quantitative research specifically about ALICE implementations in school settings. Findings from all three studies suggest that the options-based ALICE approach increases staff and parents’ perceptions of schools’ preparedness for responding to active shooter incidents.

The findings of my study support the findings of the previous studies listed above, but the participants in my study were solely elementary staff members, whereas the previous studies had a K-12 or solely high school focus. Another difference is that this study used a pre-post format
with two surveys administered where the above studies were conducted solely after an options-based approach had been implemented. The findings of my quantitative data suggest that participation in the half-day ALICE training led to an overall increase in staff knowledge, confidence, empowerment, and perceptions of safety and preparedness, as the means on 26 out of 27 quantitative survey questions moved in a positive direction from the pre to post survey. Themes that emerged from the four open-ended qualitative questions administered as part of the ALICE training post-survey included an overall satisfaction with the training, a perception that the training was beneficial, and the belief that an options-based approach is valuable. While having a negative emotional reaction emerged as a common theme on the pre-survey qualitative item about expectations of training, having a positive emotional reaction emerged as a top theme of the post-survey qualitative item about the ALICE training experience. While recommendations from various government agencies and other research assert that an options-based approach to active shooter drills are beneficial in terms of physical safety, my study illustrates the benefits that the approach can bring in terms of staff perceptions. While the majority of school staff have never and hopefully will never experience an active shooter in their schools, it is certainly beneficial to feel as safe and empowered as possible at work every day. Thus, one key recommendation to school leaders and policy makers is to consider implementing an options-based approach to active shooter drills in schools.

**Training Recommendations**

The following discussion will describe recommendations for implementing options-based active shooter drills in elementary schools that school leaders, policy makers, and trainers may consider. Overall, an options-based approach to active shooter drills is worthwhile to implement
in the elementary school setting, if the process is thoughtfully planned. These recommendations were developed from analysis of my study results and the literature, and they include points on communication, consistency of training, skilled trainers, training plans, and the participation of elementary students in active shooter drills.

**Clear Communication**

Communication was one of the issues that reportedly plagued the ALICE training at Meadowlawn Elementary School in Monticello, Indiana in 2019 that resulted in a federal lawsuit (Herron, 2020). The Meadowlawn teachers claimed they were not told they were going to be shot with plastic pellets, and they expressed concern about the lack of information given to them prior to the training, as well as the resulting stress and injuries that occurred (Zraick, 2019). Other issues transpired with the Meadowlawn training session, but improved communication may have very likely reduced or prevented some of the problems that transpired.

Communication with stakeholders is key when planning the implementation of any new initiative, and this certainly holds true for implementing an options-based approach to active shooter drills in a school setting. In general, people prefer to know what to expect, especially when encountering something new, and uncertainty can increase anxiety. The effect of uncertainty on stress was the focus of a British study by deBerker et al. (2016). Researcher de Berker stated,

> Our experiment allows us to draw conclusions about the effect of uncertainty on stress. It turns out that it's much worse not knowing you are going to get a shock than knowing you definitely will or won't. We saw exactly the same effects in our physiological measures -- people sweat more and their pupils get bigger when they are more uncertain (Science Daily, 2016, para. 5).
In their 2018 survey of U.S. business executives, managers, and junior staff, The Economist Intelligence Unit found that the most significant consequence to poor communication in the workplace was “added stress,” which was indicated by 52% of participants (The Economist Intelligence Unit, 2018). Perkins (2018) studied teacher perceptions of preparedness to respond to a crisis and one of the emerging themes of the study was that teachers desired clear and continuous communication related to this topic.

School leaders and others involved in planning ALICE training for school staff should utilize clear communication and share information appropriately in the days prior to the training and then prior to each training exercise to give participants a sense of what to expect. Anticipating hands-on, scenario-based active shooter training may increase stress or anxiety in some, and perhaps elicit stronger reactions in individuals who have experienced traumatic incidents in their past. School leaders and trainers should foresee that staff could feel nervous about engaging in something new, especially when it is related to the topic of active shooters. On the pre-survey, one of the top themes that emerged from the open-ended, qualitative item - What are your expectations of ALICE training? - was the expectation of having a negative emotional reaction to the training such as anxiety or fear. However, the quantitative data for this study showed that once staff engaged in the ALICE training, they reported overall higher levels of confidence and empowerment related to the possibility of an active shooter incident and their own abilities to respond to such an incident. This study also showed that reported levels of anxiety or worry regarding the possibility of an active shooter incident decreased from the pre to post survey. Further, a top theme that emerged on the post-survey open-ended item - Is there anything else you would like to share about your experiences with ALICE training? - was
experiencing a positive emotional reaction to the training, such as empowerment, confidence, comfort, or the alleviation of anxiety.

While the overall results of this study indicate that the participants found the training to be beneficial, found multiple aspects of the training to be effective, and indicated they had increased in their sense of preparedness and feeling of empowerment, the qualitative data illustrated some need for improved communication. For example, the responses to the first qualitative item on the pre-survey that asked participants about their expectations highlighted that there was some inconsistency in the information participants received prior to the training. One participant expressed a hope that real guns would not be used. While there were certainly no real guns utilized in the training, this point should have been clearly understood by all participants far in advance of the training, as this uncertainty is understandably one that could elicit anxious feelings. In addition, for the survey item - *How could ALICE training drills be improved?* - one of the smaller sub-themes under the “Other” theme was the suggestion for improved communication prior to the training.

While the participating district did send consistent email communications to all elementary staff prior to the training, and all staff participated in the video training module prior to the half-day or scenario-based ALICE training, additional communication was provided by the school principals in the days prior to the half-day training. Some of the elementary principals had been members of the district safety committee; some helped to plan the ALICE training; some attended the two-day ALICE instructor training themselves; some had all three of these experiences. The principals who had firsthand involvement in the above activities likely communicated information about ALICE training to their staff that was more detailed and
possibly more accurate than the information communicated by the other principals who did not have the opportunity to gain the same level of firsthand knowledge.

**Pre-Training Communication**

School leaders and trainers can mediate this type of issue by developing a detailed pre-training communication protocol to better ensure that consistent information is shared prior to the training. All communications to staff including emails and verbal explanations to be shared at staff meetings about upcoming training should be written by the committee planning the training and should include scripts and answers to frequently-asked-questions. Suggested membership for the committee writing communications includes: the district communication director, certified ALICE instructors, principals, teachers, union leadership, and law enforcement. There should also be a defined communication protocol for how principals and other key communicators can quickly ascertain answers to questions that may arise from staff in the days prior to the training.

Another recommendation for districts implementing an option-based approach for the first time is to train administrators, including principals, before training the greater staff. This may not always be possible, but any measures taken to give school leaders a common knowledge base will increase the likelihood of consistent communication and will decrease staff uncertainty prior to their training.

Another example of uncertainty contributing to uneasiness and anxiety that emerged in the study involves introducing ALICE to elementary students. At the time of the staff training and surveys, the participating district had not solidified the details of options-based lessons and drills involving students yet, other than knowing that the topic would be introduced to students two months after the elementary staff ALICE training. Committees were at work finalizing the
lessons and drills, but details had not yet been shared with staff at the time they engaged in the half-day training. Thus, introducing ALICE to students emerged in the data as a concern for staff. The quantitative data does show that staff grew more confident about teaching their own students about ALICE after participating in the staff ALICE training. However, this survey item had the lowest mean on both the pre-survey and the post-survey of all of the items that addressed preparedness. Of all aspects of adopting an options-based approach that appeared on the survey, staff indicated the lowest level of confidence on both the pre and post-surveys regarding sharing ALICE with their students. Also, introducing ALICE to elementary students emerged as a theme on the two pre-survey qualitative items about expectations and hopes of ALICE training. The themes that emerged from post-survey qualitative item four - *What thoughts, concerns, or questions do you have about introducing ALICE to your students?* - illustrated that staff felt uncertain, were concerned that instruction would be age-appropriate, and were concerned that students would react in a negative way emotionally.

A recommendation to districts planning to implement an options-based approach to active shooter drills, such as ALICE, is to complete all planning tasks prior to the initial staff training, including plans for teaching students the approach, plans for initial drills, and plans for communicating with parents. Communicating all plans upfront provides a clearer picture for staff, minimizes uncertainty, and better enables them to realize the benefits the training can provide.

While this study showed that staff can have an overall positive experience from ALICE training, gain preparedness skills, and experience positive emotions such as empowerment and confidence, the Meadowlawn Elementary training in Indiana is a reminder that it can easily go the other direction when training on a topic that can naturally elicit feelings of uncertainty and
stress. Leaders and trainers must anticipate participants’ feelings and respond proactively in order to realize the benefits of changing to an options-based approach to active shooter drills. Bandura (2012) discussed that self-efficacy levels can be increased by “reducing anxiety and depression, building physical strength and stamina, and correcting the misreading of physical and emotional states” (p.13). The results of this study show that ALICE training can accomplish this for elementary school staff, but if the training itself is implemented in a way that causes anxiety, that will likely jeopardize the opportunity for staff to build their domain-specific self-efficacy levels related to active shooter preparedness. One key way to reduce anxiety related to training is to reduce uncertainty through clear communication.

Consistent Training Protocol and Skilled Trainers

Both the U.S. Department of Homeland Security (2008) and the U.S. Department of Education et al. (2013) support an options-based approach to active shooter preparedness. Districts and schools can certainly implement such an approach without utilizing the ALICE program, but the instructor workshop and training materials made available to districts who use ALICE are resources that could be helpful and valuable to districts formulating an implementation plan. Once a district establishes their ALICE-certified instructors, they still have decisions to make about the specifics of their training for staff, but ALICE provides detailed training protocols, scripts, and scenarios which, if used as intended, can considerably support a district in providing a consistent training experience for all staff. The ALICE protocols include scripts for checking the physical safety of all and giving any participant the opportunity to opt-out and become an observer before each scenario-based drill (ALICE Training Institute, 2018). Following the training protocols as they were designed can decrease the chance that a training
session goes wrong and causes any physical or emotional harm to participants. Dan Holub, executive director for the Indiana State Teachers Association, stated that he believed the trainers leading the ALICE scenarios at the Meadowlawn Elementary School in Monticello, Indiana went beyond the prescribed curriculum provided by ALICE which later resulted in teachers filing a federal lawsuit (Zraick, 2019; Herron, 2020). Again, if followed, tools like training scripts and protocols can better ensure all participants’ physical safety and emotional well-being during the training and also provide as similar a training experience as possible for all participants. Perkins (2018) studied teachers’ perceptions of their own preparedness to respond to a crisis in their school, and common themes that emerged included: the need for consistent policy and procedures, the desire for scenario-based trainings with police and fire personnel present, and the request that the district “properly train a trainer who is very knowledgeable in the plan” (Perkins, 2018, p. 77).

The district that participated in my study utilized a consistent script and the same scenarios at all of their training sessions for elementary staff. They also sent a number of their own school staff to the two-day ALICE instructor training, and then they partnered with several local law enforcement agencies that had a number of officers who were certified ALICE instructors. Several officers became a part of the district’s ALICE planning committee who worked to design and plan the initial half-day staff training. Whether a district uses ALICE or creates their own training based on an options-based approach, partnering with local law enforcement can greatly improve the overall training effectiveness and experience. Police officers offer areas of expertise that educators cannot and vice versa. School district trainers and police officer trainers working cooperatively to plan and deliver the training is the optimal
situation for schools. Police add some credibility to the information being shared; educators can be the voice for ensuring the information is applicable and appropriate to school settings.

The training for each school’s staff in my study was conducted primarily by two law enforcement officers working with one or two school district personnel ALICE trainers; at most training sessions, the law enforcement officers took the lead roles. The partnering of school trainers with law enforcement was effective and is a plan for other school leaders to consider when preparing to implement an options-based approach to active shooter drills for the first time. The school personnel trainers possessed an understanding of the school environment and staff concerns, which was a very important perspective. The police officers possessed the knowledge and experience to explain the rationale of the different components of an options-based approach, provide real-world examples, and demonstrate techniques.

The use of a consistent training protocol and skilled trainers in the half-day ALICE training likely played an important role in growth of the following, as illustrated by the quantitative data: staff understanding of ALICE concepts, staff beliefs they have received adequate training, staff confidence in their abilities to protect their students, staff perception that their schools are safer, staff feelings of empowerment, and staff beliefs that ALICE training is valuable. The qualitative items on the post-survey illustrated the effectiveness of the training as well, with satisfaction with the training and finding the training beneficial as two strongly emergent themes. In addition, the benefits of having law enforcement officers serve as trainers emerged as a theme for two of the open-ended qualitative items.

It is also important to note that research has shown that the ALICE options-based approach can lead to a higher survivability rate. Jonson et al. (2018) conducted a study during ALICE Instructor Certification Courses and found that the ALICE protocols for options-based
approaches increased the simulated survival rate of participants by 50 percent during the scenario–based exercise in comparison to the traditional lockdown-only exercise. This study did not determine how much the factors of utilizing a training protocol and skilled trainers contributed to the increased survivability rates of participants, but those factors are key attributes of the ALICE program if districts and organizations choose to follow ALICE as it was designed. A recommendation for school leaders and those planning for the implementation of an options-based approach is to use the training curriculum as it was designed, follow consistent training protocols, and utilize skilled trainers to lead the exercises.

Training Logistics

When creating an implementation plan for using an options-based approach to active shooter drills, school leaders and trainers should consider arranging for school staff to have as much active engagement and practice as possible, and also plan for ongoing training opportunities over time. Planning for staff to train in their own schools and work areas as much as possible could also be beneficial. Studies on self-efficacy and preparedness of school staff have produced findings that support these recommendations. Studies have consistently found that the more staff participate in drills, training, and practice, the higher the level of staff confidence, preparedness, and/or self-efficacy (Werner, 2007; Rider, 2015; Rinaldi, 2016; Wheeler 2017). Studies have also consistently shown that teachers express a desire for more training (Graveline, 2003; Rinaldi, 2016; Wheeler, 2017; Perkins, 2018), and express concern over knowing the right way to respond in order to protect students in specific crisis situations (Graveline, 2003; Rinaldi, 2016).
Bandura and Adams (1977) found that enactive mastery experiences have the strongest influence on self-efficacy. Scenario-based training like ALICE is a simulation, but it is the closest to an enactive mastery experience without being involved in an actual active shooter incident. Conducting ALICE training in participants’ own schools or workplaces helps to create an experience that is as close to enactive mastery as possible. The data collection and debriefing for each scenario-based exercise that is part of the ALICE protocol provides the opportunity for participants to see tangible results and receive feedback from the trainer. Maddux (2012) suggested that providing people with tangible evidence of success increases self-efficacy. He stated, “When people actually see themselves coping with difficult situations, their sense of mastery is likely to be heightened” (p. 233). Bandura (1997) stated, “Successes build a robust belief in personal efficacy” (p. 80). The opportunity to debrief with the trainer provides the opportunity for verbal persuasion, another source of self-efficacy (Bandura, 1977).

Through their responses to the open-ended, qualitative items, the participating elementary school staff expressed that the hands-on, scenario-based training format was the most valuable aspect of the ALICE training. Being able to train in their own schools and, at times, their own classrooms was also a theme that emerged regarding valuable aspects of the training. The top theme that emerged relative to ways to improve the training was to increase the training experiences. Responses with this theme suggested practicing more scenarios and practicing in more areas of the schools. Also providing more trainers so that group sizes could decrease would allow for more active engagement by participants and also provide more opportunities for personalized feedback from instructors. Bandura (1997) stated, “Evaluative feedback highlighting personal capabilities raises efficacy beliefs” (p. 102). A smaller sub-theme under the “Other” theme for this survey item was to provide follow-up and ongoing training over time.
The fact that the district that participated in my study did provide participants the opportunity to train in their own schools, engage in several scenario-based exercises, and dialogue with the trainers throughout the half-day training session, likely contributed to the positive results observed from the pre-survey to post-survey. These changes in the means from pre-survey to post-survey indicate that participating in the half-day, scenario-based ALICE training had a positive relationship to staff perceptions of their own preparedness to respond to an active shooter incident and to protect their students. The quantitative data also illustrated a positive change in staff confidence and empowerment related to responding to an active shooter incident, as well as a positive change in participants’ perceptions of their school’s level of safety and preparedness for an active shooter incident. Evidence from the literature and my study results indicate that school leaders and trainers planning for the implementation of an options-based approach to active shooter drills should consider creating a plan that allows for as much active participation in scenario-based exercises as possible, ongoing training opportunities, and for participants to train in their own workplaces whenever possible.

Participation of Elementary Students

One of the most important considerations for any school leader or policy maker planning for the implementation of an options-based approach to active shooter drills is how students will be involved. According to the Final Report of the Federal Commission on School Safety, the Safe and Sound Schools organization developed a set of recommendations to guide schools in determining how to best train students and identified five different levels of involvement for
students (U.S. Department of Education et al., 2018). Since my study focused on elementary school staff, only recommendations regarding elementary students will be discussed.

In my study, introducing ALICE to students emerged as a concern for staff. At the time that participating staff engaged in the training and completed the two surveys, they were not yet aware of the exact plans for introducing ALICE to students and what the first drill during a school day would look like. While staff grew more confident about teaching their own students about ALICE after participating in the staff ALICE training, of all the aspects of adopting an options-based approach that appeared on the survey, staff indicated the lowest level of confidence on both the pre and post-surveys regarding sharing ALICE with their students. Also, introducing ALICE to elementary students emerged as a theme on the two pre-survey qualitative items about expectations and hopes of ALICE training. The themes that emerged from the post-survey qualitative item that specifically addressed introducing ALICE to students illustrated that staff felt uncertain, wanted to ensure that instruction be age-appropriate, and expressed concern that students would react in a negative way emotionally. It is recommended that a school or district implementing an options-based approach to active shooter drills have a plan for what information will be shared with students and how students will be involved in any drills, and that this information be shared with staff at or before staff themselves are trained.

A number of experts in the fields of security and mental health have expressed concerns about directly involving students, especially younger ones, in active shooter training and drills. Jackie Miller, a member of the team who created the Run, Hide, Fight options-based approach has stated, “We have talked to schools over the years about it being for teachers, for administrative staff, and not necessarily a tool to train the kids” (O’Regan, 2019, para. 32). Tom Czyz, founder of school security company Armoured One, believes in teaching children
situational awareness and preventative measures but not in having them participate in active shooter training (O’Regan, 2019). Dr. Nancy Rappaport, associate professor of psychiatry at Harvard Medical School has claimed that drills “may have unintended consequences of creating terror for students” (O’Regan, 2019, para. 6). Similarly, Dr. Laurel Williams, chief of psychiatry at Texas Children’s Hospital has stated:

From the perspective of a child psychiatrist, I believe that it’s psychologically distressing for a young child to practice active shooters coming into your area. It’s not clear to them that the drill is not real. The younger the child is, the less likely they are to understand that an act of violence is not occurring during a drill. (Shalchi, 2019, para. 2)

As districts prepare for implementation of an options-based approach to active shooter drills, a lot of consideration must be paid to mitigate some of the valid criticisms of the approach, especially those concerning the well-being of children, so that the risks do not overshadow the benefits.

While Janet Shapiro, director of the Center for Child and Family Wellbeing at Bryn Mawr College, shared concerns about the psychological impact of active shooter drills on young children with *neaToday* (Long, 2019), she also offered this observation:

On the other hand, there will be many kids who are reassured by having a sense that there’s a plan. It’s part of mastery – we practice drills so we know how to handle a situation. We need to find that balance between allowing students to feel that the school is prepared and recognizing that kids need to be reassured once we raise their anxiety. The more holistic the approach, the better it will be for everyone. (para. 19)

Shapiro also stated, “One of the main things that affects kids’ ability to cope is whether they have faith in the capacity of the adults around them to protect them from danger” (Long, 2019, para. 6). Zhe and Nickerson (2007) studied the effectiveness of school crisis drills and the effects of children’s participation on their knowledge, skills, state of anxiety, and perception of school safety (p. 501). The subjects were in the fourth, fifth, and sixth grades, and the drill utilized was
a traditional lockdown model. The results showed that while the students who participated in the training session increased in their knowledge of drill procedures, they did not demonstrate any differences in anxiety or perceptions of safety (Zhe & Nickerson, 2007). The researchers concluded that when children participate in drills that “incorporate best practice recommendations and use preventative measures to minimize a sense of threat, they may experience a level of anxiety and a sense of safety comparable to what they feel on a typical school day” (Zhe & Nickerson, 2007, p. 506).

Everytown for Gun Safety and teachers’ unions, AFT and NEA, recommend training for staff on trauma-informed responses to active shooter incidents, including training on lockdown, evacuation, and emergency medical training, but they do not recommend active shooter training for students. Everytown, AFT, and NEA believe that if a school does include students in active shooter drills, consideration should be paid to the potential impact on the students and these guidelines that align with recommendations by NASP and NASRO (2014) should be followed:

1. Drills should not include simulations that mimic or appear to be an actual shooting incident;
2. Sufficient information and notification must be provided to parents or guardians in advance about the dates, content, and tone of any drills for students;
3. Drills should be announced to students and educators prior to the start of any drill;
4. Drill content should be created by a team including administrators, educators, school-based mental health professionals, and law enforcement and be age and developmentally appropriate. The content should incorporate student input;
5. Drills should be coupled with trauma-informed approaches to directly address the well-being of students and educators as standard practice; and
6. Information about the efficacy and effects of the drills should be tracked by schools including symptoms and indications of trauma, so drill content can be re-evaluated if students and/or educators are exhibiting signs of trauma. (Everytown, 2020, February, p. 4)

The Final Report of the Federal Commission on School Safety (U.S. Department of Education et al., 2018) includes recommendations by the Safe and Sound Schools organization as to the
appropriate levels of involvement in active shooter preparedness for each developmental level of school children. For pre-kindergarten and kindergarten, the developmental level of safety awareness descriptors are: “General understanding of danger; heavily reliant on adults for direction; capable of practicing basic safety concepts like get out and keep out” (as cited by U.S. Department of Education et al., 2018, p. 142). The safety awareness descriptors for students in the lower elementary grades are: “Demonstrates characteristics of early awareness; capable of providing basic assistance in an emergency (e.g. turning out the lights)” (as cited by U.S. Department of Education et al., 2018, p. 142). The safety awareness descriptors for students in the upper elementary grades are: “Demonstrates characteristics of developing awareness; capable of assisting adults in an emergency (e.g. closing doors) (as cited by the U.S. Department of Education et al., 2018, p.142). According to the Safe and Sound Schools organization, it is not until middle school that most students are capable of performing practiced safety acts independently and not until high school that most students can demonstrate an automatic response in safety situations and independently apply and adapt skills to a variety of situations (as cited by the U.S. Department of Education et al., 2018, p. 142).

While it is essential that the adult staff in schools are fully trained in the options-based approach if implemented by the school district, training for students should be carefully considered and delivered in an age-appropriate manner. School leaders, policy makers, and trainers, should consult the six recommendations by Everytown, AFT, and NEA (2020) that align with NASP and NASRO (2014), and also consider the developmental levels of safety awareness by Safe and Sound Schools. One possible approach for elementary students is an emphasis on situational awareness and following directions of their trusted adults at school. Teaching elementary-aged students to physically fight a shooter is typically not recommended, and
teaching them to counter by any means must be carefully considered. Active shooter drills should never place students in realistic situations such as hearing an announcement that a shooter is in the building, hearing simulated gun fire, or experiencing shots fired, even with recreational or toy products. Districts planning for an implementation of an options-based approach should include mental health experts on their planning committees, such as school psychologists and social workers. Schools have an equal duty to protect children from emotional harm as they do to protect them from physical threats.

Comprehensive Safety Plan

A final recommendation for school leaders and policy makers is to implement a comprehensive safety plan, as the literature illustrates that reactive measures alone, including active shooter drills, are not sufficient for creating safe schools. An analysis by the National Threat Assessment Center (NTAC) of the United States Secret Service (2019) found that 100 percent of school shooters in incidents between 2008 and 2017 had demonstrated concerning behavior (p. 43) and 77 percent of them had told at least one person, usually a peer, about their plans (p.47). Similarly, in their work with The Violence Project, Peterson and Densley (2019) found that nearly all mass school shooters were students at the targeted school and that they exhibited warning signs prior to the shooting incident. In The Washington Post survey of schools that have experienced school shootings, several participants responded that they believe the only things that could have prevented the shooting incident would have been to have a tip from someone that a shooting might happen (Cox & Rich, 2018 November, p. 27). Thus proactive measures for school safety must join reactive ones as components of a comprehensive school safety plan. Some preventative measures for school leaders and policy makers to consider
include providing a supportive and connected school climate, using a threat assessment procedure, and establishing ways for reporting concerns.

Various studies by government agencies, other organizations, and researchers have led to some common recommendations for comprehensive school safety plan components. The Final Report of the Federal Commission on School Safety (U.S. Department of Education et al., 2018) recommended practices in three main categories in order to have comprehensive school safety plans: 1) prevent, 2) protect and mitigate, and 3) respond and recover. The commission’s report includes some actions that are beyond the scope of a school or school district. Some of the key recommendations they make that could be implemented at the school or district level include: creation of a positive school climate, improved access to school-based mental health supports, threat assessment via reporting concerning behaviors, school safety training including active shooter training for all school personnel, and building security plans that are individualized to the specific features of each site (U.S. Department of Education et al., 2018).

Chapman and Summers (2018) studied the importance of a comprehensive behavior threat assessment process in mitigating the risk of a potential school shooting and also noted that the following aspects play a role in preparedness as well: school climate, mental health supports for students, opportunities for students and staff to report worrisome behavior, facility design, and training. The American School Counselor Association recommends that school counselors be staffed at the ratio of one counselor to every 250 students in order to provide the appropriate level of mental health support to students (Widmer, 2018). Everytown et al. (2020, February) emphasizes that intervening prior to an individual committing an act of violence is the most effective way to prevent school violence and note that the Comprehensive Student Threat Assessment Guidelines (CSTAG), formerly known as the Virginia Student Threat Assessment
Guidelines can serve as a model program. Everytown also worked with the nation’s two largest teacher unions, AFT and NEA, to write eight guidelines for comprehensive school safety plans. Several of their guidelines are beyond the scope of schools, but the ones that include actions that could be taken at a school or district level include: creating evidence-based threat assessment programs in schools, implementing expert-endorsed school security upgrades, initiating effective, trauma-informed emergency planning, and creating safe and equitable schools (Everytown et al., 2020).

In conclusion, any school or district planning to implement an options-based approach to active shooter drills, should do so in the context of developing a comprehensive school safety plan. Preventative measures are vitally important components of creating safe and secure schools. School leaders should include representatives of all key stakeholders in the development of a comprehensive school safety plan and also include experts in various areas including teachers, law enforcement and other first responders, facility management experts, communication director, union leadership, school psychologists, counselors, nurses, and social workers. School leaders should consider including the following components in their safety, each of which requires research, planning, and ongoing implementation and evaluation: planning for the physical security of each school site, maintaining a positive school climate, providing adequate access to school-based mental health supports, creating a clear way for individuals to report concerning behavior, utilizing a threat assessment protocol, and providing ongoing, high-quality safety training for all staff including training on active shooter response.
Limitations of Study

One limitation of this study is that the participants are all from a single school district. While the demographics and community of each elementary school in the district vary somewhat, all participants work in the same general community and have a similar level of resources and support. It is unknown whether results can be generalized to elementary school staff who work in districts where factors such as socioeconomic status and crime level differ greatly from the participating district. Another limitation is that the study occurred during the district’s process of implementing ALICE for the first time. While one survey was administered to staff prior to training and the other was administered immediately after training, both surveys were administered prior to staff utilizing the ALICE approach during any safety drills and prior to staff introducing ALICE to students. Finally, the administration of the survey occurred in January 2020, several months before the death of George Floyd and the subsequent national conversations about law enforcement, including the role of police officers in schools. The unknown impact of this change in the social context on any staff perceptions about ALICE or the involvement of law enforcement as trainers is also a limitation to the study.

Recommendations for Future Research

This study examined elementary staff perceptions of preparedness and safety, as well as their perceptions of ALICE training, in the days before and immediately after participants engaged in a half-day, scenario-based ALICE training. This training was an introductory training for the participants, as it was the first time the school district trained staff as they moved to adopt the ALICE approach. One area that would be worthwhile for future study would be to examine
staff perceptions after a longer period of ALICE implementation. While this study examined the impact of the training on staff perceptions, studying how applying ALICE training concepts in school safety drills and introducing the concepts to students impacts staff perceptions of preparedness, safety and the ALICE approach could further inform school leaders and policy makers. This study examined the impact of training; future research could examine the ongoing impact of utilizing an options-based approach like ALICE. The training that staff attended between the two surveys over the course of this study was for staff only. Concerns regarding introducing and utilizing the ALICE approach with students emerged as a common theme from the results of this study. Thus, examining how actually implementing the concepts and skills learned during ALICE training impacts staff perceptions would certainly be valuable.

This study focused on elementary staff perceptions. Elementary staff work with younger, more dependent children than those who work at the secondary level. Future study of comparisons between elementary staff and secondary staff perceptions of ALICE could be helpful to school leaders and those who plan and design training.

Another worthwhile area for future research is a study of staff who feel empowered by ALICE training and staff who feel anxiety caused by ALICE training. Finding any commonalities among the staff who feel empowered and any commonalities among those who feel anxious would be informative and could serve to inform school leaders and trainers how to better support staff who feel anxious.

It may be of interest to future researchers to investigate specific components of active shooter training and drills in order to inform the design of future training and safety plans. Research has shown that an options-based approach is more effective than lockdowns in terms of survivability (Jonson et al., 2018), and my study, along with others, has found that an options-
based approach is related to other benefits such as staff self-efficacy and perceptions of safety and preparedness (Dain, 2015; Gleich-Bope, 2016; Dagenhard, 2017). Researchers may want to explore specific variables such as the use of law enforcement as trainers, training locations, training formats and timelines. Determining if any factors are more significant in determining the effectiveness of active shooter training in terms of increased survivability and/or staff or student self-efficacy and perceptions of safety would be worthwhile additions to the body of literature on active shooter drills.

Finally, further research is needed on student perceptions of preparedness and school safety and on the impact of drills on students. According to Brunswick, et al. (2021), there is a consensus among experts that more research on drills and children are needed. Other than a study on lockdown drills conducted in the Syracuse City School District in 2018 and 2019 by school security expert, Jaclyn Schildkraut, there has been very little research on student perceptions of active shooter drills, especially on options-based drills (Brunswick et.al, 2021). It is essential to include student voices as the examination of active shooter drills and the involvement of students of various ages continues to evolve in order to balance protecting students physically and emotionally.

Concluding Remarks

It is truly tragic that the possibility of an active shooter incident in a school has to be a consideration for any school leader or policy maker. Although the likelihood of any one school experiencing a school shooting is thankfully still a fraction of a percent, the shootings that have occurred in the last few decades, including those at Columbine High School, Sandy Hook Elementary School, and Marjory Stoneman Douglas High School, have understandably resulted
in a moral panic and a call for action for schools and districts to put forth efforts to prevent such incidents and to be prepared to respond if one should occur. The shift from the traditional lockdown approach to an options-based approach for active shooter drills provides school districts the opportunity to consider how the approach they choose could impact, first and foremost, the rate of survivability, but also the self-efficacy and perceptions of those who work and learn in schools each day.

The elementary staff who participated in my study completed both a pre-survey and a post-survey about their school district’s very first ALICE training. The survey results indicated that, overall, staff reported higher levels of self-efficacy after having participated in the training, as they reported higher levels of confidence and empowerment and lower levels of anxiety than they reported prior to the training. Staff also reported a better understanding of the ALICE concepts and perceived their schools as more prepared to respond to an active shooter. If thoughtfully planned with consideration to the physical and emotional safety of staff and students, an options-based approach to active shooter drills like ALICE is a worthwhile endeavor for school leaders. While prevention efforts are vitally important and will hopefully result in a decrease in school shootings over time, in the meantime, educators deserve to do their jobs feeling as safe and prepared as possible, so that they can focus on the important work they do with students every day.


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Eaton-Robb, P. (2020, February12). Children traumatized by active shooter drills, teachers unions say. *HuffPost*. [https://www.huffpost.com/entry/teachers-unions-students-active-shooter-drills_n_5e43fa91c5b61b84d3431297](https://www.huffpost.com/entry/teachers-unions-students-active-shooter-drills_n_5e43fa91c5b61b84d3431297)


Sobol, R.S. (2009). *School safety and violence prevention programs as seen through the eyes of instructional staff and students.* Retrieved from ProQuest. UMI Number: 3388675.


https://www.dhs.gov/xlibrary/assets/active_shooter_booklet.pdf


APPENDIX

PRE AND POST SURVEY ITEMS:

ELEMENTARY SCHOOL STAFF PERCEPTIONS OF ALICE TRAINING
<table>
<thead>
<tr>
<th>Item</th>
<th>Type</th>
<th>Purpose</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident in my ability to respond appropriately in the event of an active shooter incident at my school.</td>
<td>5-point Likert Scale 1. Strongly disagree 2. Somewhat disagree 3. Neither agree or disagree 4. Somewhat agree 5. Strongly agree</td>
<td>RQ1 RQ2</td>
<td>Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015)</td>
</tr>
<tr>
<td>I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident at my school.</td>
<td>5-point Likert Scale 1. 5. Strongly disagree 2. Somewhat disagree 3. Neither agree or disagree 4. Somewhat agree 5. Strongly agree</td>
<td>RQ1 RQ2</td>
<td>Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015)</td>
</tr>
<tr>
<td>I am confident that I can protect my students in the event of an active shooter incident.</td>
<td>5-point Likert Scale</td>
<td>RQ1</td>
<td>RQ2</td>
</tr>
<tr>
<td>I am confident in teaching my own students about ALICE.</td>
<td>5-point Likert Scale</td>
<td>RQ1</td>
<td>RQ2</td>
</tr>
<tr>
<td>I feel confident in our school's ability to handle an active shooter incident.</td>
<td>5-point Likert Scale</td>
<td>RQ3</td>
<td></td>
</tr>
<tr>
<td>Overall, I feel our schools will be safer as a result of the ALICE training.</td>
<td>5-point Likert Scale</td>
<td>RQ3</td>
<td>RQ4</td>
</tr>
<tr>
<td>ALICE training will lead me to feel more empowered in the event of an active shooter incident.</td>
<td>5-point Likert Scale</td>
<td>RQ4</td>
<td></td>
</tr>
<tr>
<td>ALICE training will lead to a feeling of empowerment among our staff in the event of an active shooter incident.</td>
<td>5-point Likert Scale</td>
<td>RQ4</td>
<td></td>
</tr>
<tr>
<td><strong>ALICE training will lead to a feeling of empowerment among our students in the event of an active shooter incident.</strong></td>
<td><strong>5-point Likert Scale</strong>&lt;br&gt;1. Strongly disagree&lt;br&gt;2. Somewhat disagree&lt;br&gt;3. Neither agree or disagree&lt;br&gt;4. Somewhat agree&lt;br&gt;5. Strongly agree</td>
<td><strong>RQ4</strong>&lt;br&gt;&lt;br&gt;Adapted from <em>ALICE Training Questionnaire</em> (Gleich-Bope, 2016)</td>
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<tr>
<td><strong>Due to ALICE training, our staff will feel better prepared to react to an active shooter incident.</strong></td>
<td><strong>5-point Likert Scale</strong>&lt;br&gt;1. Strongly disagree&lt;br&gt;2. Somewhat disagree&lt;br&gt;3. Neither agree or disagree&lt;br&gt;4. Somewhat agree&lt;br&gt;5. Strongly agree</td>
<td><strong>RQ3 &amp; RQ4</strong>&lt;br&gt;&lt;br&gt;Adapted from <em>ALICE Training Questionnaire</em> (Gleich-Bope, 2016)</td>
<td></td>
</tr>
<tr>
<td><strong>Our staff feels ALICE training is valuable and a good use of time.</strong></td>
<td><strong>5-point Likert Scale</strong>&lt;br&gt;1. Strongly disagree&lt;br&gt;2. Somewhat disagree&lt;br&gt;3. Neither agree or disagree&lt;br&gt;4. Somewhat agree&lt;br&gt;5. Strongly agree</td>
<td><strong>RQ4</strong>&lt;br&gt;&lt;br&gt;Adapted from <em>ALICE Training Questionnaire</em> (Gleich-Bope, 2016)</td>
<td></td>
</tr>
<tr>
<td><strong>My school works cooperatively with local law enforcement in developing a plan for active shooter incidents.</strong></td>
<td><strong>5-point Likert Scale</strong>&lt;br&gt;1. Strongly disagree&lt;br&gt;2. Somewhat disagree&lt;br&gt;3. Neither agree or disagree&lt;br&gt;4. Somewhat agree&lt;br&gt;5. Strongly agree</td>
<td><strong>RQ3</strong>&lt;br&gt;&lt;br&gt;Adapted from <em>Active Shooter Preparedness Training Survey for High School Teachers (ASPTS)</em> (Rider, 2015)</td>
<td></td>
</tr>
<tr>
<td><strong>My school's plans for active shooter incidents are effective.</strong></td>
<td><strong>5-point Likert Scale</strong>&lt;br&gt;1. Strongly disagree&lt;br&gt;2. Somewhat disagree&lt;br&gt;3. Neither agree or disagree&lt;br&gt;4. Somewhat agree&lt;br&gt;5. Strongly agree</td>
<td><strong>RQ3</strong>&lt;br&gt;&lt;br&gt;Adapted from <em>Active Shooter Preparedness Training Survey for High School Teachers (ASPTS)</em> (Rider, 2015)</td>
<td></td>
</tr>
<tr>
<td><strong>The possibility of an active shooter incident is taken seriously at my school.</strong></td>
<td><strong>5-point Likert Scale</strong>&lt;br&gt;1. Strongly disagree&lt;br&gt;2. Somewhat disagree&lt;br&gt;3. Neither agree or disagree&lt;br&gt;4. Somewhat agree&lt;br&gt;5. Strongly agree</td>
<td><strong>RQ3</strong>&lt;br&gt;&lt;br&gt;<em>Active Shooter Preparedness Training Survey for High School Teachers (ASPTS)</em> (Rider, 2015)</td>
<td></td>
</tr>
<tr>
<td>My school provides instruction sessions about active shooter incident preparedness to staff.</td>
<td>5-point Likert Scale</td>
<td>RQ3</td>
<td>Adapted from Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015)</td>
</tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Instruction sessions about active shooter incident preparedness for staff will make our school safer.</th>
<th>5-point Likert Scale</th>
<th>RQ3</th>
<th>Researcher, based on Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>My school provides classroom instruction about active shooter incident preparedness to students.</th>
<th>5-point Likert Scale</th>
<th>RQ3</th>
<th>Adapted from Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015)</th>
</tr>
</thead>
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<table>
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<tr>
<th>Classroom instruction about active shooter incident preparedness for students will make our school safer.</th>
<th>5-point Likert Scale</th>
<th>RQ3</th>
<th>Researcher, based on Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) (Rider, 2015)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I have anxiety/worry over the possibility of an active shooter incident in my school.</th>
<th>5-point Likert Scale</th>
<th>RQ3</th>
<th>Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Response Type</td>
<td>RQ</td>
<td>Type</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------</td>
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<td>-----------------------</td>
</tr>
<tr>
<td>Staff and teachers often express worry/anxiety of the possibility of an active shooter incident.</td>
<td>5-point Likert Scale</td>
<td>RQ3</td>
<td>Researcher</td>
</tr>
<tr>
<td>Parents of my students often express worry/anxiety of the possibility of an active shooter incident.</td>
<td>5-point Likert Scale</td>
<td>RQ3</td>
<td>Researcher</td>
</tr>
<tr>
<td>My students often express worry/anxiety of the possibility of an active shooter incident.</td>
<td>5-point Likert Scale</td>
<td>RQ3</td>
<td>Researcher</td>
</tr>
<tr>
<td>ALICE training will help to lower my anxiety/worry.</td>
<td>5-point Likert Scale</td>
<td>RQ4</td>
<td>Researcher</td>
</tr>
<tr>
<td>What are your expectations of ALICE training? (Pre-Survey Only)</td>
<td>Open-Ended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What do you hope to gain by participating in ALICE training? (Pre-Survey Only)</td>
<td>Open-Ended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What was the most valuable aspect of ALICE training? (Post-Survey Only)</td>
<td>Open-Ended</td>
<td>RQ4</td>
<td>Researcher and District</td>
</tr>
</tbody>
</table>

Note: The 5-point Likert Scale responses are:
1. Strongly disagree
2. Somewhat disagree
3. Neither agree or disagree
4. Somewhat agree
5. Strongly agree

RQ3 refers to Researcher

Provide information to district refers to the action taken after the responses are collected.
<table>
<thead>
<tr>
<th>How could the January 17 ALICE training drills be improved? (Post-Survey Only)</th>
<th>Open-Ended</th>
<th>RQ4 Provide information to district</th>
<th>Researcher and District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there anything else you would like to share about the experience of ALICE training? (Post-Survey Only)</td>
<td>Open-Ended</td>
<td>RQ4 Provide information to district</td>
<td>Researcher and District</td>
</tr>
<tr>
<td>What thoughts, concerns, or questions do you have about introducing ALICE to your students? (Post-Survey Only)</td>
<td>Open-Ended</td>
<td>RQ4 Provide information to district</td>
<td>Researcher and District</td>
</tr>
</tbody>
</table>