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Early Childhood Educators' Perceptions of Active Shooter Drills in Early Childhood Classrooms

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This is to certify that the doctoral dissertation by

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Walden University
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Abstract

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Classrooms

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Melissa J. Racioppa

MS, Utica College, 2016

BS, Utica College, 1995

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Education Early Childhood Leadership & Advocacy

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Abstract

The threat of an active shooter is something early childhood educators need to prepare for, but a literature review regarding active shooter drills indicated a gap in the research focused on the perceptions the early childhood educators. Using a conceptual lens based on developmentally appropriate practice and the developmental theories of Piaget and Vygotsky, this qualitative case study aimed to explore the perceptions of early childhood educators on the current model of active shooter drills and the developmental appropriateness of these drills when used with an early childhood population. The participants were early childhood educators familiar with their school's emergency plan who had experienced at least one active shooter drill in their classroom. Data were collected through semistructured interviews and then analyzed using a 6-phase thematic analysis. Key findings indicate early childhood educators received the required professional development about the drills but desired more training and preparation; educators believe the drills mostly focus on procedures, did not address their students' developmental or emotional needs, and were not stressful for the students; early childhood educators also reported a perceived expectation for them to address these developmental needs during the drills, incorporate multiple strategies to support their students, increase communication with families, and struggle with determining what information to share with their students in their role as an educator. These findings invite positive social change by encouraging school districts to alter the current training early childhood educators receive and possibly altering the design of these drills to include developmentally appropriate strategies.

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Dedication

This study is dedicated to my wonderful and supportive family. First and foremost, my amazing husband Rich and our wonderful children, Alexis, Drew, and Erica. We knew from the beginning this journey needed to be a "we" and not a "me" approach, and you all stepped up to the challenge. I thank you all for the endless cups of coffee, for taking on more than your fair share of the household responsibilities, and for being a sounding board when I needed to vent. No matter what I needed, all of you were always there for me. I love you all so much and would have never accomplished this goal without your support. I especially want to acknowledge Alexis, my own private editor. Thank you for taking the time to read (and reread) my work, even though I know you had your own work to do. I also owe a special thanks to my parents, in-laws, and extended family, who supported and encouraged me throughout this entire process in so many ways. I look forward to discovering and enjoying a post-dissertation life with all of you!

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Chapter 1: Introduction to the Study

In Somerville, Massachusetts, parents of kindergartners attending the school's open house found a handwritten poster hanging in the classroom (Chiu, 2018). This poster gave visual and written cues on how the children were to act during a lockdown procedure in the kindergarten classroom. The following words were designed to be sung to the same tune as the alphabet song: "Lockdown, Lockdown, Lock the door/ Shut the lights off, Say no more/ Go behind a desk and hide/ Wait until it is safe inside/ Lockdown, Lockdown it's all done/ Now it's time to have some fun" (Chiu, 2018, p.1).

The parents of the kindergarteners reported mixed emotions about having this poster in the classroom. Some parents valued this approach to remind young students how they should act during an active shooter drill or emergency (Chiu, 2018). Other parents questioned if these drills were appropriate for early childhood classrooms (Chiu, 2018). The concerns of these parents echoed questions that have been brought up multiple times by different professional groups. Many have questioned the appropriateness of these drills and the potential emotional stress they cause to children, but there is little literature focused on early education students (Blad, 2018; Limber & Kowalski, 2020; Schildkraut et al., 2020; Schonfeld et al., 2017; Tanner-Smith et al., 2018; Woesner, 2018).

The purpose of this qualitative case study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. To gain an accurate understanding of the design, development, and goals of

the active shooter drills, I conducted a review of the federal, state, and local policies and protocols. I also explored the techniques and strategies educators have used in their classrooms to help support students before, during, and after practicing active shooter drills. Exploring these issues could bring about a significant level of social change by adding to the understanding of the current model of active shooter drills in early childhood classrooms and possibly altering the design of these drills to include developmentally appropriate techniques.

In this chapter, I introduced my study and provided the reader with important information regarding active shooter drills and the early childhood population. I also reviewed some of the research done on educators' perceptions of active shooter drills to establish the research problem, gap in the literature, and the questions addressed in this study. Included in this chapter are the conceptual framework, the nature of the study, and definitions of keywords necessary to understand the research. I also addressed any assumptions regarding the study, the study's scope and delimitations, and the limitations of the research design methods. Lastly, I discussed any potential biases and the significance of this study for the early childhood education field.

Background

The threat of an active shooter on a school campus, once viewed as a rare act, has become an event most educators are required to prepare for (U.S. Department of Education, Office of Elementary and Secondary Education, & Office of Safe and Healthy Students, 2013). While there were multiple school shooting events before the 1999 shooting at Columbine High School in Littleton, Colorado, many view this event as a

turning point in how school administrators approach school safety measures (King & Bracy, 2019). In the two decades after the Columbine High School shooting, an estimated 234 schools and more than 228,000 students have experienced gun violence during school hours (Woodrow et al., 2018, p. 1). Out of these 234 schools, at least 30 schools had children ages birth to 8 years present at the time of the incident (Woodrow et al., 2018, p. 1). While the number of school shootings does seem to have an upward trend when compared to the tens of millions of students that attended school every day in the United States, the percentage of children that experienced gun violence in schools was small (Woodrow et al., 2018, p. 1).

Even though gun violence in schools is considered rare, the shootings at Columbine and the mass media coverage that followed the incident gave rise to a sense of moral panic that influenced the creation of policies aimed at creating a safer school environment (Cohen, 2011; Kupchick et al., 2015; Madfis, 2016). In many states, school emergency action plans were required to include active shooter drills (Felder, 2018; U.S. Department of Education et al., 2013). In 2003–2004, 79% of schools in the United States had an active shooter plan in place, and this percentage increased to 92% in 2015–2016, with 94.6% of the schools having some form of a lockdown procedure (Musu et al., 2019, p. 118). During the 2017–2018 school year, there were more than 6,200 actual lockdowns in U.S. schools, including approximately 220,000 kindergarten or preschool students (Rich & Cox, 2018, p. 1). However, the effectiveness of these active shooter drills at reducing the risks of harm during such attacks is difficult to measure, and there is a question if these drills have a negative effect on students' feelings of safety within

schools (King & Bracy, 2019; Limber & Kowalski, 2020; Peterson et al., 2015). Among the early childhood population, the concern for feelings of safety is magnified because most of the models meet the developmental needs of middle-school and high-school students, not the needs of early childhood students (Jonson, 2017). Because of the increase in the requirements for all students to participate in active shooter drills and the gap in the knowledge on how to best support the early childhood population's needs, I conducted a study focusing on the needs of the early childhood population and their educators.

Problem Statement

Multiple studies have been conducted to review educators' perceptions of crisis events and active shooter drills. Perkins (2018) explored teachers' perceptions of school crisis preparedness and determined teachers from various grade levels had different ideas of school preparedness and student needs. Olinger Steeves et al. (2017) inquired about elementary-school teachers' perceptions of a crisis and found preparing for a crisis plan was a significant predictor of feelings toward crisis events. Olinger Steeves et al. (2017) also found multiple school crisis plans lacked many of the components recommended by the National Association of School Psychologists (NASP). NASP and the National Association of School Resource Officers (NASRO, 2017) have recommended early childhood educators use developmentally appropriate strategies to support students during active shooter drills. However, Perkins (2018) questioned teachers' comfort level and knowledge in this role and suggested further research in this area was needed.

The review of the literature indicated a gap in the research that explicitly focused on early childhood educators' perceptions of the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. Of the 68 studies or policies reviewed for this study's background, only 20 focused exclusively on the topic of active shooter drills. Most of the studies had a broader focus, exploring school crisis and emergency preparation issues. In additional studies, researchers questioned students' and educators' overall feelings about safety within schools and reviewed different schools' security measures.

The target populations for the areas of research also differ among the articles reviewed. The focus of many of these studies were multiple age groups, including elementary-school, middle-school, and high-school students (Chafouleas et al., 2019; Fisher et al., 2018; Jonson, 2017; Kingston et al., 2018; Leuschner et al., 2017; Schonfeld et al., 2020); King and Bracy (2019) focused on middle- and high-school students. Peterson et al. (2015) investigated the feelings of safety that college students have at school, and Madfis (2016) explored school safety and police officers' perceptions. Only Delaney (2017) and Dickson and Vargo (2017) narrowed their target population to early childhood students, and these researchers focused on the students' actions and not the educators' perceptions. Many researchers have reviewed the perceptions of other educational professionals, including administrators (Chrusciel et al., 2015; Ewton, 2014; Price et al., 2016), school counselors (Brown, 2019; Goodman-Scott & Eckhoff, 2020) school psychologists (Erbacher & Poland, 2019), and school nurses (McIntosh et al., 2019). An extensive search of multiple databases did not produce any studies where

researchers explored early childhood educators' perceptions of active shooter drills in early childhood settings. The problem is the limited research conducted that was specifically focused on the perceptions of early childhood educators on the current model of active shooter drills and these educators' perceptions of the developmental appropriateness of these drills when used with an early childhood population.

Purpose of the Study

A review of the literature indicated concerns about the developmental appropriateness of active shooter drills in early childhood classrooms (Blad, 2018; NASP, 2018; Schonfeld et al., 2017) and the level of support and preparation educators have in modifying these drills to meet the needs of early childhood students (Embry-Martin, 2017; Leser et al., 2019; Limber & Kowalski, 2020; NYSED, 2016; Olinger Steeves et al., 2017; Perkins, 2018; Rider, 2015; Stevens et al., 2019; U.S. Department of Education et al., 2013). Another concern was whether these drills are genuinely essential for students' safety or if they do more harm than good. Unfortunately, it is difficult to answer these questions because there is little research specific to active shooter drills and the early childhood population. The purpose of this qualitative case study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population.

Research Questions

RQ1: What are early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms?

RQ2: What are early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population?

Conceptual Framework for the Study

The purpose of this study was to explore early childhood educators' perceptions regarding the current model of active shooter drills and their perceptions of the developmental appropriateness of the current model of these drills when used with an early childhood population. For these reasons, I established a conceptual lens based on developmentally appropriate practice (DAP; Copple & Bredekamp, 2009) and the developmental theories of Piaget (1952) and Vygotsky (1978). DAP is a framework that allows early childhood educators to provide optimal learning and development for young children (Copple & Bredekamp, 2009). This framework is grounded in child development research and educational effectiveness (Copple & Bredekamp, 2009). DAP is used to ask educators to use intentionality when planning for children's learning and development (Copple & Bredekamp, 2009). Educators accomplish this by using their knowledge of typical child development, what they know about individual students' learning styles, and what they understand about their students' individual cultures (Copple & Bredekamp, 2009).

The design of the study also followed a conceptual lens based on the developmental theories of Piaget (1952) and Vygotsky (1978). According to Piaget (1952), children are egocentric during early childhood and have difficulty distinguishing between their perspective and others. Children also tend to only focus on one aspect of a

situation and have difficulty understanding that things can return to its original state
(Piaget, 1952). These understandings, coupled with an increase in magical thinking, make
it difficult for young children to differentiate between a perceived threat and an actual
threat (Blad, 2018). Vygotsky (1978) suggested learning happens through social
experiences with skillful mentors. As children have experiences, their level of
understanding is influenced by interacting with others, allowing them to gain more
knowledge (Vygotsky, 1978).

Based on the conceptual lens for this study, I chose a qualitative approach using
personal interviews to gain an understanding of early childhood educators on the current
model of active shooter drills and their perceptions of the developmental appropriateness
of these drills when used with an early childhood population. I discussed this conceptual
lens in more detail in Chapter 2.

Nature of the Study

A qualitative case study was in alignment with the conceptual framework. In this
study, I focused on gaining a greater understanding of early childhood educators'
perceptions of the current model of active shooter drills and their perceptions regarding
DAP. A qualitative case study using semistructured interviews of early childhood
educators and a document review was conducted to explore these topics. I used a case
study approach to investigate and make meaning of experiences and individual
perceptions of these experiences, evaluate programs, and develop interventions (Baxter &
Jack, 2008). According to Yin (2017), research with various data collection methods,
including interviews, focus group discussions, observations, and databases of records are

appropriate techniques to gain a greater understanding of a topic. Because this research study was focused specifically on the topic of active shooter drills in early childhood classrooms, I set boundaries that would be considered a bounded system (Barratt et al., 2011). Therefore, a case study research design using interviews and document review for data collection was appropriate.

This study's participants were early childhood educators that participated in active shooter drills in their classrooms. Data were collected through a document review and through personal semistructured interviews with participants. The estimated number of qualitative interviews needed to reach saturation for this study was between six and 12 early childhood educators with a specific goal of 12 interviews. A review of multiple studies determined that six to 12 interviews would produce an acceptable level of saturation for qualitative research (Guest et al., 2006; Namey et al., 2016).

Once the data were collected, they were analyzed and interpreted using a six-phase thematic analysis process. A six-phase thematic analysis process first requires a researcher to become familiar with the data and to generate initial codes (Braun & Clarke, 2006). The next step was to search for patterns or themes within the data, review how these themes relate to each other, and then define the themes (Braun & Clarke, 2006). The final step was to write the results, giving an accurate account of the actions taken in the analysis and a description of the determined themes (Braun & Clarke, 2006). A six-phase thematic analysis process is a flexible approach to data analysis that supports an explorative qualitative framework. Because the purpose of the study was to explore the perceptions of early childhood educators on the current model of active shooter drills

and their perceptions of the developmental appropriateness of these drills when used with an early childhood population, a six-phase thematic analysis process was an appropriate method for interpreting the data (Braun & Clarke, 2006).

Definitions

Active shooter: An individual actively engaged in killing or attempting to kill people in a populated area (Federal Bureau of Investigation, 2020).

Active shooter drill: A plan of action schools will execute when there is the potential threat of an armed assailant(s) committing violence in or around the school. Most plans are option-based drills, providing a range of alternative strategies that could be used depending on the situation. These drills may be announced or unannounced (NASP & NASRO, 2017).

ALICE: Specific response to active shooter, A = Alert, L = Lockdown, I = inform, C = Counter, E = Evacuate (ALICE Training Institute, 2013).

Developmentally appropriate practice (DAP): A framework grounded in research in child development and educational effectiveness that allows early childhood educators to provide optimal learning and development for young children (Copple & Bredekamp, 2009).

Duck and cover drill: A method of personal protection against the effects of a nuclear explosion (Beardslee, 1986).

Early childhood education: Any partial or full-day group program in a center, school, or home that serves children from birth through age 8, including children with

special developmental and learning needs (National Association for the Education of Young Children [NAEYC], 1993).

Emergency operations plan: A document that provides a description of the roles and responsibilities, tasks, integration, and actions required from organizations and individuals during an emergency. This document establishes the lines of authority and how people and property will be protected and identifies the resources available during an emergency that exceeds the capability of routine responsibility of any one agency (U.S. Federal Emergency Management Agency, 2010).

Evacuation drill: A plan of action schools will execute that requires all students and staff to leave the building (Musu et al., 2019).

Lockdown drill: A plan of action schools will execute in an attempt to secure school buildings when there is any immediate threat of violence in or around the school where occupants of a school building are directed to remain confined to a room or area within a building (U.S. Department of Education et al., 2013).

School shooting incident: Any time a gun is brandished or fired or a bullet hits school property for any reason, regardless of the number of victims, time of day, or day of the week (Riedman & O'Neill, 2019).

School resources officer (SRO): A career law enforcement officer with sworn authority deployed by an employing police department or agency in a community-oriented policing assignment to work in collaboration with one or more schools. (NASP & NASRO, 2017).

Shelter in place: A plan of action similar to a lockdown; however, shelter in place is designed to use a facility and its indoor atmosphere to temporarily separate people from a hazardous outdoor environment. Everyone would be brought indoors and building personnel would close all windows and doors and shut down the heating, ventilation, and air-conditioning system (Musu et al., 2019).

Visible security measures: Security measures that would be readily seen by students, including surveillance, identification badges for students, and the employment of security personnel (Musu et al., 2019).

Assumptions

In qualitative research, certain assumptions are made regarding the conditions in that the data are collected to yield valid results (Wargo, 2015). This study required early childhood educators to share information on their experience, attitudes, knowledge, and goals regarding active shooter drills. One assumption was the early childhood educators would have a basic understanding of the developmental needs of their students. It was also assumed all participants in this study would be truthful and give honest answers to the interview questions and be forthright in describing their perceptions of active shooter drills in their classrooms. Lastly, there was an assumption the participants in this study would have a sincere interest in participating in this research and were not motivated by outside factors (Wargo, 2015). These assumptions ensured the data would produce relevant and meaningful information to the study concerning the developmental needs of early childhood students during active shooter drills.

Scope and Delimitations

The purpose of this study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. The topic of this study was chosen to gain more information on early childhood educators' experiences, attitudes, knowledge, and goals regarding active shooter drills. Other aspects of school shootings were not explicitly addressed, including preventing school shootings and gun control issues. Because this study included DAP (Copple & Bredekamp, 2009) in its design, the conceptual framework only included cognitive-developmental theories that focus on the skills needed during active shooter drills. These include Piaget's theory of cognitive development (1952) and Vygotsky's theory of cognitive development (1978). Other historical developmental theories that were not specific to cognitive development were not included in this study.

Participants in this study were delimited to early childhood educators teaching kindergarten through third grade in a northeast state in the United States that have experienced at least one active shooter drill in their classroom. Also, participants needed to be familiar with the school's or district's emergency management plan for active shooter drills. These delimitations were determined by the potential site selection and the definition of early childhood education. Early childhood education is defined as educational services for children from birth through age 8, which is traditionally viewed until third grade (NAEYC, 1993). Because the research site services students from kindergarten to 12th grade, this limited the scope of this study to educators in

kindergarten, first, second, and third grade. Because the focus of the study included the educators' experiences in the classroom setting, another delimitation was the exclusion of other school personnel, including classroom aides, paraprofessionals, or any other professional in the classroom who was not a classroom teacher.

The decision to only include one school district was influenced by the research design and data collection methods. Because a document review of the school district's materials regarding active shooter drills was a proposed method for data collection, the site was initially delimited to one school district for information continuity. Ultimately, continued difficulties recruiting an adequate number of participants from the one district determined a need to expand the setting to include all early childhood educators within the designated state. This revision was approved by the Institutional Review Board (IRB) and was discussed in more detail in Chapter 4. The delimitations of participant and site selection potentially limited the transferability of the findings. One way this was addressed was through the inclusion of policies and procedures at the federal and state level in the document review in addition to the documents specific to each research site. The inclusion of these documents increased the transferability of the results to additional school districts that also follow the same federal or state guidelines.

Limitations

As with any research study, there were limitations related to the design and methodology. The use of purposeful sampling in determining participants created a limitation because the findings only represent the perceptions of the participants who met the criteria for the study. Initially limiting this study to only one school district also

created a limitation because the participants would have come from a small geographic area, resulting in a small representation of schools in a limited area. The school district originally selected for this study has a little over 3,000 students between seven schools (New York State Education at a Glance, 2020). As previous stated, recruiting difficulties created a need to expand the setting to include all early childhood educators within the designated state. This change did alter the limitations, which was discussed in more detail in Chapter 4.

Another limitation of this study was the participants were estimated to be educators of children from kindergarten through third grade. The definition of an early childhood educator is someone who teaches children from birth to 8 years of age (NAEYC, 1993). Because this study was not designed to address the younger early childhood population, there is a question of the transferability of the results of this study to educators teaching children younger than 3 years.

When designing a research study, it is important to be aware of the potential for logical fallacies. Logical fallacies happen when statements are made without the facts or research to support the conclusion. These reasoning errors are usually done unintentionally and could occur for different reasons (Walden Writing Center, n.d.). A review of the current literature on the topic of active shooter drills in an early childhood classroom determined this study could be at risk for both hasty and sweeping generalization. Hasty generalization happens when a conclusion is made on limited or inadequate data (Walden Writing Center, n.d.). In the review of the current research, multiple articles stated the emotional effects these drills have on young children and

questioned if the action is worth the risk. The concern with this conclusion is these articles do not back this finding with research specific to this topic. For example, one article referenced work done over 30 years ago, which looked at the emotional impact of duck and cover drills during the cold war era (Beardslee, 1986; Woesner, 2018). With sweeping generalizations, there is an assumption the determined conclusion encompasses all populations and contexts of the situation (Walden Writing Center, n.d.). Because there have been multiple studies conducted focused on high-school and college-age populations, it would be easy to assume the same findings would also apply to an elementary-population. A generalization of these findings without the research to support it would be a possible fallacy.

The choice in methodology also created a potential limitation to this study. A descriptive case study approach required the use of interviews to collect the data. The strength of data was dependent on both the interviewer and the interviewee. A potential limitation was the participants' level of information and how truthfully and accurately they were able to express their perspective. This limitation was addressed by asking participants to be as honest as possible and reassuring them their responses would be confidential. The quality of the information collected was also dependent on the skills and abilities of the interviewer in creating a rapport with participants (Patton, 2015). I addressed this limitation by working to be nonjudgmental, authentic, and trustworthy during the interviews.

With qualitative research, a researcher is viewed as an integral part of the design and needs to reflect on how their own experiences may influence the research process

(Ravitch & Carl, 2016). I reviewed my personal experiences and determined two biases that could have influenced this study. I am a certified child life specialist, a professional focused on reducing anxiety often associated with stressful situations and developing appropriate coping techniques to promote a positive experience (Association of Child Life Professionals [ACLP], 2016). I have studied and used strategies such as play, carefully selected language, and the assessment of a family's strengths to develop coping skills to support children and families through difficult situations. One of the focuses of this study was to explore the strategies early childhood educators use in the classroom, and the experiences I have with using specific strategies could have created a potential bias toward one method over another. When designing the interview questions, I carefully considered how I asked questions and reviewed the language to not impose any personal opinions or judgments on the data. I also needed to be cautious not to impose any assumptions onto the study participants and to pay careful attention to the kinds of information and knowledge I gravitated toward. I also needed to allow new concepts and ideas to be heard and not focus only on approaches I have personally used (Ravitch & Carl, 2016).

The other area for a potential bias relates to my own personal experience with an active shooter situation. I was in an active shooter event when I was a teacher supervising 25 college-age students in a classroom on a college campus. The threat and emotions evoked from the event were real, even though the situation ended without incidence and violence. This experience and the emotions it created also had the potential to influence my ability to objectively interview educators about their role in an active shooter drill.

Again, careful observation of my abilities to objectively record the data was essential, allowing participants to clearly explain their situation without imposing the emotions formed from past experiences into their answers (Ravitch & Carl, 2016).

Significance

A review of the limited literature on active shooter drills in early childhood classrooms created a concern for the way these drills are presented and practiced among this population of children (Olinger Steeves et al., 2017; Perkins, 2018; Rygg, 2015). The purpose of this qualitative study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. Exploring these issues could bring about a significant level of social change by potentially changing the approach used to protect all students from the threat of gun violence in schools. The findings from this research could add to the understanding of the current model of active shooter drills in early childhood classrooms, possibly altering the way active shooter drills are introduced in these classrooms to include developmentally appropriate techniques that may increase compliance and decrease anxiety. The potential reach of these findings could be significant, especially if the findings influence school districts, government agencies, and other organizations to rethink the existing model of active shooter drills, demand more studies on this topic, and then use this empirical research to develop policies that best support DAP with early childhood students.

According to *Walden 2020: A Vision for Social Change* (2017), promoting social change is at the foundation of Walden University's mission. Walden University (2017)

defined positive social change as "a deliberate process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals, communities, organizations, institutions, cultures, and societies" (para 1). Walden encourages students to establish their own definition of social change through the process of exploring their passion and determining a way to make a positive impact on a population or situation they are passionate about. My passion is to assist children through difficult situations with education and support, and I believe this study helped create positive social change for early childhood students and educators.

Summary

Active shooter drills are now a part of early childhood classrooms. While these drills are important, there is a real concern about how the drills are presented and practiced in early childhood classrooms. In this study, I explored the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. The findings from this study now add to the understanding of this relatively new aspect of early childhood education. This understanding could alter the way this concept is introduced in these classrooms, encouraging educators to present them in a developmentally appropriate way to increase compliance and decrease anxiety. The potential reach of these findings could be great, especially if these findings influence the current training models used for active shooter drills.

In this chapter, I offered a summary of some of the literature related to the topic of active shooter drills and the problem, purpose, and research questions that were

addressed in this study. I also presented definitions of key terms, assumptions, scope and

delimitations, and limitations in Chapter 1. In Chapter 2, I provided a more in-depth

review of the current literature, establishing a connection between past research and this

study. The conceptual framework was explained in greater detail and the research

regarding the design of active shooter drills models was reviewed. I also included the

perceptions of key stakeholders and the psychological impact of active shooter drills

through a review of the current literature in the next chapter.

Chapter 2: Literature Review

The problem addressed in this study is a gap in the research for studies that specifically focus on the perspectives of early childhood educators on the current model of active shooter drills and their perspectives on the developmental appropriateness of these drills when used with an early childhood population. The purpose of this qualitative case study was to explore the perspectives of early childhood educators on the current model of active shooter drills and their perspectives on the developmental appropriateness of these drills when used with an early childhood population. In this chapter, I explained the strategies used to review the literature, established a conceptual framework based on the developmental theories of Piaget (1952), Vygotsky (1978), and DAP (Copple & Bredekamp, 2009), and reviewed the history and development of active shooter drills in the United States. Next, I addressed the literature regarding recommendations and strategies for supporting students, the perceptions of different stakeholders regarding active shooter drills and school safety, and the research on the psychological impact of participating in active shooter drills.

My review of the literature established an increase in active shooter drills in schools (Curran et al., 2020; Kupchick et al., 2015; Tanner-Smith et al., 2018) and that educators have little confidence in their abilities during active shooter drills (Brown, 2019; Leser et al., 2019; Price et al., 2016; Rider, 2015; Ugalde et al., 2018). In this chapter, I also highlighted concerns these drills were emotionally difficult for students, and the needs of the children participating in the drills should be considered when designing the drills (Clarke et al., 2014; Erbacher & Poland, 2019; NASP & NASRO,

2017; Schonfeld & Demaria, 2020). Finally, in this chapter, I established there were limited suggestions on how to address the developmental needs of the early childhood population during active shooter drills and a need for more research (Leser et al., 2019; Perkins, 2018; Rider, 2015).

Literature Search Strategy

To establish an understanding of what is known regarding active shooter drills in early childhood classes rooms, I conducted an extensive search for recent literature using various strategies. These literature search strategies included searches of databases for empirical articles found in peer-reviewed scholarly journals. The most frequently used databases were ones focused on education and included ERIC, EBSCO, ProQuest Education Journals, Google Scholar, and SAGE. Due to the relative newness of this topic and the different populations involved, I used additional databases such as ProQuest Psychology Journals, PubMed, CINAHL Complete, and ProQuest Social Science. The key words I used to search these databases included *active shooter drill, early childhood classroom, lockdown drills, school shootings, elementary-school,* and *response training.* I limited the range of my search to those articles published within the past 5 years.

In addition to searching databases, I also searched government documents including federal and state polices. Unfortunately, many of these documents were older than 5 years, but because they were most recent versions and the policies were currently being implemented, these documents were included as reference materials. Due to the limited number of peer-reviewed articles found that specifically addressed the early childhood population, I also searched for dissertations using the same keywords. This

search produced a limited number of dissertations that addressed active shooter drills with the early childhood population. These dissertations and some peer-reviewed articles published more than 5 years ago were also included in the literature review because they provided important contributions to the topic.

Conceptual Framework

The focus of this study was to explore early childhood educators' perceptions regarding the current model of active shooter drills and their perceptions of the developmental appropriateness of the current model of these drills when used with an early childhood population. For these reasons, I established a conceptual lens based on developmental theories of Piaget's (1952) theory of cognitive development, Vygotsky's (1978) theory of cognitive development, and DAP (Copple & Bredekamp, 2009).

Piaget's Theory of Cognitive Development

The foundation of Piaget's theory of cognitive development is that children develop their own understanding of the world through their interactions with individuals and the environment (Piaget, 1952). As children engage with other people and objects, they build mental structures that enable them to assimilate and adapt their thinking (Kazi & Galanaki, 2019; Piaget, 1952). As children gain new experiences, a cognitive conflict or disequilibrium in understanding occurs. Piaget (1952) believed children work to resolve this conflict through assimilation and accommodation to reestablish equilibrium, ultimately resulting in a cognitive change. Piaget divided this theory into four separate stages, each building on past understanding, that allows for a shift from one stage of

thought to another. These stages are sensorimotor, preoperational, concrete operational, and formal operations (Santrock, 2014).

Sensorimotor Stage (Birth–2 Years)

According to Piaget (1952), during the sensorimotor stage, reflexive behaviors allow infants to use their senses to understand the world, that progress to deliberate motions as the infant develops schemes. Eventually, infants combine previously learned schemes to create a new outcome (Piaget, 1952). As children near the end of this stage, they develop the ability to use primitive symbols indicating expanded cognitive understanding because they can understand and manipulate concrete events without perceiving (Sevinç, 2019). Children in early childhood classrooms typically demonstrate various levels of cognitive understanding, and even though focused on ages 4 to 8 years, some children may still be in the sensorimotor stage of cognitive understanding.

Preoperational Stage (2–7 Years)

The next stage in Piaget's theory is the preoperational stage, that typically occurs between ages 2 and 7 years. During this stage, children do not have the cognitive ability to perform internal mental actions, and they comprehend best through physical actions (Xu, 2019). This stage is divided into two substages, symbolic function (ages 2–4) and intuitive thought (ages 4–7). During the symbolic function substage, children's understanding of symbolic thinking advances as children are able to mentally represent an object that is not physically present (Xu, 2019). For example, a child may pretend that a blanket draped over a table is a cave. During this stage, children are typically egocentric and have a difficult time understanding things from a perspective that is not their own. In

addition, children believe that inanimate objects are capable of human actions and emotions (Walczak, 2019).

As children advance into the second substage of preoperational thought, they start to gain the ability to reason. Although their ability to use rational thinking is primitive, children start to question the world around them and often determine their own explanation of what they observe (Ravanis & Bagakis, 1998; Santrock, 2014). Unfortunately, their limited understanding of the world often determines inaccurate conclusions (Piaget, 1952).

Concrete Operational Stage (7–11 Years)

During the third stage of Piaget's (1952) theory of cognitive development, children acquire the ability to reason logically in concrete situations. Children can also coordinate beyond one characteristic, gaining the ability to classify things and consider relationships.

Formal Operational Stage (11–15 Years)

Piaget's (1952) last stage of cognitive development is the formal operational stage. During this stage, children gain the ability to think in abstract terms and become less dependent on concrete experiences (Piaget, 1952). At the same time, there is a change in how children solve problems. At this stage, children approach problems using a more logical, scientific approach and less of a trial-and-error method (Sevinç, 2019).

Piaget and Early Childhood Education

Piaget believed a child's cognitive understanding needed to be reflected in early childhood education's pedagogies and environments (Elkind, 1976). In response, Piaget

believed early childhood classrooms should be active, providing opportunities for children to discover, explore, and reflect on their observations (Elkind, 1976; Santrock, 2014). The early childhood educator's role should be more of a facilitator and use a less directive approach to provide guidance and encouragement to help students gain a better understanding (Elkind, 1976). Early childhood educators should provide a level of flexibility to the learning environment and consider each child's knowledge and level of thinking before responding in a way that is appropriate for the child's cognitive abilities (Elkind, 1976).

Vygotsky's Theory of Cognitive Development

Vygotsky also developed a theory of how children develop ways of thinking and understanding. Whereas Piaget believed a child's cognitive abilities expanded as they explore and discover the physical world, Vygotsky believed social interaction was a key factor in learning (Mahn & John-Steiner, 2013).

Zone of Proximal Development and Scaffolding

One key element in Vygotsky's theory is the zone of proximal development (ZPD) or the range of tasks a child can achieve independently to what they could accomplish with assistance (Vygotsky, 1978). The idea children can learn through interacting with more experienced individuals leads to a change in the level of necessary support or scaffolding (Vygotsky, 1978). When first learning a skill, the more experienced person provides support or direct instruction. As a child's existing mental structure alters and the child gains more understanding, less guidance is necessary, and

the child can do more independently. At this point, the ZPD would alter and the child's level of cognitive understanding would increase (Vygotsky, 1978).

Vygotsky and Early Childhood Education

Vygotsky (1978) believed early childhood education should be structured to provide opportunities to use ZPD in teaching (Mahn & John-Steiner, 2013). Some ways to encourage the use of ZPD would be to encourage group activities, observe and offer appropriate assistance and encouragement, and provide instruction in a meaningful context (Mahn & John-Steiner, 2013).

Developmentally Appropriate Practice

The two main concepts of DAP are meeting children where they are developmentally and helping each child achieve challenging yet attainable goals (Copple & Bredekamp, 2009). This approach is based on knowing and understanding how children develop and using that information to make appropriate decisions regarding early childhood curriculums (Kostelnik, 2019). The aim is to provide a developmentally appropriate curriculum for the target age group, but the aim could also be altered to address individual needs with a socially and culturally sensitive approach (Kostelnik, 2019). The DAP approach was developed in response to push down curriculum policies put into place to improve educational outcomes. Programs such as the No Child Left Behind Act (2001) and Every Student Succeeds Act (2015) created pressure for early childhood educators to introduce early childhood students to skills that had been considered too advanced in the past (Kostelnik, 2019). In response to these actions, the NAEYC released a position statement and a book supporting DAP in early childhood

classrooms (Bredekamp, 1987). The developmental principles important to a DAP

curriculum include an understanding that children develop holistically and that their

development follows an orderly sequence (Kostelnik, 2019). At the same time, a DAP

curriculum recognizes individual children develop at various rates (Kostelnik, 2019).

Another guiding principle of DAP is the idea that children learn best when they

feel safe and secure, which includes emotional and physical security. Teachers are

encouraged to develop nurturing relationships with children and establish a specific adult

from whom they can seek help, comfort, guidance, and assurance. In addition, teachers

are encouraged to establish predictable daily routines, explaining in advance when plans

are altered so children could anticipate what will happen (Kostelnik, 2019).

Early childhood educators who are educated in the fundamental knowledge of

cognitive development and are given opportunities to observe and practice

developmentally appropriate pedagogical strategies are more comfortable using a DAP

approach in the classroom (Beers, 2019). It has also been suggested a teacher's beliefs

about the DAP principles have more influence on the success of the approach than the

teacher's knowledge (Cobanoglu et al., 2019). Providing hands-on clinical opportunities

allows educators to practice these techniques, to reflect on these beliefs, and alter

educators' attitudes toward DAP (Cobanoglu et al., 2019).

Piaget and Vygotsky's Influence on DAP

Because a DAP curriculum is based on an accurate understanding of children's

cognitive abilities, this idea was formed from many early philosophers and

developmental psychologists who added to the body of knowledge regarding child

development including, Piaget and Vygotsky (Kostelnik, 2019). Some of the DAP

principles based on Piaget's theory of cognitive development are establishing an active,

physical learning environment that encourages self-exploration, and an emphasis on child

directed learning (Fowler, 2017; Sharkins et al., 2017). Vygotsky's influences can be

seen in the DAP principle that children are motivated to learn when challenged with

concepts and skills slightly beyond their current abilities (Sharkins et al., 2017). The DAP

curriculum also encourages Vygotsky's ZPD by encouraging social interactions and

asking educators to establish a balance between child-initiated learning and teacher-

directed activities in order to provide scaffolding for future learning (Kostelnik, 2019).

Last, both Piaget and Vygotsky's ideas are evident in the DAP principle that play is the

primary means for children to explore, learn, develop new skills, and process information

(Kostelnik, 2019).

DAP has been used as an effective technique for teaching social studies education

to early childhood students. Kemple (2017) examined the appropriateness of using a DAP

to allow children explore and make sense of the social world, social and emotional

understanding, and valuing differences and diversity. Kemple suggested following a

developmentally appropriate curriculum, that includes recognizing the students'

egocentricity level, planning for concrete learning experiences, and supporting the

progression of symbolic representation. Early childhood students in a developmentally

appropriate curriculum can also grasp abstract concepts such as civic engagement and

concern for the rights and welfare of others (Kemple, 2017). Kemple's research supports

the conceptual approach that DAP is an effective strategy to help children understand abstract concepts related to active shooter drills.

Use of Conceptual Lens Within the Study

The purpose of this study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. To understand what is considered developmentally appropriate, it is necessary to understand the developmental level for early childhood students clearly. For this reason, I used the cognitive theories of Piaget (1952) and Vygotsky (1978) to establish a baseline expectation of the students' expected cognitive abilities. In addition, an understanding of the DAP connects these developmental theories to educational approaches used in early childhood classrooms. A review of Piaget's and Vygotsky's cognitive theories demonstrates a clear connection to the concepts of DAP. Both cognitive theories support early childhood educators' role as observers and planners of hands-on, active learning that provides opportunities for each child to achieve challenging yet attainable goals.

Looking at the population for this study, most of the participants were teaching children who are in the preoperational stage of Piaget's (1952) cognitive learning theory. During this stage, children are egocentric, are just starting to understand symbolic thought, and just starting to gain the ability to reason. Active shooter drills require a level of pretending and understanding of symbolic thought. Because these are skills still developing for this age group, children can often misunderstand or establish inaccurate

conclusions for actions resulting in confusion regarding the reasoning for active shooter

drills (Piaget, 1952). Although abstract concepts could be difficult for early childhood

students to understand, Kemple (2017) established a DAP could be an effective technique

for teaching abstract concepts such as civic engagement and concern for the rights and

welfare of others.

I used the theories of Piaget's (1952) theory of cognitive development,

Vygotsky's (1978) theory of cognitive development, and DAP (Copple & Bredekamp,

2009) to develop both the research and interview questions. The interview questions

focused on the educators' perceptions about the current model for active shooter drills

used in their classrooms and the response of their students. Because many of the drills

were originally designed for older students, these questions helped me to explore the

techniques suggested by the models and if or how the teachers may modify them to meet

the developmental needs of their students (ALICE Training Institute, 2013; U.S.

Department of Education, Office of Safe and Drug-Free Schools, 2007).

Literature Review

History and Development of Active Shooter Drills in the United States

Unfortunately, school shootings are not a new phenomenon. The earliest recorded

incident happened in 1764 in Pennsylvania (Hand, 2018). After that time, there have been

multiple incidents of school shootings. According to Riedman and O'Neill (2019, p. 1),

there have been more than 1,360 school shooting incidents in the United States between

1970 to the present, with 170 of these being active shooter incidents. What has changed is

the level and type of response to these events. Although not a new issue, the response to

these events drastically changed after the Columbine High School shooting in 1999 (King & Bracy, 2019). The shootings at Columbine and the mass media coverage that followed the incident gave rise to the creation of policies at the national, state, and local levels aimed to create a safer school environment. When examining current models for active shooter drills, it is important to understand the historical and cultural influences that influenced these policies. In this study, I explored the national recommendations made by the U.S. Department of Education, the laws and policies for the State of New York, and suggested best practice approaches. The information gained from these reviews established an understanding of the current model of active shooter drills in early childhood classrooms. This information was relevant to this study to explore early childhood educators' perceptions on the current model of these drills and how developmentally appropriate the drills are for the students they work with.

U.S. Department of Education

One of the first organizations to respond to the perceived threat of school shootings was the U.S. Department of Education, Office of Safe and Drug-Free Schools. In 2003, the U.S. Department of Education, Office of Safe and Drug-Free Schools, first published the *Practical Information on Crisis Planning: A Guide for Schools and Communities*. This was the first guideline developed by the U.S. Department of Education, Office of Safe and Drug-Free Schools (2007) and was designed to inform schools on the components of effective crisis planning and help the development of crisis plans. Although the historical guideline does reference school shootings, there is no mention of active shooter events (U.S. Department of Education, Office of Safe and

Drug-Free Schools, 2007). The recommended response for an interior threat where movement within the school would put students in danger was a lockdown (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2007).

The authors of this document acknowledged that at the time of publication, there was little hard evidence to quantify best practice (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2007). This guideline was developed with input from a multidisciplinary panel including representatives from emergency medical services, school safety specialists, psychological services, and law protection agencies (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2007). The 2003 edition of this guide was revised in 2007, but the term *active shooter* was still not included in the language or planning (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2007).

The U.S. Department of Education, Office of Safe and Drug-Free Schools (2007) document, *Practical Information on Crisis Planning: A Guide for Schools and Communities*, was replaced with the *Guide for Developing High-quality School Emergency Operations Plans (K–12)* in 2013. This guide was written in collaboration with the U.S. Department of Health and Human Services, the U.S. Department of Homeland Security, the U.S. Department of Justice, the Federal Bureau of Investigation, and the Federal Emergency Management Agency (U.S. Department of Education et al., 2013). The purpose of this document was to provide guidance to schools in the development of their emergency operations plan (EOP; U.S. Department of Education et al., 2013). The document was divided into four sections, with the first three sections

addressing the principles, process, and content of schools' EOP. The last section closely examined key topics including, active shooter incidents.

Looking specifically at the section addressing active shooter situations, the U.S. Department of Education et al. (2013) recognized responding to an active shooter is different from responding to a natural disaster or other kinds of crisis situations. Planning and conducting drills were noted to be essential components of a school's EOP (U.S. Department of Education et al., 2013). The U.S. Department of Education et al. did address active shooter situations and the unique challenges involved in preparing for, responding to, and recovering from a school shooting event. Due to the unpredictability of an active shooter event, the U.S. Department of Education et al. recommended all individuals be trained on how to respond to an active shooter before law enforcement arrives. The recommended response was based on the ALICE response module of Run, Hide, Fight (ALICE Training Institute, 2013). If it is safe to run, this is the recommended first course of action, with hiding being the next option (U.S. Department of Education et al., 2013). As a last resort, staff and students were asked to disrupt or incapacitate the shooter by throwing objects like chairs or fire extinguishers (U.S. Department of Education et al., 2013).

The U.S. Department of Education et al. (2013) also acknowledged this is a sensitive topic, and these drills may induce fear, anxiety, and helplessness. One area addressed concerns that may occur after an incident is over included the process for reunification with family and how to communicate with family members of children who were missing, injured, or killed (U.S. Department of Education et al., 2013). There was

only one mention of when to use age appropriate materials, and that was with regard to providing resources for the families after an incident (U.S. Department of Education et al., 2013). The U.S. Department of Education et al. states this document was intended to be a guideline, providing examples of good practices and matters to consider for planning and implementation purposes. The recommendations made in this guideline do not supersede any applicable laws and regulations established by state or local government (U.S. Department of Education et al., 2013).

Although the U.S. Department of Education et al. (2013) revision does include language specific to active shooter drills, little was said about supporting the emotional and psychological needs of the students and almost no information on different developmental levels. The suggestions presented by the U.S. Department of Education et al. were intended to be used by all grades from kindergarten to 12th grade with little variation regardless of cognitive or emotional levels and were not supported with research. In addition, this resource was last reviewed in 2013 and more than 5 years old. It is considered outdated, but it is still being used as a guideline for schools to design and develop active shooter action plans.

New York State

In New York State, each school district is required by law to have an emergency response plan and a school safety team (NYSED [NYSED], 2016). The district-wide school safety team shall include representatives of the school board, teacher organizations, administrators, parent organizations, school safety personnel, and students (NYSED, 2016). A building-level emergency response team includes the same members

but adds local law enforcement, community members, and other emergency response

agencies (NYSED, 2016). These plans must be designed using the *Building-Level*

Emergency Response Plan Template adopted by the New York State School Safety

Improvement Team (New York State School Boards Association, 2015).

In an effort to standardize the language, procedures, and improve building-level

safety plans for all New York State schools, the Safe Schools NY Improvement Team

designed a template for schools to use when designing their emergency response plan

(Bakst, 2015). This template, known as the SHELL model, was a collaboration of the

State Education Department, the State Police, the Division of Homeland Security

Emergency Services, and the Department of Criminal Justice Services. Using a model

from the Federal Emergency Management Agency (FEMA, 2010), New York State

determined all emergency plans were required to have five emergency responses. The

first one was for students and staff to shelter in place inside a building. The second

response was for the staff and students to hold in place by limiting the movement inside

the building. The third response was the evacuation of the building. The last two

responses were a lockout when there was an imminent concern outside of the school and

a lockdown. A lockdown was used to secure the building and grounds when there was an

imminent threat in or around the school (New York State School Boards Association,

2015).

Absent from the language used in New York State is the term *active shooter* but

there is a proposed bill to add this language to required emergency response plans. The

proposed New York State Senate Bill S6272A would require all school emergency

response drills specifically designed for an active shooter or other lethal attacks (Felder, 2018). A minimum of two active shooter drills would be required for classrooms in all schools including elementary schools (Felder, 2018).

ALERRT

The Advanced Law Enforcement Rapid Response Training (ALERRT) is the national standard in active shooting training and was developed by the Federal Bureau of Investigation (Martaindale et al., 2019). There are many components of the ALERRT system, including a unified response plan for law enforcement officers, medical professionals, and civilians (Martaindale et al., 2019). In an active shooter situation, it is common to have multiple law enforcement agencies and medical professionals from different regions respond. The ALERRT training was designed to provide consistent training to all, allowing all the respondents to provide a holistic response, promote the responders' safety, and minimize casualties (Martaindale et al., 2019).

The ALERRT module also includes a civilian response program known as Avoid, Deny, Defend. Civilians are taught first to try to avoid the shooter and, if necessary, deny them access by locking or barricading doors. If these methods are not successful, then the civilians should be prepared to defend themselves by doing what is necessary to fight off the attacker. In a school setting, a civilian could be any person on the school property, including staff, parents, and students. This option-based approach is viewed as more effective than a traditional lockdown approach where individuals find cover in a classroom and lock the door (Jonson et al., 2018).

To summarize, the development, design, and changing trends of active shooter drills in the United States were a series of recommendations with little evidence-based support. The U.S. Department of Education, Office of Safe and Drug-Free Schools (2007) first response to school shootings did not specifically address active shooter events and was published with little evidence on what is best practice. The second published guideline from the U.S. government did include suggestions for developing active shooter drills but included little information about supporting the emotional and psychological needs of the students and almost no information on supporting children with different developmental needs (U.S. Department of Education et al., 2013) Looking specifically at the NYSED (2016), the current model requires all emergency plans to only include a lockdown procedure and does not set standards for active shooter drills despite proposed legislation requiring all schools to address active shooter drills in the near future (Felder, 2018).

School Security and Active Shooter Drills

Multiple researchers have explored various aspects of active shooter drills including, how the focus and design have changed over the years. Many of these researchers have taken a historical approach, examining past data to establish past and current trends. Other researchers have investigated one particular aspect or concern. After synthesizing the findings from these studies, I suggested reasons for these changes, evaluated the effectiveness of current approaches to school safety and suggested recommendations for future research.

Rygg (2015) reviewed the historical development of current school and government policies, citing a lack of consistency in the model of these drills and questioned at what point does preparedness cause more trauma than security. Rygg also questioned if current state legislation was too vague and gave too much leeway on how individual school districts designed active shooter drills. Some school districts were using unannounced, heighted stimulations that could create anxiety and stress for the students (Rygg, 2015). Rygg suggested more research to determine if active shooter drills provided the best preparation for students and school staff. Rygg also recommended research on other approaches including, providing presentations, orientation activities, and workshops to students about active shooter drills, meeting with first responders, and supporting them through announced drills.

Kupchick et al. (2015) also reviewed school security trends after the shooting at Sandy Hook Elementary School in 2012. Unfortunately, school districts' general response was to push for more guns in schools, more SROs, and more security measures (Porter, 2015). Kupchick et al. suggested an approach that includes additional mental health professionals, school counseling, and programs to improve the school climate was a more productive approach to reducing the threat of gun violence in schools. Again, this is an older study, but Kupchick et al. added to the understanding of how school security has changed over the years in relation to high profile school shootings.

Madfis (2016) focused on the perceptions school officers and police officers had about the violence and security at public schools. In this qualitative study, Madfis examined the reasoning schools had for the addition of safety measures and determined

they were primarily put into place as a response to a moral panic from highly publicized,
but extremely rare, school shootings events (Madfis, 2016). Madfis suggested many of
the safety measures schools put into place with the perceived goal of protecting the
physical safety of the students were found to be ineffective in creating a safe environment
and doing more harm than good.

Tanner-Smith and Fisher (2016) examined the connections between visual
security measures in middle- and high-school and the students' academic performance,
attendance, and postsecondary educational aspirations. Visual school safety measures
were defined as security personnel, security cameras, and metal detectors (Tanner-Smith
& Fisher, 2016). Tanner-Smith and Fisher's research indicated that visual security
measures had no beneficial effect on adolescents' academic performance and future
educational plans but had detrimental effects on these areas and student attendance.

Jonson conducted an empirical review of research regarding standard security
measures schools added in response to school shootings in 2017. These security measures
include visible security measures including school-based law enforcement, security
cameras, and metal detectors (Jonson, 2017). Jonson determined educational leaders have
expressed concern for the impact visible safety measures have on the school's culture,
whether visual school safety measures had an effect on reducing student exposure to
violence in the school, and that these measures increase negative actions.

Visual security measures and whether they affect students' exposure to violence
were also explored by Tanner-Smith et al. in 2018. Tanner-Smith et al. found no evidence
that visual security measures were associated with reducing middle- and high-school

students' exposure to violence. It was determined the presence of multiple visual security measures were associated with increased exposure to crime and violence at school (Tanner-Smith et al., 2018). Because these protective measures did not appear to reduce exposure to violence, Tanner-Smith et al. suggested policymakers seek alternative methods including, interventions and policies that foster trusting relationships with students and the adults in the school.

Abbinante (2017) used a qualitative approach to examine the attitudes and decision-making process used in school districts when approving the inclusion of options-based responses to active shooters. While this is an unpublished dissertation, it was included in the literature review for this study because Abbinante presented information not addressed in any peer-reviewed study. The participants for this study were superintendents and teachers whom Abbinante interviewed to gain their perspective on how the schools emergency plan was implemented. Abbinante also reviewed the federal regulations and state laws having to do with active shooter policies and gathered data on options-based response plans. Abbinante suggested when law enforcement and school personnel worked together to create policy and implement training related to options-based response, it resulted in enhanced situation awareness and increased empowerment for the students and teachers.

To better understand variables of school shooters, including behaviors, family factors, and triggering events, Lenhardt et al. (2018) reviewed 18 past school shooting events to determine what resources and solutions best address these factors. Lenhardt et al. suggested most events were pre-planned and were a result of "a culmination of long-

standing identifiable problems, confits, disputes, and a persuasive sense of failure" (p. 16). Based on this study's findings, the authors made recommendations for school districts to provide enhanced mental health services, include threat assessment services, and promote family engagement for students exhibiting at-risk behavior (Lenhardt et al., 2018).

Kingston et al. (2018) used a qualitative approach to explore challenges schools and communities had with articulating, synthesizing, and implementing school safety plans. Kingston et al. found when there was a variation in the leadership and administrative support, the school safety model was not compatible with the school's needs, which made it difficult for the staff to implement. It was suggested a school's readiness was influenced in part by the motivation and capacity of the participants, and a comprehensive approach to addressing the motivations and barriers could lead to improvements in readiness toward school safety (Kingston et al., 2018).

Dagenhard et al. (2019) also summarized past mass school shooter events with document reviews of governors' reports, police reports, and court documents to understand the commonalities among active shooter events in the United States. They determined that over the years, police response time and apprehension of the shooter has become faster, that teachers and school staff have taken a more active role in stopping shooters, and the government has recommended regular review and practice of emergency drills (Dagenhard et al., 2019). In addition, some commonalities determined regarding the shooter included bullying, prior communication regarding planning the shooting event, and access to guns (Dagenhard et al., 2019). The authors recommended

for the routine practice of active shooter drills and emergency personnel to be incorporated into the school's action plan (Dagenhard et al., 2019). Dagenhard et al. recommended further research on the impact of different types of training and the benefits of providing more mental health services to students.

Price and Khubchandani (2019) conducted a comprehensive literature review of all research regarding school firearm prevention programs from 2000 to 2018. The strategies were reviewed in this study included preventing youth access to firearms, preventing students from bringing firearms to school, and tertiary prevention techniques, like active shooter drills, used by schools to reduce the trauma of a school shooter event. After reviewing 89 journal articles, Price and Khubchandani failed to find any evidence that programs or practices reduced firearm violence. The researchers determined schools' safety measures provided a false sense of security and more research was needed to explore other techniques to reduce gun violence in schools.

Stevens et al. (2019) investigated multiple areas of concern regarding school shootings in education and helped establish an understanding of how active shooter drills look in classrooms. Their analysis of data collected from educators regarding active shooter drills determined three themes of options-based actions. These themes were sheltering in place, incorporating simulation into the drills, and taking action to defend. Sheltering in place was described as locking the door, turning off lights, closing blinds, keeping children quiet, and hiding in corners and under desks. Taking action to defend included arming children with books, readying teachers with pepper spray and scissors, and mentally preparing to protect students at all costs. The simulation included various

actions used to simulate an active shooter's actions, including jiggling doors or students screaming outside of the doors requesting safety (Stevens et al., 2019). It was also determined the educators' descriptions went beyond the recommendations established by the NASP and NASRO (2017) guidelines (Stevens et al., 2019).

Another empirical review of the different strategies schools enacted to prevent school shootings after the 1999 mass shooting at Columbine High School was conducted by King and Bracy (2019). These approaches were categorized into visual security measures, emergency preparedness, and restorative practices (King & Bracy, 2019). King and Bracy defined visual security measures as school-based law enforcement, surveillance, locked buildings, and a visitor ID system. It is interesting to note there has been a decreased use of metal detectors in schools over the years, with 7.2% of public schools using them in the 1999–2000 school year to only 4.5% in the 2015–2016 school year (Musu et al., 2019, p. 113). Emergency preparedness drills included practice for worst-case scenarios such as fire, earthquake, and school shootings. In 2015–2016, the school lockdown drills' design varied, with 95% of schools having a lockdown procedure, 92% having an evacuation procedure, and 76% having a shelter in place procedure (Musu et al., 2019, p. 114). The addition of multi option responses contrasts alters active shooter drills from lockdown or shelter in place drills (Jonson et al., 2018). With active shooter drills, there were three main response actions: fleeing the scene, barricading in a room, and distracting and resisting the shooter (Jonson et al., 2018). ALICE Training Institute (2013) refers to these three actions as Run, Hide, Fight. King and Bracy also highlighted *restorative practices*, defined as peaceful approaches to

dealing with misconduct and problem-solving approaches schools have taken to reduce the threat of school shootings. The goal was to foster a trusting relationship between students, teachers, staff, and administrators and includes threat assessment teams and programs such as School-Wide Positive Behavioral Interventions and Supports models (King & Bracy, 2019).

King and Bracy's (2019) research also reviewed the reasoning and consequences of these school security changes. In 1996-1997 the percentage of school districts with school-based law enforcement officers was 22% (Musu et al., 2019, p. 117). This percentage increased to 70.9% in 2017 (Musu et al., 2019, p. 117). This change was attributed to increased federal funding provided by the "Now is the Time policy" put into place after the mass shooting at Sandy Hook Elementary School in Newtown, CT (King & Bracy, 2019). This policy especially contributed to increased school security in elementary-schools, where the percentage went from 26% in 2005–2006 to 45% in 2015–2016 (Musu et al., 2019, p. 117). The consequences of visual security measures were increased student arrests, disciplinary actions, and negative changes in the school climate (King & Bracy, 2019). King and Bracy also suggested these drills were developed with little empirical evidence to support their effectiveness and questioned the psychological impact the drills had on the children.

Curran et al. (2020) did a historical review of the changes in school security measures that occurred in the period following the Columbine school shooting. The authors indicated school districts' increased safety measures independently of state and federal guidelines. Curran et al.'s work supported the theory that highly publicized school

shootings may push school districts to make policy changes, even in the absence of evidence regarding the effect the changes have on student safety (Curran et al., 2020). The researchers indicated it was important for school districts to consider school security independently of high-profile shooter events and better understand how to support student safety (Curran et al., 2020).

Emerging Trends in School Safety and Active Shooter Drills

A review of the previous studies' ideas suggested three different trends regarding school safety measures. These trends were an increase in visual safety measures, the idea that safety measures were put into place in response to high-profile events, and the development of multi option responses to school shooting events. In addition, multiple researchers also questioned the effectiveness of these measures and suggested for more research on alternate methods of addressing the threat of school gun violence.

Increase in Visual Safety Measures. The national attention and mass media visibility that followed the school shooting at Columbine High School fueled concern about schools' safety and vulnerability to an active shooter attack (Jonson, 2017; King & Bracy, 2019). 20 years after the shooting at Columbine, there has been an increased trend to address school security measures by adding visual security measures to address the physical safety of the children and educators (Curran et al., 2020; Kupchick et al., 2015; Tanner-Smith et al., 2018). Some of the visible security measures included the addition of school-based law enforcement, security cameras, and metal detectors (Jonson, 2017; King & Bracy, 2019; Tanner-Smith et al., 2018).

The use of visual security measures has been controversial among some administrators who questioned if these actions violated students' Fourth Amendment rights for protection from unreasonable search (Tanner-Smith et al., 2018). Other educational leaders expressed concern for the impact visible safety measures had on the school's culture and the students' feelings of being treated like criminals (Jonson, 2017; Tanner-Smith et al., 2018). McDevitt and Panniello (2005) suggested school-based law enforcement created a positive environment where students reported feeling safer in school because they were able to build relationships with law enforcement officers. However, multiple researchers found no evidence that visual school safety measures had any effect on reducing student exposure to violence in the school and suggested these measures increase negative actions (Jonson, 2017; Price & Khubchandani, 2019; & Tanner-Smith et al., 2018). Researchers also suggested visual school safety measures appeared to have a negative effect on attendance and cause an increase in truancy rates (Tanner-Smith & Fisher, 2016). The addition of security measures appeared to breakdown the feelings of trust the students have with the teachers, administrators, and school staff and created a school climate of fear and mistrust (Jonson, 2017).

Development of Multi Option Responses. Another action many schools took to reduce gun violence in schools was incorporating multi option responses to an active shooter in the EOP. Teachers and staff were being asked to take a more active role in stopping a potential school shooter and required them to attend training on attacking and defending (Dagenhard et al., 2019; Stevens et al., 2019). However, the development of multi option active shooter drills was vague and often lacks consistency (Rygg, 2015). It

was suggested these drills be developed in coordination with other professionals to provide educators an enhanced awareness and sense of empowerment and the success of these drills could be dependent on the educators' motivation. (Abbinante, 2017; Kingston et al., 2018). Unfortunately, the design of these drills has been questioned by researchers who suggested these drills were developed with little empirical evidence to support their effectiveness (Curran et al., 2020; King & Bracy, 2019) and often go beyond the recommendations established by the NASP and NASRO (2017) guidelines (Stevens et al., 2019).

Response to High-Profile School Shooting Events. The idea that safety measures were often put into place in response to high-profile events was supported by research completed by Madfis (2016) and Curran et al. (2020). Jonson (2017) also determined many security measures were immediately enacted after well-publicized school shootings without any empirical evidence. Many of these changes were put into place without the evidence supporting the effectiveness they would have on the students' level of safety (Curran et al., 2020). As demonstrated in the review of the current research on visual safety measures, changes to school policies regarding student safety had no evidence of reducing gun violence and could have a detrimental effect on the students' feelings of safety (Jonson, 2017; Price & Khubchandani, 2019; Tanner-Smith & Fisher, 2016; Tanner-Smith et al., 2018). Researchers who explored approaches such as multi option active shooter drills suggested these policies lack supportive evidence and did not follow state and federal guidelines, raising the question of the psychological impact these drills could have on students (Curran et al., 2020; King & Bracy, 2019).

The review of the research on how school safety and active shooter drills have changed over time indicated a focus on protective measures like gun-carrying security officers and visual security measures (King & Bracy, 2019; Kupchick et al., 2015; Price & Khubchandani, 2019). Other focuses include response times from emergency personnel, development of active shooter drills, and an expectation for educators to take action to stop a shooter (Dagenhard et al., 2019; King & Bracy, 2019). Unfortunately, there seemed to be less focus on incorporating programs such as addressing school climate, addressing mental health services, and family engagement, that is recommended by multiple research studies (Dagenhard et al., 2019; Kupchick et al., 2015; Lenhardt et al., 2018).

Because my study was focused on active shooter drills and the educators' perception of these drills in early childhood classrooms, the understanding gained from the review of previous studies was used to establish a baseline understanding of how these drills looked in the classroom and some of the possible reasoning for the school districts' decisions on the design. This knowledge was also used to develop the interview questions and to complete the document review of the school's information regarding active shooter drills.

Recommendations and Strategies for Supporting Students

Recognizing that participation in active shooter drills can be challenging physically and mentally for many students, the NASP developed multiple resources that could be used to support students before and after drills. There have also been multiple researchers that have looked at different techniques used to support different populations

of students. The following is a review of the most relevant resources from the NASP and the research done on techniques to support students during an active shooter or crisis events, including the early childhood students and students with special needs populations. The NASP developed multiple documents that reviewed important factors school districts should consider when designing and conducting active shooter drills in the schools. The following section is a review of some of these guidelines and additional resources that support these suggestions.

Best Practice Considerations for Schools in Active Shooter and Other Armed Assailant Drills (2017)

This document, by the NASP and the NASRO (2017), gave an overview of past approaches to active shooter drills and identified that without proper caution, drills could cause psychological harm to participants. The NASP and the NASRO outlined approaches and techniques shown to ensure both the students' physical and psychological safety and addressed the importance of considering the cognitive and emotional development of all children involved in these drills. School administrators were encouraged to adapt their policies to consider children's cultural, emotional, and special needs, including any past experiences with trauma (NASP & NASRO, 2017). These suggestions were supported by research on the topic of active shooter drills and included multiple appendixes that defined common terms and outlined considerations for different developmental ages and students with special needs (NASP & NASRO, 2017).

NASP and the NASRO (2017) contributed to the body of knowledge on this topic by increasing awareness about the psychological risks associated with active shooter

drills. NASP and the NASRO also added to the topic of early childhood education by acknowledging early childhood education students are at a developmental level where they may have a difficult time understanding the difference between real or perceived danger. By providing concrete explanations, procedures, and age appropriate techniques, NASP and the NASRO offered ways to support early childhood students before, during, and after participating in active shooter drills. However, there was no supporting research presented to support the reasoning for the different developmental approaches. NASP and the NASRO provided information on the psychological and developmental concerns schools should consider when developing a policy on active shooter drills.

Talking to Children About Violence: Tips for Parents and Teachers (2016)

While not a research study, the NASP (2016) composed a guidebook for parents and teachers on how to talk to children about violence in schools. NASP suggested children look toward adults for information and guidance on how to react and talking to children about their fears could help to assure them they are safe. Some of the tips presented emphasized that schools are safe but allowed the students to express and acknowledge their feelings in age appropriate ways. Some examples of how young children may express their feelings included drawing, looking at picture books, or imaginative play (NASP, 2016). For early elementary-school children, NASP (2016) recommended adults provide brief, developmentally appropriate simple information providing reassurance they are safe and adults are there to protect them.

Mitigating Negative Psychological Effects of School Lockdowns: Brief Guidance for

Schools (2018)

The NASP (2018) also developed a document targeted for educators on how to best negate the psychological effects of school lockdowns. The NASP (2018) recognized lockdown procedures might produce anxiety, stress, and traumatic symptoms for both the students and teachers who participate in the drills. In response, the NASP (2018) suggested all schools create an emergency plan that included considerations for age, developmental levels, and disabilities. It was also recommended for administrators, mental health professionals, and SRO to work together to develop an emergency plan that follows best practice considerations to reduce the risk of physical and psychological harm (NASP, 2018).

Review of the Guidelines Established by NASP

Erbacher and Poland (2019) conducted a case study review on the effectiveness of an active shooter drill designed to meet the guidelines established by NASP (2018). For this study, the school psychologist was involved in developing the plan, the drill was announced in advance, and parents were informed about the purpose and plan for the drill (Erbacher & Poland, 2019). The students, parents, and community were reminded about the drill through email, text messages, and social media. Acting students from a local college were hired to act as victims, so none of the students had to participate in simulations where they were hurt or killed. The school psychologist provided education and support to the teachers regarding stressful reactions and referral procedures if needed. The school psychologist also supported the students prior, during, and after the event.

Any student who was not comfortable with participating in the drill was able to opt-out. Erbacher and Poland's (2019) review of student comments post-drill determined the drill was successful in preparing students on how to respond while reducing anxiety.

Schonfeld and Demaria (2020) also supported the suggestions made by NASP (2018) when they provided guidance for pediatricians to support students with the trauma associated with active shooter events and drills. Schonfeld and Demaria (2020) recognized the essential role pediatricians had as advocates and resources in designing developmentally appropriate drills. Pediatricians need to consider the age and developmental needs, any neurodevelopmental or intellectual disabilities that may impede understanding, and any past traumatic situations that could make the situation more frightening (Schonfeld & Demaria, 2020).

Techniques to Support Students

Researchers have looked at different approaches or techniques that could be used to support children during active shooter drills. Chafouleas et al. (2019) conducted a literature review on trauma-specific interventions targeted to students exhibiting negative symptoms and highlighting school-based trauma interventions. They suggested a school-wide approach to trauma-specific interventions could maximize the impact of trauma-specific interventions for individual students and provided insight on how schools could appropriately incorporate interventions to assist students exhibiting negative behaviors due to traumatic experiences (Chafouleas et al., 2019). Chafouleas et al. suggested a need for further research on the impact of trauma-specific interventions trauma-informed approaches in schools.

Two studies were done in South Korea that addressed elementary students' ability to learn coping techniques and prepare for an emergency. Kim et al. (2014) developed a quasi-experimental, quantitative research design to examine the effectiveness of a school-based coping education program at preparing fourth and fifth-grade students for a potential emergency. This emergency education included recognizing an emergency, knowing what dangerous situations could occur at school, preventing and coping with sexual abuse, and coping with natural disasters (Kim et al., 2014). The researchers determined a statistically significant improvement in the coping knowledge of the students who received emergency education, indicating the importance of providing elementary students with information on emergency preparedness and coping skills (Kim et al., 2014).

The second study from South Korea also involved elementary-school participants, fifth and sixth graders (Kim, & Cho, 2017). The purpose of this study was to review the effectiveness of smartphone-delivered emergency preparedness education. A quasi-experimental approach was used to explore the students' ability to obtain and understand various emergencies and how they cope with these situations, including the need to evacuate or an attack from an unknown source (Kim, & Cho, 2017). Kin and Cho suggested technology could be an effective method of providing emergency preparedness education and coping skills. Unfortunately, both of these studies focused on an older population and not on early childhood students, so it is questionable if these approaches would be effective with younger students. It is also important to note South Korea does

not conduct active shooter drills, so they were not included in the emergency education programs (Fisher & Keller, 2017).

Peterson et al. (2015) focused on the impact watching training videos had on college students' perceptions of preparedness for an active shooter event and feelings of fear. In this study, Peterson et al. aimed to assess how concerned students were about having an active shooter on their campus, to evaluate the effectiveness of training videos on how to respond to an active shooter event, and to assess the students' overall feelings of fear after watching the training videos. They suggested that prior to watching the training videos, the majority of the participants were minimally afraid of a shooting taking place on campus. Watching the training video had a significant impact on the participants, increasing their perceived level of preparedness and their feelings of fear, with females reporting higher levels of fear (Peterson et al., 2015). Peterson et al. concluded that while watching training videos increased the students' feeling of preparedness, the videos also increased their level of fear about the rare possibility of an active shooter event on campus and questioned if preparedness was worth the increased fear. The researchers suggested further research be done in this area to provide evidence-based practice methods that will not harm students' mental health. (Peterson et al., 2015).

Leuschner et al. (2017) looked at the effect a standardized, school-based prevention program focused on staff training and support for early intervention of students in a psychosocial crisis to prevent school violence. This program was a government-led national program dedicated to spotting potential attackers and stopping them before carrying out their plans (Leuschner et al., 2017). Leuschner et al. determined

this threat assessment approach increased the teachers' expertise and evaluation skills, enhanced the teachers' ability to identify students in a psychosocial crisis, and improved the students' feelings of safety.

Early Childhood Students

Delaney (2017) examined early childhood teachers' perceptions of early childhood students' involvement in violence themed play after the implication of lockdown drills in the classroom. Using a qualitative, interpretive case study approach, Delaney focused on the teachers' approach toward the violent play that occurred in the classroom as a coping technique, enabled the children to process an understanding of the threat of danger and loss of control. Delaney acknowledged this study was limited because it was conducted in one classroom with only 15 students. However, Delaney did bring up an interesting point about the children's understanding of this threat of violence, the tools they used to process the events, and questions regarding different techniques early childhood educators used in the classroom during active shooter drills. Delaney provided support for a reconsideration of the approach given to ECE classrooms when conducting lockdown drills, stating play was a technique that allowed children to process and understand information and denying students of that tool limited their ability to make sense of the situation.

In a quantitative study, Dickson and Vargo (2017) looked specifically at using behavioral skills training (BST) in one kindergarten class to teach kindergarten children how to respond to lockdown drills. Dickson and Vargo suggested BST increased the correct steps used by the children and decreased the noise levels during the drill. Through

the use of corrective feedback and praise for their actions, the students reached mastery of six of the seven steps of the lockdown drill. This mastery was a significant contrast to the baseline drill, where the students were not able to complete the required steps and produced a high-level of noise (Dickson & Vargo, 2017). While the researchers did not look at the emotional response the children had to these drills, they did determine practice and positive feedback increased the likelihood of young children doing what has been defined as correct steps by law enforcement. Dickson and Vargo questioned the effectiveness of different techniques early childhood educators use in the classroom during active shooter drills. Even though this study was limited by the fact there was no control and that these drills were done in a calm and controlled environment, Dickson and Vargo's findings could help develop a new model for an active shooter drill. Incorporating BST in the model has been successful in past studies and could be looked at as a possible idea for a new model.

Students With Special Needs

When planning for active shooter drills, educators and school personnel need to consider how to best support the students with special needs. The development of emergency action plans that do not consider all students' needs, including those with physical, emotional, and behavioral differences, could put students at risk (Clarke et al., 2014). In addition, students with disabilities were especially vulnerable during crisis situations due to their additional needs (Peek & Stough, 2010). Multiple studies addressed this concern, looking at this issue from different points of view, including special education teachers, school nurses, and the school administration.

Clarke et al. (2014) created a teacher's guide to assist in developing a school emergency plan that meets the needs of students with various abilities. Some key suggestions from Clarke et al. included the involvement of special education teachers in the creation of the school plan, developing individual emergency and lockdown plans for students with special needs, and collaborating with all school personnel, parents, and community responders about the individual plans. Educators should also design an individual emergency and lockdown plan that focus on the student's strengths and address the student's medical, communication, and sensory needs (Clarke et al., 2014). Some suggestions for teaching and practicing these drills included using a social narrative, using behavioral modification and incentives, using a picture schedule, and providing sensory items (Clarke et al., 2014).

McIntosh et al. (2019) echoed many of the same ideas presented by Clarke et al. (2014) but had a greater focus on the school nurse's role in the design of active shooter drills. McIntosh et al. recognized the specialized training that nurses receive on working in a stressful situations and understanding of the medical system. For this reason, in addition to being a resource in the school when developing a school-wide action plan, the school nurse also acted as an advocate for the students within the community, first responders, and local law enforcement (McIntosh et al., 2019).

Edmonds (2017) also addressed supporting students with special needs but focused only on students with autism spectrum disorder (ASD). Edmonds had autism experts review an existing resource initially designed to educate primary school-age children in emergency preparation. The experts determined the existing resource needed

to be modified and suggested using social stories with simplified language and less writing on each page (Edmonds, 2017). Edmonds also concluded there was a lack of resources to support students with ASD and how to educate emergency personnel, communities, and other students about students with autism might respond during emergencies.

Another study focused on students with ASD was done by Rossi et al. (2017). In this study, Rossi et al. evaluated the use of BST to teach safety skills to students with ASD. While the researchers did not specifically look at active shooter drills and was limited to just three participants, the results indicated BST was an effective technique to training students with ASD safety skills (Rossi et al., 2017). One of the limitations to this study was BST was best provided in the setting where the safety response was expected to occur, and future studies were recommended to determine if the training method would be useful in a different setting and with different emergency situations (Rossi et al., 2017). There was also a concern about the longevity of the learned skill, and Rossi et al. suggested regular practice.

My review of the literature on recommendations and techniques used to support students during crisis and active shooter drills enabled me to determine a few common themes. Many of the researchers recognized drills could be emotionally difficult for students and needed to be designed with a consideration of the cognitive, cultural, emotional, and special needs of children, including any past experiences with trauma (Clarke et al., 2014; Erbacher & Poland, 2019; NASP & NASRO, 2017; Schonfeld & Demaria, 2020). Some of the researchers focused more on educating the school staff and

prevention-based programs (Chafouleas et al., 2019; Kim et al., 2014). Other researchers reviewed the effectiveness of techniques that addressed the student's understanding (Kim, & Cho, 2017; Peterson et al., 2015).

Unfortunately, researchers have provided limited examples of how to address the specific developmental needs of the early childhood population. The only exceptions were NASP and NASRO (2017), Delaney (2017), and Dickson and Vargo (2017). Multiple researchers have considered how to best support children with special needs and suggested using an individual plan focused on each student's strengths (Clarke et al., 2014). These plans could include various coping tools, including social stories (Edmonds, 2017) and BST (Dickson & Vargo, 2017; Rossi et al., 2017). The knowledge gained from the review of recommendations and techniques was used to develop the interview questions regarding for this study. In addition, the recognition of limited research in early childhood education helped to establish a gap in the current body of knowledge on this topic.

Perceptions of Active Shooter Drills and School Safety

Now that an understanding of the design of active shooter drills and ways to support students has been established, the next area of focus for this literature review is the research regarding different stakeholders' perceptions. The following is a review of the researchers who have explored the perceptions students, educators, and other school personnel have about school safety and active shooter drills.

Students

Multiple researchers have conducted studies to determine students' perceptions of safety and their thoughts regarding active shooter drills. Ultimately, preparing for an active shooter is something schools want to be prepared for but hope never to have to use. Students' fear at school could result in various academic and psychological issues (King & Bracy, 2019). Creating a feeling of safety in the school was one of the goals for schools and knowing what elements help create this atmosphere of safety could help achieve that goal.

In 2018, Connell conducted a historical review of the literature on individual and school-level safety measures and high-school students' perceptions of how these safety measures impacted their feelings of safety. Connell's (2018) review looked at students' perceptions, both pre- and post- 9/11 attacks on the World Trade Center and the Columbine school shooting. Both of these high-profile, violent events brought about changes in security measures in schools. The students reported the increased security measures provided a greater sense of safety (Connell, 2018). Connell suggested this perception of safety had altered from the students from the previous generation who had lived through the violent events and had witnessed the change in security efforts (Connell, 2018). Connell questioned if a change in the atmosphere of community and school culture influenced students' perception of safety.

Fisher et al. (2018) conducted a quantitative analysis of historical data collected from a previous survey done by the School Crime Supplement to the National Victimization Survey. The participants for this survey were 5,857 adolescents between

ages of 12 and 18. Fisher et al. explored the connections among an authoritative school climate, the students' exposure to violence, and the students' feelings of safety. It was determined students have greater feelings of security when they perceived a more authoritative school climate and students generally become less fearful as they get older (Fisher et al., 2018).

Looking beyond school climate, Williams et al. (2018) examined multiple variables that may influence a high-school students' perception of safety. These variables included bullying, student/teacher/parent administration relationships, rule clarity and consistency, the school physical environment, and a sense of school belonging (Williams et al., 2018). The variables that increased the students' perceptions of safety were positive student and teacher relationships, consistent rules, and a sense of school belonging (Williams et al., 2018).

Peterson et al. (2015) completed a survey of 220 college-students that explored their feelings about school shootings on campus and the impact of thinking about school shootings and watching a training video on school shootings had on their perceptions of safety. However, the effectiveness of these active shooter drills on reducing the risks of such an attack were difficult to measure, and there was a question if these drills had a negative effect on the students' feelings of safety within the schools. While the researchers focused on the college-student population, they provided insight on how discussions about school shootings students could impact students' feelings of safety at school and questioned if the existing model of active shooter drills may influence students' feelings toward safety in school.

O'Neill et al. (2019) explored the effects of the high-profile school shooting event at the Marjory Stoneman Douglas High School in Parkland, Florida had on middle-school students' perceptions of safety. O'Neill et al. indicated that after mass media attention and increased discussion of gun control that followed the shooting event, the students reported more safety threats, an increased fear of being attacked at school, and an increased difficulty of concentrating in school due to feeling unsafe.

Regarding student perceptions toward school safety after participating in emergency preparedness drills, King and Bracy (2019) determined these drills might be negatively impacting school climate and the students' sense of safety. The drills training ranged from computer simulations to full-fledged rehearsals using guns shooting blanks. King and Bracy also determined the national attention and mass media visibility following the school shooting at Columbine High School fueled concern about schools' school safety and vulnerability to an active shooter attack.

Yablon and Addington (2018) questioned if repeated victimization had an influence on middle- and high-school students' perceptions of safety. It was suggested students' victimization, defined as physical violence, emotionally bullying, verbal violence, and extortion bullying, created a negative feeling regarding school safety with as few as one incident (Yablon & Addington, 2018).

Zhe and Nickerson (2007) explored the effects children's crisis drill participation "on [the children's] knowledge, skills, state anxiety, and perceptions of school safety" (p. 501). While an older article, there were limited studies addressing younger students, and this article is frequently cited when discussing the emotional aspects with the elementary-

school population. Zhe and Nickerson believed there was a lack of evaluation on the

effectiveness of school crisis drills and sought to explore if participation in a training

session and intruder drill events affected the students' anxiety and safety perceptions. Zhe

and Nickerson used a quantitative approach to measure the students' behavior during

intruder drills and measured any displayed emotional distress and level of anxiety using

the State-Trait Anxiety Inventory for Children (Spielberger, 1973). The results' analysis

included independent sample t-tests for all three dependent measures (knowledge

acquisition, state anxiety, and perceptions of school safety) between both subject groups.

Zhe and Nickerson suggested a significant increase in the students' knowledge, but there

was no statistically significant difference between the two groups regarding anxiety level

and perception of safety. Zhe and Nickerson acknowledged limitations to this study,

including the low number of participants in each group and the objective nature of the

measurement tools. The researchers recommended future research be done regarding

assessing children's predisposition to anxiety and the long-term knowledge of these drills

(Zhe & Nickerson, 2007).

Schildkraut et al. (2020) conducted a study to explore the gap in how students

perceive their safety and preparedness to respond to an emergency and how participation

in these drills impacted their attitudes. The researchers suggested students had a

significantly greater agreement on how to respond to an emergency post-training

(Schildkraut et al., 2020). However, the researchers determined the students reported

feeling significantly less safe at school (Schildkraut et al., 2020). Two potential

explanations for this significant change in perceived safety were the population surveyed

reside in areas prone to violence and that the multiple drills highlighted the vulnerabilities of the students and school in protecting them (Schildkraut et al., 2020). The population for this study were students in grades sixth through 12th and did not include early childhood classrooms.

Interestingly, there was a significant difference in the perceptions related to both safety and preparedness between the middle- and high-school children and the students in grades sixth through eighth grade. The students in grades sixth through eighth reported feeling safer in the school setting. Schildkraut et al. suggested the difference between the different age groups resulted from how the administrators, teachers, and staff interacted with the students during the drill. The adults working with the younger grades took a more hands-on approach with the students, such as helping them get into their hiding spaces. The adults working with middle-school and high-school students had a very different approach, placing more responsibility on the students and emphasizing student autonomy (Schildkraut et al., 2020). Schildkraut et al. suggested future research be done to examine if the proposed concept of different approaches with different aged populations impacts the students' feelings of safety.

Schildkraut and Nickerson conducted another study in 2020 that reviewed students' perspectives in grades sixth through 12th. The purpose of this study was to examine how effective training was on emergency preparation and the impact this training had on the students' feelings of preparedness (Schildkraut & Nickerson, 2020). The researchers indicated the training was effective, resulting in a higher percentage of mastery in locking the doors, having the lights off, and not responding to door knocks.

The students also expressed greater confidence in being prepared for lockdown drills after the training skills (Schildkraut & Nickerson, 2020).

Bernardy and Schmid (2018) researched the feelings of safety middle-school students had after the school shooting in Parkland, Florida, and how the level of safeness affected student achievement. While it was suggested there was no significant difference in the students feeling of safety after the Parkland Shooting, they determined those who did not feel safe at school were academically less successful. Bernardy and Schmid suggested the focus of school staff, teachers, and administrators should be ensuring that all students feel safe at all times. The recommendations include implementing school programs that promote conflict resolution and character education. Bernardy and Schmid also supported the practice of active shooter drills, suggested the preparation and practice establishes a level of safety for the students, and recommended for the safety protocols to include information on how teachers could support the students' emotional needs.

The review of the researchers that explored the students' perceptions of school safety and active shooter drills indicated practicing school safety drills could improve students' feelings about being prepared (Schildkraut & Nickerson, 2020; Schildkraut et al., 2020) but could also decrease their feelings of safety (Bernardy & Schmid, 2018; King & Bracy, 2019; Peterson et al., 2015). Other researchers have questioned if students' perceptions were altered by other factors, including living in a time with high-profile school shootings (Connell, 2018; O'Neill et al., 2019), students' victimization (Yablon & Addington, 2018) or school climate (Fisher et al., 2018). There were multiple suggestions for more research to be done in this area, especially because there were

limited studies focused on the elementary population and no studies that only address the early childhood populations' perceptions (Schildkraut et al., 2020; Zhe & Nickerson, 2007).

Educators

Olinger Steeves et al. (2017) inquired about educators' perceptions of crisis preparedness and performance of crisis-related activities through qualitative surveys. 72 teachers, administrators, and other school staff completed a survey that inquired about educators' perceptions of their role during a crisis, as suggested by the NASP and the perceptions the educators had on their training for these different roles (Olinger Steeves et al., 2017). The researchers indicated positive perceptions of preparedness among the educators in the event of a crisis but found that school crisis plans lacked many of the components recommended by the NASP (Olinger Steeves et al., 2017). Another finding by Olinger Steeves et al. (2017) determined 35.9% of educators reported not reading their school crisis plan (p. 570). This percentage could be due to inaccessibility to the plan as many were only accessible online by certain positions and the administrators' lack of encouragement for educators to familiarize themselves with the crisis plan (Olinger Steeves et al., 2017).

Perkins (2018) explored the perceptions of Rhode Island teachers on school crisis preparedness using a mixed methods approach. Perkins initially used a quantitative online questionnaire, gathering information from 307 teachers regarding the extent they felt prepared for a significant school crisis. Perkins also explored whether there was a significant relationship between the teachers' preparation for a school crisis and the

following variables: grade level taught, years of teaching experience, and type of community where the school is located. From these responses, smaller focus groups (N = 14) were established to explore the teachers' perceptions of school emergency drills' effectiveness to enhance preparedness for a school crisis. The survey instrument used for the quantitative research question was the Teachers' Perceptions of School Safety and Preparedness Survey (Perkins, 2018).

Using a mixed-methods approach, Perkins (2018) concluded teachers from different grade levels and urban areas had different perceptions of the school preparedness. Teachers in elementary-school were more concerned about having unknown visitors in the school than upper grades, while high-school teachers were more concerned about acts of crime and violence. Teachers in suburban areas were more concerned about security measures than teachers in urban or rural areas. The focus groups indicated a need for consistency, clear communication, and the use of authentic drills. Perkins indicated early childhood educators' needs during a crisis could be different from the needs of educators focused on older populations and suggested a need for further research with the educators of the early childhood population.

Due to the limited number of published peer reviewed journal articles that specifically address educators' perceptions regarding active shooter drills, this literature review also included published dissertations focused on this topic. Embry-Martin's (2017) dissertation explored the self-efficiency levels of K–12 teachers in preparing for and responding to an active shooter incident. In this quantitative study, Embry-Martin (2017) conducted semistructured interviews with teachers from elementary-, middle-, and

high-school, with the findings being similar across all teaching levels. It appeared a

teacher's level of self-efficacy in their abilities to prepare and respond to an active

shooter event was directly related to the amount of training they received (Embry-Martin,

2017). Teachers at all levels perceived themselves as the first line of defense for their

students. However, teachers at the high-school level tended to focus more on their

emotional, mental, and physical states (Embry-Martin, 2017). The limitations of this

study included the relatively small sample size (N = 9) and that all the teachers were in

the same school district. The geographic limitations may have skewed the generality of

the findings, and it was suggested for further research to be done in different school

settings (Embry-Martin, 2017).

Rider (2015) also conducted a quantitative research study that investigated

Mississippi high-school teachers' (N = 418) perceptions of their preparedness for an

active shooter incident. The tool used for this study was an instrument created by Rider

centered on whether or not the teachers believed they were able to respond effectively to

an active shooter incident in their school. Multiple research questions focused on the

teachers' perceptions of both active shooter drills and incidents were determined for this

stud. Rider established the teachers were uncertain in the efficiency of schools' practices

and drills and few felt prepared to respond to an active shooter incident. Rider also

recommended future research focused on teachers in the kindergarten through eighth

grade setting because they may have different perceptions and developmental needs

related to active shooter incident preparedness. Rider recommended using a qualitative

approach to gain a deeper understanding of the teachers' specific needs for training and

helped establish a gap in the research looking at early childhood classrooms' perceptions and active shooter situations.

Looking specifically at early childcare providers, Leser et al. (2019) aimed to describe U.S. childcare providers' perceived levels of preparedness capabilities for different types of emergency situations. While 91.31% of childcare providers felt very prepared for fires, only 45.08% were confident in other emergency situations, including an active shooter (Leser et al., 2019, p. 705). Leser et al. suggested future studies should assess how early childcare providers best respond to and recover from various emergencies, including active shooter incidents and to explore the types of resources childcare providers need to improve their perceived level of preparation with these emergency situations.

Other Educational Professionals

Additional researchers explored the perceptions of other educational professionals regarding safety plans and active shooter drills. These educational professionals include school counselors, SROs, principals, and school nurses.

In a single-case, qualitative study, Brown (2019) researched middle-school counselors' perceptions of their decisions and expertise in responding to a previous school shooting event. For this study, Brown separated the shooting event into different phases: precrisis preparation, precrisis awareness, in-crisis protocol, crisis awareness, and postcrisis awareness. Brown found that during and after a crisis, the school counselors took on additional responsibilities from the ones they were assigned to in the school's crisis plan. At a time of crisis, the school counselors were viewed as leaders and were

expected to help students cope with the stress and intense emotions that occurred during a school shooting (Brown, 2019). However, the school counselors reported limits to their technical and emotional preparedness for such an event, expressed a desire to be led or given direction, and felt there was a need for additional professional help (Brown, 2019). Brown suggested the need to develop a holistic team approach to supporting students during a school shooting event and that school counselors and community mental health professionals needed to be part of the crisis team. Brown recommended for additional research on the extent to which school professionals are involved in school crisis prevention models, mental health interventions, and training. Brown also suggested additional research to examine the extent to which the existing training models and strategies for handling a school crisis lead to meaningful implantation of the school crisis plan.

Goodman-Scott and Eckhoff (2020) also explored the experiences of school counselors with lockdown drills. Using a phenomenological, qualitative design, they acquired information from 26 school counselors with lockdown drills experience and determined school counselors felt a sense of duty to follow the school protocol but questioned the appropriateness of their role. They also discovered lockdown drills had unintended consequences regarding the students, parents, and school counselors' feelings of fear, anxiety, and uncertainty. Goodman-Scott and Eckhoff suggested lockdown drills be trauma-informed and developmentally and cognitively appropriate and suggested future research to examine the drills had on students and staff in order to develop evidence-based recommendations for trauma-informed drills.

In 2015, Chrusciel et al. surveyed SROs and public-school principals to explore their opinions on the best methods of maintaining school safety. The methods explored as effective strategies for increasing school safety and preventing school shootings were arming teachers and administrators and the presence of SROs (Chrusciel et al., 2015). Overwhelmingly, both the SROs and public-school principals did not view arming teachers and administrators as an effective strategy to increase school safety (Chrusciel et al., 2015). The SROs and public-school principals also agreed the presence of SROs was an appropriate method to maintain school safety. However, the principals recognized the need for additional strategies to help prevent school shootings (Chrusciel et al., 2015). Chrusciel et al. recommended further research exploring additional responses or methods used to maintain school safety.

Ewton (2014) designed a study that explored school principals' and parents' perceptions toward serious threats to school safety, how these threats should be addressed, and if there were differences in the perceptions. This quantitative descriptive research study was designed to analyze the perceptions of school principals and parents at various elementary-, middle-, and high-schools within a single school district (Ewton, 2014). The researcher suggested both the principals and parents' perceptions regarding school safety were unrealistic and not grounded in fact with both groups stating an "on-campus shooting is one of the most serious threats to student safety" (Ewton, 2014, p. 117). Ewton viewed this as a misconception because there is a very low rate of occurrence of on-campus shooting events and believed this indicated a lack of education on this topic. Both groups did express they did not agree with the idea of arming civilian

security volunteers or school administrators and valued the idea of effective communication between schools and the parents (Ewton, 2014). It was also noted the elementary-school parents believed they were not adequately informed about the school safety measures, needs, and concerns (Ewton, 2014). Ewton suggested this study gave insight to the different stakeholders and a positive parent-school administration relationship improved communication and cleared up misconceptions regarding school safety measures.

Another study designed to assess the perceptions and practices of high-school principals for reducing firearm violence was conducted by Price et al. (2016). Price et al. determined a majority (60%) of the high schools involved in the study had been provided professional development for school personnel to deal with active shooters on campus (p. 241). The major barriers to implementing professional development and strategies to reduce gun violence were lack of expertise regarding which practices to implement, lack of time, and lack of research on the most effective firearm prevention practices (Price et al., 2016). Some of the strategies the principals perceived as the least effective methods to reduced gun violence included providing violence prevention education in the school curriculum, installing bullet-proof glass and metal detectors, and implanting a policy allowing school personnel to carry firearms (Price et al., 2016).

Ugalde et al. (2018) designed a survey that investigated school nurses' perspectives regarding crisis management and school emergencies. While the design of this study did not specifically mention active shooter drills, it included the school nurse's role in developing emergency action plans and emergency preparedness. Ugalde et al.

determined many school nurses self-identified as not being prepared for specific situations and desired additional training. Some of the reasons why school nurses felt ill-prepared were unawareness of the school's emergency plan and a lack of practice on handling emergencies (Ugalde et al., 2018). Ugalde et al. suggested the school nurses be educated on schools' emergency plans and conducted hands-on drills so school nurses and staff could build confidence in their ability during emergency situations.

The limited literature addressing how educators perceived active shooter drills necessitated expanding the literature review to other educational professionals. The findings from these researchers echo the idea suggested in the review of the educators' perceptions that these professionals do not feel confident about their training or what their role is during active shooter drills (Brown, 2019; Price et al., 2016; Ugalde et al., 2018). It was also suggested that educational professionals had misconceptions and unrealistic views regarding school safety (Ewton, 2014). Lastly, multiple researchers suggested the need to investigate alternative methods for maintaining school safety, such as crisis prevention models, mental health interventions, and training (Brown, 2019; Chrusciel et al., 2015).

Psychological Impact of Participation in Active Shooter Drills

This last section focuses on the concern that participating in active shooter drills may have a psychological impact on students. A review of the research conducted on different types of drills was completed to gain a better understanding of this issue. This included a historical comparison to the duck and cover drills of the cold war era as well as modern lockdown and active shooter drills.

Historical View

To provide an historical perspective of the psychological impact safety drills could have on students, an older quantitative study by Beardslee (1986) was included in this literature review. In this study, Beardslee analyzed historical data collected from high-school children (N = 1,143) who participated in duck and cover drills as part of the threat of nuclear war. Beardslee's analysis of this survey determined the children who went through these drills expressed a "helplessness and a sense of powerlessness, as well as a profound sense of fear about the future" and "it is essential to counteract these feelings through education to help young people become aware they are not powerless. Indeed, from a psychological point of view, some corrective focus is necessary for the sense of helplessness engendered by this issue" (Beardslee, 1986, pp. 413; 423). While an older study, the researcher established the lasting psychological effect drills could have on children. This is a similar situation to the current lockdown and active shooter drills and the psychological impact they have on the children.

Another historical study that examined the psychological impact of participating in duck and cover drills was done by Schwebel (1982). Schwebel conducted a survey of 3,500 students from second grade to the second year in college exploring their perceptions on the threat of nuclear war. Schwebel suggested the nuclear threat was a contributing factor in anxiety and other disorders noted among these youth. The role of the professional was to reduce the anxiety about nuclear threat to the youth by demonstrating they are not afraid but concerned about nuclear threat and take action to make changes.

Woesner (2018) also questioned the psychological consequences of the children participating in active shooter and lockdown drills. Woesner compared the current drills to the "duck and cover drills" common during the Cold War, citing past studies on the psychological impact of the "duck and cover" drills made the children feel more fearful and untrusting. Woesner was concerned the safety protocol ALICE could create a similar culture of fear established with the duck and cover drills of the past. Woesner also stated there was little current medical literature that addressed the effects of stimulated drills on children and questioned if these drills could trigger acute stress disorder and harm the children's overall mental health by participating in these mandatory drills. While this was not a research study, Woesner established a lack of medical research in this area, reinforcing the gap in the literature and need for more research on this topic.

Active Shooter Drills

Blad (2018) reviewed data compiled from elementary-, middle-, and high-school students to assess the emotional impact the ALICE training method had on the students who responded to an active shooter drill. Blad questioned the appropriateness of this approach to training, suggesting exposing young children to the possibility of such violence may have a negative impact on the children. Blad also reviewed different methods used to modify lockdown drills and provided guidelines that could be incorporated into the design of a developmentally appropriate approach for early childhood classrooms based on recommendations from the NASP.

Schonfeld et al. (2017) reviewed the practice of conducting unannounced active shooter drills in schools and the potential distress and psychological harm that some

participants had from this experience. These drills had gone as far as shooting blanks in the schools and falsely informing students of classmates' deaths (Schonfeld et al., 2017). This approach was determined to be highly questionable, with little to no evidence to show its effectiveness and much evidence showing negative consequences (Schonfeld et al., 2017). Students and staff in these deception drills experienced the same level of distress and had the same risk of psychological harm as those who had lived through an actual event. In an article published by the American Medical Association, the authors stressed the fact that "intentionally causing terror, distress, or grief, even if intended to prevent the likelihood of later death or disability, ignores our obligation to minimize the risk of both psychological and physical harm" (Schonfeld et al., 2017, p. 1034). It was recommended school districts created policies that prohibited the use of deception drills. It was also determined that school administrators advocated to include best practice and developmentally appropriate techniques in future active shooter drill legislation (Schonfeld et al., 2017). Schonfeld et al.'s findings were used to question the existing model of active shooter drills and to support the need for drills to use a developmentally appropriate approach.

A review of researchers' works on current techniques used in active shooter drills also questioned if the potential psychological harm outweighs the level of preparation. Limber and Kowalski (2020) conducted a review of the current literature regarding the efforts to prevent or prepare for gun violence and the potential unintended harm these drills may be causing. Looking specifically at lockdown and active shooter drills, practicing for an active shooter event was very different from a real shooting situation.

The difference in the training made it difficult to evaluate the training's effectiveness when it was a real event (Limber & Kowalski, 2020). Also, the negative psychological aspect these drills had on students, especially the young students who often perceive the events to be real, may significantly impact how they view the world (Limber & Kowalski, 2020). Instead of requiring all students to participate in active shooter drills, Limber and Kowalski suggested for schools to focus on enhancing the school climate by supporting the social, emotional, and academic experiences of the students and staff, to develop programs designed to prevent and reduce violent behavior, and to train school staff on threat assessment techniques.

Schonfeld et al. (2020) reviewed current practices for live active shooter drills in the schools. They acknowledged live-action drills helped some students, school personnel, and law enforcement personnel feel empowered by and better prepared for a possible attack. However, they questioned if all students should be involved and what level of interaction was considered age appropriate (Schonfeld et al., 2020). The authors made multiple recommendations to the design of live active shooter drills in schools. This included eliminating children's routine involvement in drills, briefing adolescents on the possible risks to participation, obtaining consent/assent, and having school personnel monitor psychological distress during drills. Some additional recommendations included providing notice of drills to all participants, focusing on the skills needed and not a realistic simulation of an active shooter, and making accommodations for children with unique vulnerabilities (Schonfeld et al., 2020).

The researchers that investigated the psychological impact of drills suggested there are negative consequences to participating in these types of drills. Historically, students who participated in the duck and cover drills in response to the threat of nuclear war expressed fear and increase anxiety as adults (Beardslee, 1986; Schwebel, 1982), and recent research questioned if active shooter drills could lead to the same issues (Woesner, 2018). Other researchers questioned the appropriateness of these approaches, suggesting there is little evidence to show these drills were effective and that participating in the drill could produce the same level of emotional distress as an actual school shooting (Blad, 2018; Limber & Kowalski, 2020; Schonfeld et al., 2017).

Ethical Considerations

Early childhood educators have an ethical responsibility to provide an environment that is both physically and emotionally safe for their students (NAEYC, 2011). In the educational world, a pressing concern for many early childhood administrators is the threat of an active shooter on campus and what actions could be taken to protect the children, teachers, and staff from such an event. It is understandable why school districts have taken steps to reduce the threat of physical danger from a school shooting. However, in the process, it is essential to consider the potential of increased risk to early childhood students' emotional health. Also, early childhood educators have an ethical responsibility to promote cooperation among professionals when working to provide for the health and safety of the students, teachers, and staff (NAEYC, 2011). A review of current policies and best practice recommendations for active shooter drills questioned the level of adequate communication between the

professionals and educators and if the recommendations are appropriate for the early childhood population. When looking at active shooter drills, it is important to review the research done on both the physical and emotional safety of early childhood students and the understanding of best practices when developing active shooter policies with the early childhood population.

According to the *NAEYC Code of Ethical Conduct and Statement of Commitment* (2011), the principle that takes precedence over all others is all children should not be harmed. This includes practices that could potentially be "emotionally damaging, physically harmful, disrespectful, degrading, dangerous, exploitative, or intimidating to children" (NAEYC, 2011, p. 3). Early childhood educators have an ethical responsibility to protect the children they work with from situations that could cause potential harm; this would include taking measures to protect children from the threat of an active shooter. It has been questioned if participation in these drills was also inflicting emotional harm on early childhood students, and if this process should be reviewed by schools' IRBs (Perrodin, 2020).

This idea was echoed by Simonetti (2020), who reviewed current active shooter policies and compared them to the recommendations outlined by the NASP and NASRO (2017). Simonetti indicated more research was needed on the design of these drills and the potential negative psychological outcomes that students may have from participation in these drills. The author also suggested educators question if training and participation was appropriate, necessary, or likely to be effective for children across all developmental levels.

Emotional Response of Educators

Stevens et al. (2019) also explored teacher-reported aggressions and teachers' interaction with school shooting media to see if these factors were predictors of teachers' secondary trauma related to school shootings. Through questionnaires containing open-ended questions about their past experiences with active shooter drills, Stevens et al. determined most teachers reported low levels of secondary trauma related to school shootings. There was an indication of an increase in the level of secondary trauma when faced with large-scale traumatic events and not just the exposure to media coverage on school shootings and recommended for future research.

As previously stated, the response from the questionnaire also indicated the actions and responsibilities for the teachers went beyond the recommended actions established by NASP and NASRO (2017). In addition, very few participants indicated that mental health professionals were available during or after the drills, as recommended by NASP and NASRO. Conducting active shooter drills aims to empower teachers and reduce anxiety (NASP & NASRO, 2017). While the drills did not appear to increase the teachers' level of secondary trauma, there was no indication that they were doing anything to reduce it (Stevens et al., 2019). In other words, while active shooter drills do not appear to be harmful to the teachers' mental health, they did not appear to be accomplishing the goals suggested by NASP and NASRO. Stevens et al. suggested more research to be done to compare different levels of drills to see if they result in different teachers' emotional responses.

Wender and DeMille (2019) developed a qualitative research study on how to better prepare teacher candidates for the emotional practices of teaching. The research problem Wender and DeMille addressed was the recent change in national standards, that requires teachers to participate in annual safety drills and lockdown training. The authors aimed to explore how "this national context shapes teacher candidate's identity development and to consider how teacher education programs might better support this context" (p. 8). They designed a qualitative case study that reviewed reflective journals to explore the difficulties, surprises, and self-understanding teacher candidates had regarding their emotional responses to potential violence in school settings. Wender and DeMille proposed teacher educator programs address the emotional aspects of potential violence in the school setting.

Summary and Conclusions

The review of the past and current literature regarding school safety, current trends in active shooter drills, recommendations and strategies for supporting students, the perceptions of major stakeholders, and the psychological impacts these drills have on different groups helped to established knowledge and highlighted new questions. Concerning the early childhood population, Kostelnik (2019) found early childhood students learn best when they feel safe and secure, that includes emotional and physical security. In an attempt to increase the physical safety of the children and educators, many school districts have included active shooter drills in the school's EOP (Curran et al., 2020; Kupchick et al., 2015; Tanner-Smith et al., 2018). Concerning students, researchers have determined practicing school safety drills could improve students' feelings about

being prepared (Schildkraut & Nickerson, 2020; Schildkraut et al., 2020) but could also decrease their feelings of safety (Bernardy & Schmid, 2018; King & Bracy, 2019; Peterson et al., 2015). Educators and school personnel also found value in participating in school emergency drills (Embry-Martin, 2017) but had little confidence in their abilities during active shooter drills (Brown, 2019; Leser et al., 2019; Price et al., 2016; Rider, 2015; Ugalde et al., 2018).

There was a concern these drills were emotionally difficult for students and should be designed with a consideration of the cognitive, cultural, emotional, and special needs of children, including any past experiences with trauma (Clarke et al., 2014; Erbacher & Poland, 2019; NASP & NASRO, 2017; Schonfeld & Demaria, 2020). The design of many of these drills have been questioned, with researchers suggesting these drills were developed with little empirical evidence to support their effectiveness (Curran et al., 2020; King & Bracy, 2019; U.S. Department of Education et al., 2013). Researchers also suggested the drills were developed independently of state and federal regulations (Curran et al., 2020; King & Bracy, 2019) and often go beyond the recommendations established by the NASP and NASRO (2017) guidelines (Stevens et al., 2019).

The DAP approach was originally developed in response to curriculum policies considered too advanced (Kostelnik, 2019). My summary of the literature suggested the design of active shooter drills appears to be a similar situation, asking early childhood students to perform and respond in ways that may be too advanced for their developmental level (Rygg, 2015; Stevens et al., 2019). Researchers have established

there are limited suggestions on how to address these developmental needs of the early childhood population during active shooter drills, and there is a need for more research with the early childhood population, a suggestion that was also supported by multiple researchers (Leser et al., 2019; Perkins, 2018; Rider, 2015).

The results from this study fills a gap in the literature in the field of early childhood education by exploring the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. It is known a DAP is an appropriate curriculum for early childhood educators to use to teach abstract concepts, that are often difficult for this age group to understand (Kemple, 2017). Unfortunately, researchers have suggested the current design of the active shooter drills does not follow a DAP (Stevens et al., 2019).

At the same time, my review of the research also suggested educators are not comfortable with the training they receive and the expectations of their role in active shooter drills. In this study, I explored the current design of active shooter drills in early childhood classrooms, the educators' perceptions of these drills, and investigated some techniques the educators used in their classrooms to best support their students.

I addressed the methodology for this study, including the rationale for the chosen tradition in the next chapter. I also expanded on some of the ideas first introduced in Chapter 1, including the selection of participants, research site, and issues of trustworthiness. In addition, I reviewed the role of the researcher, introduced the instrumentation, and explained other data collection procedures in Chapter 3.

Chapter 3: Research Method

Introduction

In Chapter 2, I provided a review of the literature regarding active shooter drill

policies, the perceptions of different stakeholders, and some of the concerns regarding

these drills' psychological impact. My review of the literature also established limited

research has been focused on shooter drills and the early childhood population. The

purpose of this qualitative case study was to explore the perceptions of early childhood

educators on the current model of active shooter drills and their perceptions of the

developmental appropriateness of these drills when used with an early childhood

population.

In this chapter, I outlined the research design for my study and provided the

rationale for the decision on the methodology. The role of the researcher, including any

potential biases or ethical concerns, was addressed. Details of the methodology first

introduced in Chapter 1, such as participant selection, instrumentation, and data analysis,

were discussed in more detail. Lastly, I discussed issues of trustworthiness including,

credibility, transferability, dependability, and confirmability in this chapter.

Research Design and Rationale

To explore the perceptions of early childhood educators on the current model of

active shooter drills and their perceptions of the developmental appropriateness of these

drills when used with an early childhood population, the following research questions

were developed:

RQ1: What are early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms?

RQ2: What are early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population?

This study's central phenomena were early childhood educators' perceptions regarding active shooter drills and the concerns indicated through the literature review. These concerns included the developmental appropriateness of active shooter drills in early childhood classrooms, the level of support and preparation the educators have in modifying these drills to meet their students' needs, and the potential negative psychological effect these drills may have on the early childhood population.

The research tradition used for this study was a bounded case study. The decision to use a bounded case study approach was determined after considering using a quantitative approach and multiple qualitative research approaches. A quantitative research approach is used to quantify a problem with defined variables by generating numerical data that could be transformed into usable statistics (Johnson & Christensen, 2019). The purpose of this study was to explore the perceptions of early childhood educators and did not have defined variables to generate numerical data, so it was determined a quantitative research approach was not an appropriate method.

The other qualitative research approaches considered were a basic qualitative study, grounded theory, and phenomenology. A qualitative case study approach provides an in-depth analysis of people, events, and relationships, bounded by some unifying

factors or specific events (Burkholder et al., 2016). The definition of a bounded system is a single person, program, group, institution, community, or specific policy (Merriam & Tisdell, 2016). In this study, the bounded systems were early childhood educators in a specific school district regarding the policy on active shooter drills. Yin (2017) established that a case study approach is relevant when researching how or why a phenomenon occurs. A case study approach is a practical approach when focusing on contemporary events and does not require a researcher to control behavioral events (Yin, 2017).

In contrast, a basic qualitative study takes a more general approach to a topic, looking to gain practical knowledge of a circumstance or event that is poorly defined and not able to be quantified (Elo et al., 2014). Because there was a well-defined circumstance for this study, a basic quantitative study was not appropriate. With grounded theory, there are an emergence of ideas and connections derived from the interpretation of raw data (Burkholder et al., 2016). This approach is typically used when there is little information on a topic and there is a need to establish patterns and themes for future analysis (Burkholder et al., 2016). My review of the literature for this study determined enough research to support this topic and a grounded theory approach would not be appropriate. Phenomenology could also be used to examine a specific phenomenon, but this approach is used when the purpose of a study is to explore the general meaning, structure, and essence of the lived experience of a phenomenon for a person or group of people (Burkholder et al., 2016). Because I addressed the developmental appropriateness of active shooter dills and not the general meaning of this

phenomenon, a phenomenology approach did not align with the problem and purpose of this study.

Role of the Researcher

With a qualitative approach, a researcher has a significant role in multiple stages of the research process, including thematizing, designing, interviewing, transcribing, analyzing, verifying, and reporting (Fink, 2000). For this study, I was the primary individual for all of these areas, including participant selection and interviewing. My personal interest influenced the process of thematizing and designing the study in active shooter drills and the review of current literature. Regarding the interviewing process, I designed the interview questions and conducted all the interviews. Due to the COVID-19 pandemic, the interviews were conducted using the Zoom online videoconferencing platform. Zoom allowed me to hear the answers to the interview questions and observe nonverbal communication, that helped put context to verbal answers. I also completed all the transcribing because researchers can become closer and more familiar with the data when they complete their own transcription (see Wengraf, 2001). This process was discussed in more detail in this chapter when I outline instrumentation.

I did not foresee any potential issues with personal or professional relationships with participants. The only personal connection I had to the school district was with the assistant superintendent. The assistant superintendent had no role in this study and did not meet the criteria for participation. Potential participants were contacted privately via email, and the superintendent was not informed about which educators agreed to participate. Professionally, the institution I work for does place student teachers within

the school district used for this study. Potentially, there was a chance one of my students could be student teaching for one of the educators interviewed for this study. However, student teachers were not included in the participant criteria to avoid any potential issues regarding instructor relationships or power of participants.

The interpretative nature of qualitative research requires researchers to review their own biases and let the phenomenon emerge from its particular cultural environment (Daher et al., 2017). For me to thoroughly understand my own biases, I reviewed my past experiences and training. While I never worked in an early childhood classroom, I have experience teaching children in a healthcare setting. As a certified child life specialist, my professional role required me to provide education and coping skills to children and families in stressful situations. According to ACLP (2016), one of the competencies for child life specialists was supporting infants, children, youth, and families in coping with stressful events. This was defined as identifying types of stressful events affecting children and families and identifying factors that may impact vulnerability to stress (ACLP, 2016). Child life specialists also determined immediate and long-term sensory, cognitive, and behavioral coping strategies specific to developmental stages and populations (ACLP, 2016).

As previously stated in Chapter 1, because one focus of this study was to explore strategies early childhood educators use in the classroom during active shooter drills, my training and experiences supporting children during stressful situations could have created a potential bias. When designing interview questions, transcribing the interviews, and interpreting the data, it was essential for me not to impose any assumptions on the

study participants or allow my personal opinions or judgments to influence the data. I was cognizant of the kinds of information and knowledge I gravitated toward, was open to new concepts, and avoided focusing on only concepts I have used (see Ravitch & Carl, 2016). Some additional steps I took to minimize researcher bias were to include open-ended questions that allowed for free expression of ideas from the participants, to determine data triangulation through the document review, and to keep a research journal. A research journal was a helpful way to monitor my thoughts and feelings regarding the research process and provided an opportunity to review areas for bias (see Annink, 2017).

Another potential concern was my ability to conduct qualitative interviews for gathering data versus a clinical interview. I have training in counseling and have used active listing skills as a professional for many years. My training and experience gave me a strong foundation for asking open-ended questions, not using leading or double-barrel questions, and interpreting nonverbal communication (see Young, 2017). I was also aware of how my body language, tone of voice, and facial expressions could inadvertently communicate a bias or approval regarding a participant's remarks (see Young, 2017). My experiences with active listening skills could have been a potential problem, especially if I slipped into a counselor role and did not maintain my role as a researcher. To help remind myself to respond to the participants' remarks as a researcher, I included a reminder on the interview protocol.

Qualitative interviewing differs from therapeutic interviewing in multiple ways. Patton (2015) stated with qualitative interviewing, the aim is to gain useful information for the study. This differs from a therapeutic interview focused on helping the client

(Patton, 2015). To avoid this issue, I encouraged open and honest answers to the interview questions that were useful for the study and did not stray from the purpose of the research.

Methodology

Participant Selection Logic

As previously mentioned, bounded case study research design was used for this study and I selected participants for this study through purposeful sampling. Once I had received approval to gather data, I communicated with the early childhood educators teaching kindergarten through third grade in one school district from a northeast state who had experienced at least one active shooter drill in their classroom. The participants were also familiar with the school's or district's emergency management plan for active shooter drills. I excluded from this study any classroom aides, paraprofessionals, students, or any other professionals who were not a classroom teacher. I collected information through a document review and personal semistructured interviews.

The decision to only include one school district was influenced by the research design and data collection methods. Because data were collected through a document review of the school district's materials regarding active shooter drills, participants for the interviews needed to be from the same school district for continuity. In addition, participant selection was also influenced by the target population for this study. Early childhood education is defined as educational services for children from birth through age 8, which is traditionally viewed until third grade (NAEYC, 1993). Because the target population was early childhood, this limited the educators to those teaching in

kindergarten, first grade, second grade, and third grade. The school district originally selected for this study has a little over 3,000 students between one high-school, two middle-schools, and four elementary-schools. For the 2019–2020 school year, there were 909 students in early childhood classrooms (New York State Education at a Glance, 2020). This school was selected because of its size, location, and the opportunity for access to the educators. However, difficulties recruiting an adequate number of participants from the one district created a need to expand the setting to include all early childhood educators within the designated state. This change in procedures was submitted to the IRB and approved.

The guideline for the number of participants in a qualitative study is determined by saturation (Mason, 2010). However, there is a discrepancy between researchers regarding an accepted number for saturation. Baker et al. (2012) recommended new researchers aim for 12 interviews, stating that more than 12 could be complicated and challenging due to limited resources. Mason (2010) suggested a minimum goal of 15, and Guest et al. (2006) suggested the number required to be between six and 12 interviews. Namey et al. (2016) found that 90% saturation was reached with 16 interviews (p. 425). Other researchers did not recommend a specific number for saturation. Ravitch and Carl (2016) suggested saturation is reached when no new information is being coded and the data from the interviews become redundant. Patton (2015) stated when it comes to saturation, the quality of the data gathered is more significant than the number of people interviewed. Specific to case studies, Yin (2017) also did not explicitly recommend a number of participants needed for saturation but stated the researchers' focus should be

on performing an in-depth analysis of the situation to accurately explains the phenomenon.

After reviewing the research on the recommended number of participants for a qualitative case study, I determined the estimated number of qualitative interviews needed to reach saturation for this study was between ten to twelve early childhood educators (see Baker et al., 2012; Guest et al., 2006; Namey et al., 2016). My goal was to obtain 12, based on the recommendation from Baker et al. (2012) but recognized this number could be lower if the data from the interviews becomes redundant (Ravitch & Carl, 2016). This number was determined from a review of multiple studies which, suggested that 10 to 12 interviews produce an acceptable level of saturation for qualitative research (see Guest et al., 2006; Namey et al., 2016).

A case study needs to include multiple sources of data to gain a broad and robust understanding of the topic, so in addition to semistructured interviews, a document analysis was also completed (Burkholder et al., 2016). A document analysis is an approach often used in qualitative research to establish triangulation. For this method, researchers develop and use a guide to analyze documents for similar themes or ideas addressed in the interviews. The variation of data collection across different data sets could reduce the potential of bias (Bowen, 2009). For this study, two types of documents were reviewed. A review was completed on the documentation concerning the educators' professional development regarding active shooter drills. The communication given to additional stakeholders including students and parents was included in the second review. According to O'Leary (2014), one way to conduct a document review was to approach

the documents like a respondent. With this interview technique, the researcher predetermines the questions to be asked and then highlights the answers within the text, recording the frequency and number of occurrences within the document (O'Leary, 2014). A document analysis can provide background information and, in this study, this approach provided foundational knowledge on the current model of active shooter drills as it existed within the specific school district (see Bowen, 2009). A document review checklist (Appendix A) was created, modeled after the interview questions developed after an extensive review of the literature resulting and grounded in the research and based on the conceptual framework (see Jacob & Furgeson, 2012).

Once the schools participating in the study were established, the documents regarding the design of these drills were collected. These documents were analyzed, taking note of emerging themes, looking specifically at the approaches and recommendations used in early childhood classrooms.

Personal semistructured interviews were the second approach used to collect data for this study. These interviews focused on the modifications early childhood educators have made to the drill model used in their school and the strategies they have found to be the most successful in encouraging cooperation and reducing anxiety. The strategies determined from these interviews were evaluated against strategies from studies exploring other stressful situations.

Qualitative interviews are usually conducted one-to-one, where the researchers ask participants open-ended questions. These questions are designed to help the researchers develop a comprehensive understanding of the interviewee's background,

attitude, or actions on the topic (Chambliss & Schutt, 2013). When conducting the interview, the researcher needs to use active listening skills to demonstrate a genuine interest in the subjects' thoughts and feelings. When selecting participants, the researcher should consider how knowledgeable they are on the subject, how willing they are to talk, and represent a range of perspectives from within a group (Chambliss & Schutt, 2013).

Instrumentation

This case study's data collection tool was an interview protocol I designed (Appendix B). An interview protocol includes a list of interview questions, a script of what will be said before and after the interview, prompts for the interviewer to collect informed consent, and prompts to remind the interviewer of the information they are interested in collecting (Jacob & Furgeson, 2012). This protocol was developed using the guidelines established by Jacob and Furgeson (2012), who suggested researchers develop a preinterview script that describes the purpose of the study, review the notion of informed consent, and direct the participants to sign the statement of informed consent. This helped to address any questions the participants had about the study and any confidentiality concerns. The script also helped to build rapport by providing some information about myself and the motivation for the research topic. Another script was developed to be used at the end of the interview to provide contact information and any potential follow-up procedures (see Jacob & Furgeson, 2012). As suggested by Jacob and Furgeson, the questions were developed after an extensive review of the literature resulting in focused and defined interview questions grounded in the research and based

on the conceptual framework. The questions were also designed to be open-ended and phrased to not to be leading (see Jacob & Furgeson, 2012).

To ensure that the interview protocol's information and questions were clear and based on the conceptual framework and literature review, the interview protocol was reviewed by multiple groups before being used in the study. These groups included two experts in the early childhood field, two educators who completed research studies that used interviews, my dissertation committee, and the Walden University IRB. The scripts and questions were revised based on these expert reviews' feedback while maintaining proper alignment for a qualitative study.

Semistructured interviews as a data collection method was appropriate for my study. The purpose of this study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. The use of interviews allows researchers to understand another person's lived experiences and their meaning of the experience (Seidman, 2012). Semistructured interviews are usually conducted one-to-one, where the researchers ask participants open-ended questions. These questions are predetermined and include topics that need to be covered during the interview but the interviewer could ask additional questions not included in the interview guide if they feel it is appropriate (Jamshed, 2014). This format was designed to help the researchers develop a comprehensive understanding of the interviewee's background, attitude, or actions on the topic (Chambliss & Schutt, 2013). Because the purpose of my research went beyond educators' actions and focus on the

perceptions of these drills, the interview process expanded on the data collected through observation by attaching meaning and context to the actions (see Seidman, 2012).

This approach to gathering data is preferred over other approaches like focus groups. Focus groups are a collection of participants in a discussion that is led in a group session but guided by the researcher and are often used for developing hypotheses, developing survey questions, investigating the meaning of survey results, or quickly assessing the range of opinions about an issue (Chambliss & Schutt, 2013). Surveys are another method for gathering data. According to Jansen (2010), qualitative survey analysis is useful for exploring meanings and experiences and searches for the participants' empirical diversity. A survey as a data collection method was considered for this study, but it was eliminated due to the limited depth of information that is typically collected with surveys (Chambliss & Schutt, 2013). After reviewing the goals of these different data collection methods, semistructured interviews were the technique most in alignment with the purpose of my study.

Because I also completed a document review, I created a document review checklist (Appendix A). The document review checklist (Appendix A) was modeled after the interview questions developed after an extensive review of the literature resulting and grounded in the research and based on the conceptual framework (see Jacob & Furgeson, 2012).

Procedures for Recruitment, Participation, and Data Collection

To determine potential participants for this study, I obtained the email addresses of early childhood educators from the school district's directory which was public

information on the school district's website. The recruitment process included sending an email communication to all the early childhood educators explaining the focus and goals of my study and the criteria for participating. The consent form and an invitation to participate were also included in the email communication. Educators who agreed to participate were asked to respond "*I consent*" via email. I confirmed that the participants met the criteria for the study when I contacted them to set up an interview time. I conducted all the interviews and anticipated the interviews would last approximately 45 to 60 minutes. The participants were only interviewed once.

When my initial email request for participants did not result in the desired number of participants, a second email request was sent. However, due to continued difficulties recruiting an adequate number of participants from the one district, I determined a need to revise my proposed recruitment plan to expand the setting to include all early childhood educators within the designated state. This change in procedures was submitted to the IRB and approved.

After participating in the interview, the participants were asked to review a summary of the data for accuracy and determine if the themes were accurate and if the interpretations were fair and representative. The practice of compensating participants in research studies for their time and effort is considered ethically acceptable when there is a consideration of the nature of the study, the potential benefits and risks to the participants, and the cultural and social norms specific to the population being studied (Permuth-Wey & Borenstein, 2009). In this study, there was little risk to the participants, and they were all employed professionals reducing the possibility for only participating

for financial reasons. All qualified participants were mailed a $10 gift card for their time and efforts in contributing to the body of knowledge for the early childhood profession. This amount and payment method were helpful in the recruitment process and was described as a token of appreciation for an individual's contribution to research (see Permuth-Wey & Borenstein, 2009). Participants had a choice between a gift card for Dunkin Donuts or Amazon.

After completing the interview, the participants were informed about being provided a summary of the data for them to review to determine if the themes were accurate, and if the interpretations were fair and representative. I also let them know I would share the results of the study at their request. Lastly, I gave the participants my email and phone number so they could contact me after the interview with any questions or concerns.

Due to the current situation with the COVID-19 pandemic, I conducted the interviews using the Zoom online videoconferencing platform. Zoom has been determined to be an effective method for conducting qualitative interviews and was preferred over in-person interviews, telephoned or other video conference platforms (Archibald et al., 2019). One key advantage of using Zoom was it allowed me to build rapport with the participants (see Archibald et al., 2019). Zoom allowed me and participants to see and respond to nonverbal communication such as facial expressions, gestures, and body language (see Archibald et al., 2019). This added element helped to build trust, promoted a more relaxed conversation, and allowed for rich data to be collected (see Archibald et al., 2019). This experience echoed what Opdenakker (2006)

determined regarding face-to-face interviews who stated synchronous communication provides opportunities for researchers to take advantage of social cues such as voice, intonation, and body language that help establish a good interview ambiance. Some of the disadvantages of a face-to-face interview format include interviewer effects when the interviewer unknowing guides the conversation with their behavior and the cost associated with travel (Opdenakker, 2006). Having an interview protocol and being aware of the possibility of interviewer effects are techniques I used reduce this possibility. Zoom helped to reduce the cost as Archibald et al. (2019) determined Zoom was also user-friendly, convenient, cost-effective, and allowed for greater flexibility for times and locations. If an interview could not be conducted using Zoom, I would have used the telephone to complete the interview.

Data Analysis Plan

Once the data were collected and audio recorded via Zoom, it was transcribed using Otter.al, an artificial intelligence–based transcription service. The Otter.al transcription services sync with Zoom and provide real-time streaming transcripts of Zoom interviews, that were carefully reviewed for accuracy. Once I reviewed the transcripts, the data were analyzed and interpreted using a six-phase thematic analysis process.

According to Braun and Clarke (2006), a six-phase thematic analysis process first requires a researcher to become familiar with the data and to generate initial codes. This was done through the repeated reading of the data which allowed the researcher to become immersed in and understanding the depth and breadth of the data. During the

initial review, I searched for meanings and areas of interest within the data, that I organized into meaningful groups. Braun and Clarke's next step was to conduct a second review of the data, search for patterns and codes, clearly define the themes, and determine how these themes relate to each other. For this step, I highlighted different areas of text to indicate potential patterns and determine codes. Once all the data were reviewed, the codes were analyzed to determine how different codes combined to form a theme (see Braun & Clarke, 2006). For this step, Braun and Clarke recommended using a visual representation of the codes, so I created a visual thematic mind map showing the connection between codes and different levels of themes. This mind map allowed me to review the accuracy of my initial thematic review, determine if the data were meaningfully grouped, and establish clear, identifiable distinctions between the different themes (see Braun & Clarke, 2006). The creation of the mind map allowed for a third review of the data. During this review, the initial themes were assessed on how accurate they represented the data, and for any themes that may have been missed in the previous reviews (see Braun & Clarke, 2006). Once the themes were finalized then, I summarized and clearly defined each theme. According to Braun and Clarke, the final step in the analysis review was to write up the results giving an accurate account of the steps taken in the analysis and a description of the determined themes. While these steps were presented sequentially, the phases are not necessarily linear and it may be necessary to repeat steps especially when dealing with complex data (Braun & Clarke, 2006).

A six-phase thematic analysis process was a flexible approach to data analysis that supported an explorative qualitative framework. Because there was little known

about the perspectives of early childhood educators on the current model of active shooter drills and their perspectives on the developmental appropriateness of these drills when used with an early childhood population and purpose of the study was to explore this topic, a six-phase thematic analysis process was an appropriate method for interpreting the data (see Braun & Clarke, 2006). With thematic analysis, the analysis can be theoretical and driven by the research question or more inductive and driven by the data (Braun & Clarke, 2006). This study took a more top-down approach where the research questions drove the analysis.

Multiple researchers have used a six-phase thematic analysis with a qualitative case study approach. In 2017, Maguire and Delahunt demonstrated this process's effectiveness in a study examining student perspectives on academic feedback using interviews for data collection. Zuković and Slijepčević (2020) also examined school counselors' experiences in counseling elementary- and primary-school children using a six-phase thematic analysis analyzing data collected from 81 semistructured interviews. Liang et al. (2020) also used a six-phase thematic analysis approach to review parent interviews to explore the different ways families engage in their child's PreK experience.

Once the analysis was complete, I conducted a member check to review and determine if the themes and interpretations were accurate and a fair representation of the participants' views (see Creswell & Guetterman, 2019). Member checking adds credibility to a qualitative study by allows participants to review the interpreted data and to confirm or deny that it is an accurate portrayal of the participants' views (Candela, 2019). This process could also produce new evidence that was not given during the initial

interview (Yin, 2017). For this study, I emailed a summary of findings to the participants and asked them to review the data and provide feedback through email regarding their perceptions on the completeness and accuracy of findings.

With qualitative research, there is always the possibility of having cases considered discrepant or cases that do not fit into the emergent patterns (Patton, 2015). During the data collection process, I became aware that one of the participants experienced having a lockdown drill evolve into an actual lockdown. This experience could have potentially been considered a discrepant case. When there is the possibility of a discrepant case, it is recommended to have an additional individual review the situation (Booth et al., 2013). Because this was a doctorate dissertation, and I was the only reviewer, I sought the guidance of my dissertation review committee as recommended by Booth at al. The data were reviewed and discussed with my chair who did not find a concern with including the data from this participant, provided the focus was on the participant's responses to the interview questions, versus the actual experience.

Issues of Trustworthiness

Credibility

Credibility, or internal validity, is one of the factors evaluated when establishing trustworthiness. Credibility is defined as the level of truth in the research findings, and if the findings are an accurate representation of the information gained from the data (Anney, 2014). One method used to establish credibility is triangulating data and looking for emerging themes (Patton, 2015). Triangulation involves using multiple methods, researchers, or sources of data to review the same problem with a different perception.

(Anney, 2014). Data were collected from interviews and a document review and I was able to compare data from the different sources and establish triangulation. Using well-established research methods that align with the research questions is another way to establish credibility. According to Yin (2017), a case study approach is appropriate when the research focuses on a specific event, place, thing, organization, or unit of some kind. The interview guide for this study inquired about the educators' perceptions of specific events that supports a case study design.

Additional methods used for determining credibility were member checking and peer review. Member checking adds to the credibility of a qualitative study by allowing participants to review the interpreted data and to confirm or deny that it is an accurate portrayal of participants' views and if the interpretations are fair and representative (Creswell & Guetterman, 2019). Member checking also improves the validity of the study by reducing the potential for researcher bias, decreasing the incidence of incorrect data, and allowing the researcher to verify the accuracy and completeness of the collected data (Harper & Cole, 2012). For this study, I asked the participants to review a summary of findings and common themes and asked them to check for accuracy.

The last method used to establish credibility was the use of peer debriefing. According to Spall (1998), peer debriefing is an effective tool for evaluating qualitative research. Peer debriefing is a review of the research process by a peer. The peer relationship allows for a level of openness that is not necessarily achieved with a professor or advisor. Some areas that could be reviewed are alignment and researcher bias. For this study, my interview protocol was reviewed by four peers who gave

feedback on the design of the interview questions, assessing if the questions are grounded in the literature and are open-ended. Before reviewing the interview protocol, each reviewer was briefed on the research problem, purpose, and questions to ensure alignment and the interview questions were sufficient to answer the research questions. My peers also reviewed the interview protocol for any potential researcher bias, if I had developed any leading questions, or any flaws, limitations, or other weaknesses within the interview design (see Turner, 2010).

Transferability

Transferability, or external validity, refers to the extent the findings can be generalized from the sample to the population or other settings and groups (Anney, 2014). With qualitative research, it is essential to establish boundaries like the number of participants, data collection methods, data collection sessions, and the study's time frame. These boundaries help to confirm the transferability of the study (Shenton, 2004). As suggested by Shenton, I included a detailed description of the literature supporting my study and a detailed description of the participants for the study. This information allowed other researchers to generalize the finding from the study in a meaningful way in other research or settings (see Shenton, 2004).

The limited participant and site selection limited the transferability of the findings. Including federal and state policies and procedures and the documents specific to the research site in the document review addressed this limitation. As I stated in Chapter 1, the inclusion of these documents increased the transferability of the results to additional school districts who also follow the same federal or state guidelines.

Additionally, because this study was not designed to address the younger early childhood population, there is a question of the transferability of the results to educators teaching children younger than 3 years.

Dependability

Dependability is the process within the study that allows for it to be replicated with similar results (Shenton, 2004). Providing great detail for all procedures within this study is one way to establish dependability. For this study, I provided a detailed description of the research design and its implementation, the participants, the interview guide, and the data analysis plan (see Shenton, 2004). Additional measures that also contributed to this dependability of this study were data triangulation, member checking with the participants, journaling, and requesting feedback from my peers and dissertation committee (see Shenton, 2004; Yin, 2017). Finally, as suggested by Shenton, I used an "audit trail" to trace my research process, data collection, and analysis.

Confirmability

Shenton (2004) defines confirmability as the researcher's concern toward objectivity and ensuring the findings are a result of the experiences of the participants and not the characteristics and preferences of the researcher. Some steps I took to ensure confirmability were triangulation of data, member checking, and conducting an audit trail. The triangulation of data and member checking were previously mentioned and described in detail as ways to strengthen credibility. Shenton (2004) suggested using an audit trail of the research process, data collection, and analysis as a tool to analyze and adjust any piece of work that may be influenced by personal bias.

Ethical Procedures

Establishing ethical procedures in research provides strategies to protect and

respect the rights of the participants as well as establish guidelines for research integrity

(Yin, 2017). To ensure that all Walden University research studies comply with the

institution's ethical standards and federal regulations, Walden University requires all

researchers submit their research proposal to the IRB for Ethical Standards in Research.

The IRB reviewed the design of the study, including the interview guide, the participant's

FAQs, and consent form. These documents provided a detailed description on how I

maintained confidentiality of the participants and protected the information provided by

the participants. Multiple actions were taken to protect the privacy and confidentiality of

the participants. First, before collecting any data, I received approval from Walden

University's IRB. Walden University's approval number for this study is 01-27-21-

0732077. All the participants who agree to be interviewed were notified of the right to

privacy and confidentiality and signed the approved consent form via email. Before the

start of their interview, a script was read, reminding the participant that participation was

entirely voluntary, referencing their right to withdrawal from the study or refuse to

answer any question at any time, for any reason, without penalty.

The participants were not identified by name or any other personally identifiable

information. Each participant was assigned an alphanumeric character, distinguishing

between different grade levels while maintaining confidentiality. These characters were

the only way participants were referenced throughout the study (see Poland, 2008). I also

limited the demographic information about the participants to just grade and the number

of years the participants have been teaching. This information was used to provide a general overview of the population and was only included when the particular demographic descriptor combination included at least three people. For example, "Kindergarten educators with over 5 years of teaching experience" was only be used to describe a group if three or more participants fit that demographic description. All identifying information regarding the participants was stored on my password-protected computer and maintained in accordance with established IRB guidelines. As required by Walden University, all data will be kept for a period of at least 5 years and will then be destroyed. The study setting was also kept confidential.

Because the topic of my research was the educators' perceptions regarding active shooter drills, there were some potential areas that may have made the participants uncomfortable. I explored the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. This line of questioning could have led to comments or concerns the educators have that may have contradicted the school's policies or indicate that the educator was not educated on the policy. This could have posed a potential ethical issue, especially if the educators were concerned they might be "in trouble" for not knowing or agreeing with the school's active shooter policy. I addressed this potential ethical issue by reassuring the confidentiality of the participant responses and by ensuring the purpose of the study was to explore their perceptions of the design and not to determine how well they know or understand the policies.

The use of member checking could have also raised some ethical issues. Reviewing past statements could cause the participant to recall painful memories or negative past experiences, resulting in negatives emotions (Harper & Cole, 2012). The possible negative impact that member checking may have on the participants' well-being is something a researcher needs to consider when designing a research plan. For that reason, researchers need to be clear on the use and value of using member checking and need to consider strategies for dealing with the potential negative emotional effects on the participants (Birt et al., 2016). In this study, it was not anticipated that the participants' responses would be extremely emotional, but if that situation did arise, I provided the name and contact information for the Disaster Distress Helpline a confidential, free, 24-hour-a-day, 365-day-a-year hotline that provides immediate crisis counseling for people who are experiencing emotional distress related to any natural or human-caused disaster (see Birt et al., 2016).

Summary

In Chapter 3, I provided a detailed description of the methodology for my study, including a review of the research questions, participant and site selection, and the justification for the chosen research tradition. I also outlined my role as the researcher and steps taken to reduce researcher bias. I also provided detailed descriptions of the instrumentation, methods for data collection, and the data analysis plan. Finally, I ended the chapter by addressing trustworthiness issues, including how I establish credibility, transferability, dependability, and confirmability within my research plan. In Chapter 4, I

presented the findings, including a summary of the data collected, an analysis of the data, and evidence of trustworthiness.

Chapter 4: Results

Introduction

The purpose of this study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. The following research questions guided my data collection, analysis, and interpretation:

RQ1: What are early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms?

RQ2: What are early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population?

In this chapter, I provided an overview of the design and summarize the findings for this qualitative study. First, I described the setting for the study and provide relevant descriptive statistics regarding the participants. Next, I explained the data collection and analysis procedures while presenting evidence of trustworthiness. Lastly, I presented my research results, organize the data according to the themes, and conclude this chapter with a summary of the findings.

Setting

The original proposal for this study was to include only one school district. This decision was influenced by the research design and data collection methods, that included a document review. My proposed plan was to review the school district's materials

regarding active shooter drills, including any documentation concerning the educators'

professional development regarding active shooter drills and the communication given to

additional stakeholders. Once I began collecting this material, I discovered the documents

specific to individual schools were confidential, and the public information was universal

to all schools within the state. This knowledge altered the focus of the document review

to the state's laws and requirements regarding active shooter drills that all districts need

to follow. Any information regarding professional development or communication given

to additional stakeholders was gained through the semistructured interviews. This

realization also meant the document review was no longer specific to one district but was

relevant to all school districts in the state. This discovery, coupled with recruiting

challenges, allowed for expanding the setting from one school district to the entire state.

The decision to only include one state in this study was also influenced by the

research design and data collection methods. The site was delimited to one state for

information continuity because a document review of the state's laws and requirements

regarding active shooter drills was a proposed method for data collection. The

delimitations of participant and site selection may limit the transferability of the findings.

This is being addressed by including policies and procedures at the federal and state level

in the document review. The inclusion of these documents increased the transferability of

the results to additional states that also follow the same federal or state guidelines.

This study was conducted during the worldwide COVID-19 pandemic. At data

collection, it had been 1 year after the declaration of the COVID pandemic. Safety

measures had severely altered the design of educational instruction for many of the

school districts. Two of the educators had been teaching entirely virtually for the 2020–2021 school year. Three educators had been teaching using a hybrid model, requiring students to alternate days attending class in-person and virtually. The last five educators were able to teach a traditional, in-person class on a 5-day-a-week schedule.

Demographics

The participants in this study were early childhood educators teaching kindergarten, first grade, second grade, and third grade in a northeast state in the United States. All 10 participants had experienced at least one active shooter drill in their classroom and were familiar with the school's or district's emergency management plan for active shooter drills. The participants taught in various school districts within the state, ranging from urban to suburban to rural communities. Two educators taught in a school district in an urban area, four educators in a suburban area, and two educators in a rural area. Two of the participants taught in kindergarten-second-grade special education classrooms. The years of teaching experience ranged from 5 years to 25 years. Participant characteristics are detailed in Table 1.

Table 1

Participant Demographics

Participant ID	Years teaching	Grade(s) taught	School setting
AK	16	Kindergarten	Rural
BK	25	Kindergarten	Urban
A1	14	First grade	Urban
B1	25	First grade	Suburban
A2	21	Second grade	Suburban
B2	19	Second grade	Suburban
C2	21	Second grade	Rural
A3	14	Third grade	Urban
AS	5	K–2 special education	Suburban
BS	7	K–2 special education	Rural

My review of the specific demographics of the respondents indicated each grade was represented (see Figure 1). There was also relatively equal distribution of years of experience teaching (see Figure 2) and school setting among the participants (see Figure 3). Because the focus of the study was the educators' experiences in the classroom setting, other school personnel, including classroom aides, paraprofessionals, or any other professional in the classroom who were not a classroom teacher, were not eligible to participate in the study.
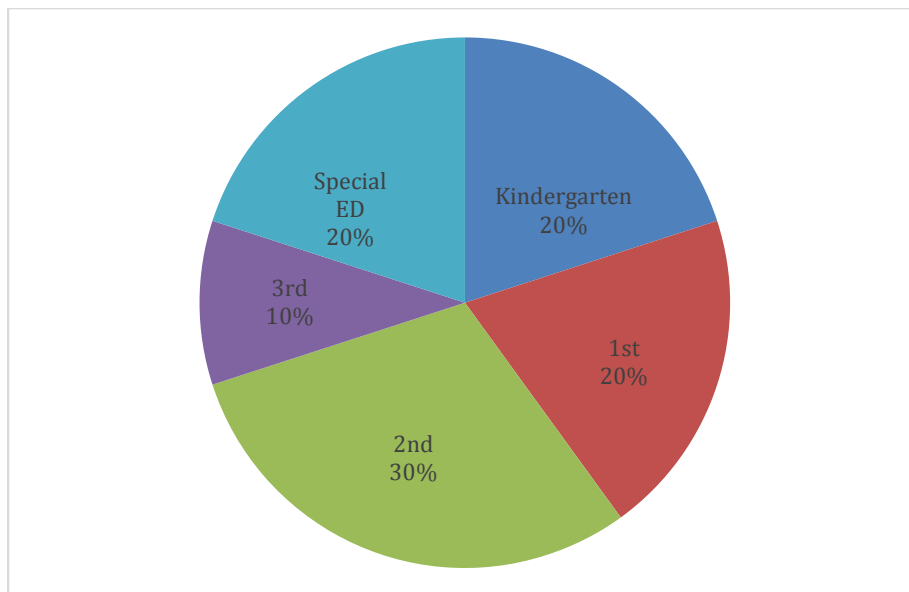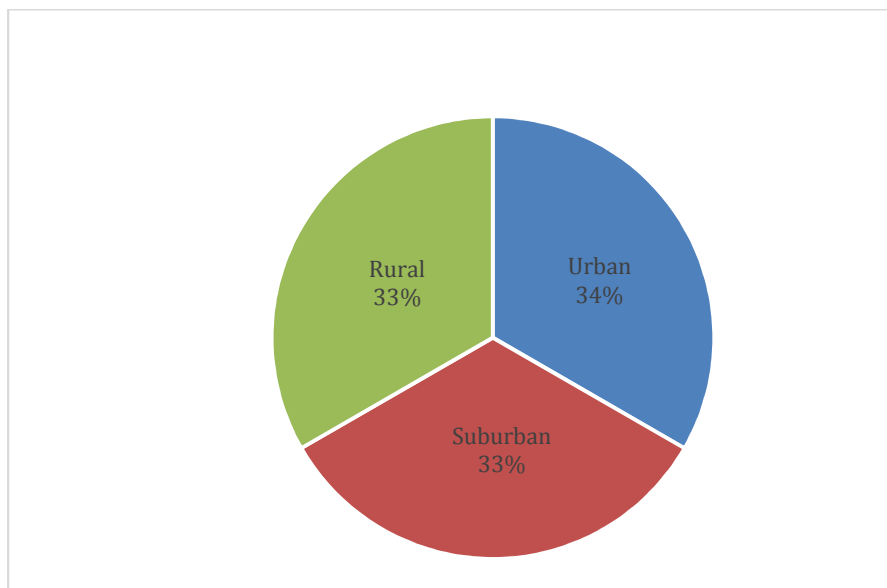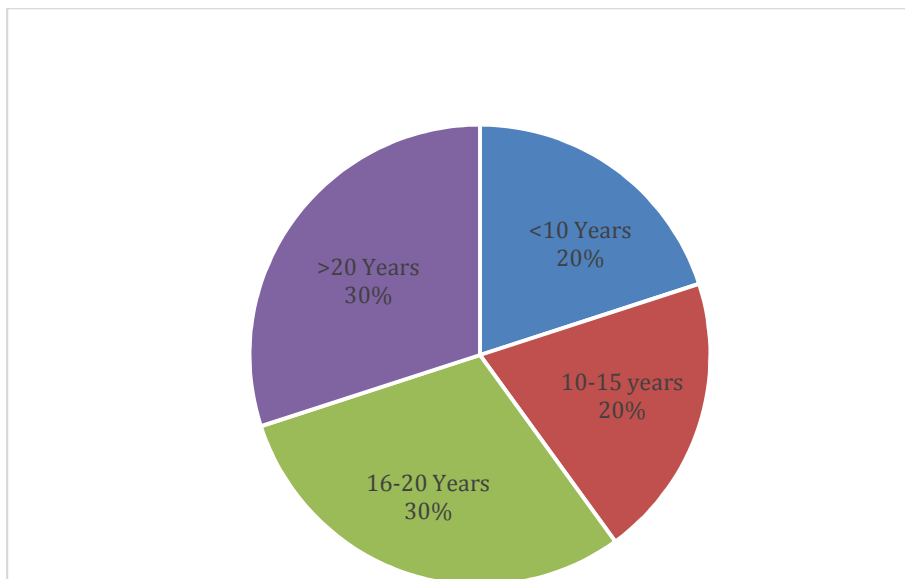
Figure 1

Grades Taught by Participants

Figure 2

School Settings of Participants

Figure 3

Participants' Years of Experience

At the time of the interview, Participant BK had experienced a recent lockdown event in their classroom. During a lockdown drill, the school became aware of an event happening in the local community viewed as a possible risk. The school's principal announced the in-progress drill was now an actual lockdown event. When reviewing and coding this participants' responses, there was an attempt only to include statements regarding drills and not the actual lockdown. However, because the drill evolved into a lockdown event, it was sometimes difficult to separate the two. As a result, some of the participant's responses may reflect her actions and thoughts regarding the lockdown event and not just a drill scenario.

Data Collection

I interviewed a total of 10 early childhood educators over 3 weeks. To recruit participants, over 600 invitations for participation were sent to early childhood educators

via email in multiple school districts in the state. I included the consent form in the invitation, and the participants who agreed to participate indicated their consent by replying to the email with the words, "I consent." The interviews were scheduled according to participants' availability. Before starting the interview and collecting data, I verified the participant met the criteria for participation, confirmed consent, and informed the educator I was creating an audio recording of the interview. Each participant confirmed their participation was voluntary, and I reviewed the steps I took to ensure their confidentiality. These included explaining that legal names were not attached to any stored data, all participants were assigned a participant ID, and data would be stored on a password-protected computer.

The method for recruitment and the setting differed from my original proposal. As previously noted, I had anticipated including only one school district in this study. However, due to difficulties recruiting an adequate number of participants from the one district and changes already discussed with the document review, I revised my proposed recruitment plan to expand the setting to include all early childhood educators within the designated state. This change in procedures was submitted to the IRB and approved.

In addition, the proposed method for obtaining email addresses for potential participants was to ask school superintendents for a list of all educators who teach kindergarten through third grade. During the IRB review process, it was discovered the educators' email addresses were listed on school district websites and were public information. The access to this information made it unnecessary to communicate with

superintendents, and I sent emails directly to potential participants. This change was also submitted to the IRB and approved.

The initial goal for participants was 12, but I also recognized this number could be lower if the data became redundant (Ravitch & Carl, 2016). After reviewing the data collected from 10 interviews, I determined I had reached an acceptable level of saturation as the participants' information had become redundant. This was in alignment with Guest et al. (2006) and Namey et al. (2016) who suggested 10 to 12 interviews produce an acceptable level of saturation for qualitative research.

Each interview lasted approximately 30–40 minutes and all interviews yielded a complete and usable audio recording. Each interview followed the interview protocol outlined in the interview guide (Appendix B). Due to restrictions from COVID-19, all the interviews were done virtually and audio recorded using the video conference program Zoom. After each interview, the dialog was transcribed using the Otter.al software system. During this process, I listened to the recorded interviews while reviewing the transcription to check the accuracy of the transcripts produced by the Otter.al transcription service.

Data Analysis

Once I collected the data from the interviews, it was analyzed and interpreted using a six-phase thematic analysis process suggested by Braun and Clarke (2006). For the first level of review, I became familiar with the data by reviewing the audio recordings and the interview transcriptions multiple times. I then conducted a second review of data where I searched for meanings and areas of interest, that I organized into

meaningful groups. For this step, I uploaded the transcripts into the mapping program NVivo and I used the data software program to indicate potential patterns and determine codes. The use of NVivo was not indicated in my proposal but it was a program I was familiar with. Hilal and Alabri (2013) found NVivo reduces the number of tasks and gives the researchers time to discover themes and codes. NVivo also provided a way for me to manage the data and gave me the ability to display the information visually (see Hilal & Alabri, 2013).

After organizing the data into meaningful groups, I reviewed each transcript and highlighted different areas of text to determine codes. Once I established the codes, these were organized the categories using the research questions as a foundation. These categories were the educators' perceptions of the school district's role in active shooter drills and the educators' perceptions of the developmental appropriateness of the drills. Under the category of educators' perceptions of the school districts' role in active shooter drills, the data were organized into themes pertaining to information regarding professional development, the information provided specifically to the developmental needs of early childhood students, the educators' understanding of their role as defined by the school's emergency action plan, and communication with additional stakeholders. Under the category regarding the educators' perceptions of the developmental appropriateness of the drills, the data were organized into themes pertaining to the educators' perceptions of the student responses, the educators' emotional response, strategies and techniques educators use, and desire for change regarding the drills.

Once I reviewed all the data, I used NVivo to create a visual thematic mind map of the initial codes to visualize categories and establish themes. (Appendix C). Creating this visual thematic mind map allowed me to establish the connection between the codes and the different themes and determined the accuracy of my initial review. The development of the thematic mind map also served as my third review of the data. Using the mind map as a guide, I conducted another review of the data, determining themes from the categorized codes assessing how accurate they represented the data, and reviewed any themes I may have missed in the previous reviews (see Braun & Clarke, 2006). These themes were reviewed and discussed with my committee chair to ensure my findings did not exceed the data and scope of the study. After clearly defining, naming each theme, and the findings were shared with the participants so they were able to conduct a member check. The final step in my analysis review was to write up the results giving an accurate account of the steps taken in the analysis and a description of the determined themes.

In addition to the data collected from the interviews, I also collected data with a document review. As previously mentioned, I altered my proposed plan to collect documentation specific to school districts and instead included any documentation at the state and federal level that addressed active shooter or lockdown drills. This documentation included laws, regulations, and recommendations for school districts. I still used the document review checklist (Appendix A) to review the collected documents. I addressed each predetermined question and then highlighted the answers within the text, recording the frequency and number of occurrences within the document.

I used the data collected from the document review to establish triangulation of data collected during the interviews.

My process for analyzing my data did not vary from my proposed plan, with the exception of including NVivo to help organize the data. Because there was little known regarding the perspectives of early childhood educators on the current model of active shooter drills and their perspectives on the developmental appropriateness of these drills when used with an early childhood population and purpose of the study was to explore this topic, using a six-phase thematic analysis process allowed for an exploration of this topic focused on the research questions.

In regard to discrepant cases, Participant BK experienced having a lockdown drill evolve into an actual lockdown. This experience could have potentially been considered a discrepant case. When I was reviewing and coding this participant's responses I made a conscious effort to only include statements regarding the drill and not the actual lockdown. The data were reviewed and discussed with my chair who did not find a concern with including the data from this participant.

Evidence of Trustworthiness

Credibility

When conducting a qualitative research study, one must consider credibility, transferability, dependability, and confirmability. During my research design, data collection, and data analysis, I incorporated multiple methods and techniques to ensure each of these areas were met. Before conducting interviews, I addressed credibility by having the interview protocol reviewed by four peers who provided feedback on the

design of the interview questions, assessing if the questions were grounded in the literature and were open-ended. Another method I used to establish credibility was triangulation. For this study, data were collected from both interviews and a document review. Collecting data from two different sources allowed me to compare the data and establish triangulation. I also used a research method that was well established for the type of inquiry I was exploring. According to Yin (2017), a case study approach is appropriate for focusing on a specific event, place, thing, organization, or unit. The interviews conducted for this study focused on the educators' perceptions of an event within their classroom, indicating a case study approach was appropriate.

After I interpreted the data, I emailed a summary of findings to each participant to review and provide feedback through email regarding their perceptions on the completeness and accuracy of findings. This process, known as member checking, added credibility to this qualitative study by allowing participants to review the interpreted data and to confirm or deny that it was an accurate portrayal of their views (Candela, 2019). This process could also produce new evidence that was not given during the initial interview (Yin, 2017). Three respondents responded they agreed with the accuracy of the themes. There was no response from the other seven participates.

Member checking also added to the credibility of this study by allowing the participants to review the interpreted data and confirm or deny it was an accurate and fair portrayal of their views (see Creswell & Guetterman, 2019). This technique also reduced the potential for research bias, decreases the incidence of incorrect data, and allowed me to verify the accuracy and completeness of the collected data (see Harper & Cole, 2012).

Transferability

As already indicated, the setting for this study differed from the proposal. My original plan was to limit the setting to one school district, but I increased the setting to the entire state. This change also increased the potential transferability of this study to school districts within the same state and school districts that follow the same federal guidelines. In addition, the detailed description of the literature supporting my study and the detailed description of the participants allows other researchers to generalize the findings to other areas of research or settings (see Shenton, 2004).

Dependability

This level of detail regarding the research procedure, participants, and data analysis also contributed to the dependability of this study. Some other techniques that contributed to the dependability of this study were data triangulation, member checking, keeping a research journal and audit trail, and requesting feedback from my peers and dissertation committee (see Shenton, 2004; Yin, 2017).

Confirmability

Finally, many of these same techniques allowed me to maintain objectivity and ensure the findings were the result of the participants and not influenced by my experiences. The triangulation of data, member checking, conducting an audit trail, and keeping a research journal provided opportunities for self-reflection and self-awareness throughout the research process established a level of confirmability.

Results

The purpose of this study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. In this section, I presented the findings of the study in a logical sequence in relation to the research questions. Patterns were noted through the process of coding. These patterns were then developed into categories and themes, that are explored below. The four themes emerged from the data analysis were related to the first research question: What are early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms? These common themes were:

1. Early childhood educators receive professional development and training regarding active shooter drills as required by the state guidelines but desire more training, practice, and preparation.

2. The professional development and training early childhood educators receive regarding active shooter drills are focused more on procedures and provide little information regarding the students' emotional needs.

3. Early childhood educators initiate more communication with the families and students than is required by school policies and procedures.

4. Early childhood educators perceive an expectation from the school district for the educators to address the developmental needs of their students and use their best judgment and knowledge when discussing and preparing students for these drills.

Four additional themes emerged from the data regarding the second research question: What are early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population? These themes were:

5. Early childhood educators believe the current model of active shooter drills does not address the developmental needs of early childhood students.

6. Early childhood educators have incorporated strategies and techniques that are not a part of their school's emergency plan to support the developmental needs of their students during drills.

7. The majority of the early childhood educators perceived these drills were not stressful for the children, or the children could quickly return to previous activities after the drills.

8. Early childhood educators feel a responsibility to the students and struggle to determine what information is appropriate to share with their students in their role as an educator.

Theme 1

Early childhood educators receive professional development and training regarding active shooter drills as required by the state guidelines but desire more training, practice, and preparation. This theme established a baseline understanding of the focus, depth, and frequency of professional development and training educators receive regarding active shooter drills. This theme supports RQ1: What are early childhood

educators' perceptions of school policies and procedures for developing active shooter

drills in early childhood classrooms?

Annual Mandatory Training

The required state guidelines determined the school policies and procedures

regarding active shooter training and professional development. All the educators

indicated they received the annual mandatory training at the beginning of the school year.

This training reviewed the policies and the educators' responsibilities during the different

types of drills and other required safety protocols. The level, timing, and content of this

training were consistent with the state as required by Educational Law 2801,

Commissioner's regulation 155.17, and the school safety reference guide reviewed in the

document review (NYSED, 2016). Many participants found this to be a review of past

material as demonstrated by Participant A3, who stated it was "refresher on what the

policy is and the procedure" and, as Participant BK stated, a topic that was "very briefly

run over." Many participants indicated this training was often combined with additional

safety information as stated by Participant B2, "It's got two parts, it's got a safety piece.

That's all our cleaning equipment. It's the OSHA rules. And then there is also a piece

about going over that lockdown and shelter in place and all those things." Participant A1

noted:

> We have someone come in and talk about various things that we need to know
>
> like if we ingest any chemicals or things that the custodians use, and then he
>
> touches upon, the lockdown procedures and things to do in case there's different

scenarios going on. It's not very long, it's more of like a refresher for us to start the year.

Multiple educators also referenced written material provided during these trainings. Participant BK referred to "new faculty handbook. And in the handbook, there will be procedures and protocols for what would happen if... they are very briefly run over." Participant B1 described this as "a summary sheet that we keep in our classroom. We take with us when we go to fire drills, or when we have locked downs."

The Desire for More Training

While it was established that all the educators received the professional development and training regarding active shooter drills as required by the state guidelines, many of the educators indicated a desire for more training, practice, and preparation. When asked about the level of training she had received, Participant BK responded:

> If you say training to me, that means more than a 10-minute blurb and maybe a faculty meeting where they're talking about what specifically you do during code, blue code, red code, yellow, and lockdown. I don't think we have had true training in something like this. And I think that's unfortunate. I think there's a real need for it, where we teach. With that being said, it's something that we haven't had a lot of, but I think it's important…I think as educators, we need to know more about what to do. And you don't want to practice those things but those are the things you should practice. It's our responsibility… I think the training really lies and, in the adults, it really does. And having more. You know, and sometimes

when you're scared you, we don't always think rationally, either. You do need to

be prepared, and I do think that there is a need for more training, for sure. More

training for sure. No ifs, ands or buts about that one. Not just going through the

motions of doing it so that we can say that, you know, we got five of them done

three more to go or whatever.

Participant B2 also expressed the desire to participate in more practice stating:

There's been some discussion about actually doing an active shooter drill, which I

don't know about the appropriateness of that, but even if we did something more

with the staff, like had the staff practice something like that, without the students

involved, I think that would actually be helpful as an adult, because it's the

unknowns that make you panic and not know what to do.

Other educators expressed the desire for the school districts to incorporate

different scenarios into the training. Different scenarios would allow educators to practice

and prepare for these drills beyond their classroom setting. Participant A1 commented:

I want to be like caught off guard. And I want it to be a time where there are kids

in the cafeteria. Or there's kids in the gym? Because I want to know, what would

happen in that situation? The cafeterias don't lock? And what would happen if

you had 10 classes in the cafeteria?

Participant BK also expressed a desire for practicing the drills when the students were not

in the classroom stating:

And you know, what are we going to do if we have an active shooter? I mean,

what, what would you do? What would we do if we're on the playground? We

have active shooter? Run? I mean, really? Like, what, what would we do? Um, we

don't talk about those things. At all. And that's scary to me.

Theme 2

The professional development and training early childhood educators receive

regarding active shooter drills are focused more on procedures and provide little

information regarding the students' emotional needs. This theme is in response to RQ1

that inquired about the early childhood educators' perceptions of the school policies and

procedures for developing active shooter drills in early childhood classrooms. When

asked about the training, many of the educators, referenced the focus was on the

procedure and did not address the emotional aspects of participating in these drills.

Participant A1 described her training as:

> Mostly procedural, it wasn't anything about the children and how they might feel
>
> or the repercussions…The most important thing that they tell us is just, honestly,
>
> it's the procedures, like, just you have to follow the procedures, know the
>
> procedures. I don't. I have to be honest and say, we don't talk about really how
>
> the kids are. The emphasis is placed on what we have to do.

This focus on procedure was also reflected in the responses the educators gave to

the question asking about the role according to the school's emergency plan. When asked

about their role, all 10 educators gave a list of their responsibilities as outlined in their

training. For most, the steps included closing and locking the door, sweeping the

hallways for additional students, getting the children into their safe zone, and taking

attendance. Some educators referenced additional steps including, pulling shades,

checking bathrooms, and not responding to telephone calls or knocks on the door. When specifically asked about their role as defined by the school's emergency action plan, only four participants made statements referencing their responsibility to keep the students safe. Participant B2 first response was simply, "To protect the children" and Participant BK summed up her duties as "My role is to take responsibility for the children and make sure that they are safe… So really, my role is just to protect the children." When looking at the educators' responses to the question about their role, 22 statements were describing the procedural role for educators compared to only six statements referencing protecting or keeping the students safe.

Theme 3

Early childhood educators initiate more communication with the families and students than is required by school policies and procedures. This theme directly addressed RQ1, that inquired about the early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms. According to state regulation, the document review determined school districts only need to address how they should communicate with families in an emergency and offer the information as needed. While this is the state guideline and current recommendation for schools, the educators described various levels and types of communication with families. Only two educators believed there was no communication from the school district and did not reference any communication they had with families. Participant B2 indicated her school did not communicate with the families about active shooter or lockdown drills, stating "We don't we don't send anything home about it. And

I know that, you know, the only thing we do…send home is the code of conduct, but I don't think it touches upon that." Participant B1 had a similar comment stating:

I'm not aware that there's a procedure in place that says oh, you know, we had a lockdown drill and now the parents are notified or you know, as kind of follow ups unless there's an emergency and and then that the robo call kind of thing goes through but I don't think that there's a whole lot of information shared that way.

 The other eight educators all indicated a greater level of communication with the families regarding active shooter drills than what was required by the state requirements. Two respondents stated the communication only came from the school district. Participant C2 said "a message will go out to our parents, usually from the school district, just letting them know, the information. So this year, we're using a system called parent square." Participant A2 also said, "So communication with parents will come from our principal, if we do a, like a lockdown drill a parent letter will go home with every student, explaining, you know, what's taken place."

Three of the educators indicated they had communication with their families in addition to information that was supplied by the school district. Participant BK explained, "every time we have a drill, the school district is required to send home something in writing." Participant BK also talked about how she connected with the families using "talking points, which is an app that I use that…can automatically send messages to the parents, it comes across their…device as a text message…I always send a message home…explaining we had a drill today." Participant AK also talked about the communication she had with families referencing "I will notify the parents that we have

talked about it… through a newsletter," which was in addition to the information "the school district will usually send out a communication to the parents in some form, that…we had a practice… the school district does communicate that to the families."

The last three educators stated their schools' districts did not provide information but spoke about ways they communicated about the drills with families. Participant A1 said, "At our open house, when in September, we have an open house for the parents, and we just mentioned that we do these drills." When asked about communication regarding the drills, Participant AS stated, "So I do, I actually do talk to parents a lot more about it…So if he comes home and mentions it… but I would say a typical teacher doesn't…communicate to parents if we have drills."

The educators also provided reasons for connecting with parents. These reasons included informing the families about what had happened, encouraging them to discuss the drills at home, and offering additional resources for support. Participant BK's reasoning for the additional communication was to tell the families "we were in lockdown today, this is how your kiddos handled it, please… try to talk with them at home a little bit more about it and explain situations." Participant A1's reason was "if your child comes home one day and says, Oh, we had to, you know, go get behind in the cubbies today, it's nothing to worry about, or that we didn't have somebody actually in the building, but it's just that we're practicing in case of different types of emergencies."

Theme 4

Early childhood educators perceive an expectation from the school district for them to address the developmental needs of their students and use their best judgment

and knowledge when discussing and preparing students for these drills. This is the last theme to address RQ1, the early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms. A review of data indicated multiple educators believed there is an expectation from the school districts to use their best judgment and knowledge when discussing and preparing students for these drills. Participant AS said, "it's just kind of expected that we're reviewing those terms with them often" and Participant B2 believed that educators are expected to "use your best judgment" and that "a lot is left for teacher discretion." Participant AK remarked:

> It's not anything that's like is presented to us and said here, here's what you can do, here's what to do. Okay, it's just using our knowledge. then it's kind of up to us as a grade level and how we're going to deliver that to the kids and prepare them for that… like how to handle them, that's pretty much just been up to us. You know, there's not, there's never been any, like detailed training as to what to say to a kindergartener, or what to say to a second grader or anything.

It seems the educators preferred this approach as they pull from their understanding of DAP to meet the needs of their students. Participant A1 addressed this, stating, "I mean, it's hard because you're one person in a classroom of, let's say, 31. I mean, what, what kind of who's gonna come in and do it, you know, and give you any strategy?" Participant BS acknowledged individual educators had developed different ways to support their students, stating, "I think each teacher kind of handles that a little

differently." Participant AK indicated she preferred the flexibility of being able to adjust her actions to meet the needs of her students:

> From year to year, it's never, it's never the same way that I approach it, because the group is always different. So, you know, when you had asked about like, does the school give you anything or some guidelines or some ideas would be good, but each year, the group you know, sometimes I have a real brave group and nothing bothers them. And sometimes I have a very sensitive group and, you know, everything bothers them… so or you have half and a half …every year how it's approached changes due in due to the makeup of the group.

Theme 5

Early childhood educators believe the current model for active shooter drills do not address the developmental needs of early childhood students. Theme 5 is the first to address RQ2, that explored the early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population. When asked about any information they received about the developmental needs of early childhood students during their professional development or provided in the school's emergency action plan, all the educators responded that the topic was not addressed. Participant BK stated, "No, not. Not anything that's from the district." Participant A1 took time to reflect on the question before responding with, "I don't know (pause) I don't (pause) Nothing that comes to mind." Participant AS also appeared to think about the question for an extended period of time before commenting, "Um… I don't really know (pause) Not that I can think of, I mean,

we get trained on (pause) we get trained on how the lockdown procedure goes and know what to do. And we practice the drills. And that's it."

Theme 6

Early childhood educators have incorporated strategies and techniques that are not a part of their school's emergency plan to support the developmental needs of their students during drills. Theme 6 addressed RQ2 and the early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population. When asked about any strategies or techniques they had used in their classroom to support the developmental needs that were not part of the school's emergency plan, all educators shared multiple ideas. The most common strategies referenced utilizing concepts used in DAP. These included understanding their students' developmental level, consideration for student's individual learning styles, and considering each student's unique culture. One educator that demonstrated an understanding of early childhood students' developmental level was Participant C2 who remarked, "You're still making sure that you're approaching it age appropriate for them." Participant A3 also commented on her students' level of development stating, "The younger ones, everything is just really literal to them." Participant BS, who taught in a special education classroom, also spoke about the importance of considering developmental understanding with:

> I think each teacher kind of handles that a little differently. And is advised I
> know, there's books out there now. So, I know some teachers will read the book
> to students. Like I said, it looks a little different in the special ed world, just based

on student's development, where they are developmentally. I mean, when I have kids developmentally at like 18 months to 2 years, trying to really explain to them what is happening.

Other educators commented on how they used their understanding of their students' learning styles and unique experiences to support them during drills. Participant BK commented, "I definitely feel like I know, my kiddos, which are going to be more sensitive. Like you have an idea who that may happen to and just kind of plop yourself a little closer to them." Participant A3 referenced how students' unique understanding about the drills could influence their reactions stating:

> There's a broad range. Some of them when you're talking to them, you can tell that they really have no idea where we're so you get a you get a range of kids. And then there's the ones that know exactly why we're doing it. Mm hmm. And they know the history of where lockdowns came from.

Some educators commented on the importance of understanding how current events and their exposure to media should also be considered when supporting students. Participant A2 discussed how this could alter the children's reactions and needs:

> I think it also depends on what's in the news too. I think when it's, you know, like, I'll, I'll tie it into 911 you know, I remember kids building blocks towers and taking something and throwing it into, you know, the what they had built? Do you know what I'm saying? Like it was something that was happening at the news, people in the news, people were talking about it at home.

In addition to utilizing a developmentally appropriate approach with their students, all the educators referenced specific techniques to support their students. Most frequently mentioned techniques were a consideration for softer and developmentally appropriate language, providing alternate, relatable scenarios to aid understanding, providing preparation and practice, and debriefing with the children after the drills. Many educators spoke about additional support strategies they used in their classrooms.

During their interview, all the educators referenced a consideration for softer and developmentally appropriate language. This was the most frequently mentioned technique discussed as it was mentioned a total of 32 times. Participant C2 commented, "I definitely have to break down the information a different way. Uh huh. You know, for several of my students, that might be confused about…what we're doing." Participant A1 remarked, "I'm careful with what I say, obviously, I don't say like, Oh, we do this, because there's been so many situations of people coming in and shooting kids, you know, I will never be that insensitive." Many of the educators gave examples of the language they had used during drills. When they demonstrated this, they altered their tone of voice to a softer, calmer tone. Participant A3 said:

> We're not going to go tell the little ones why we're doing an active shooter drill in
> there, we're going to tell them in a certain language for little kids not to scare
> them. (tone of voice gets softer) 'If anything bad happens, and if anything
> dangerous could ever happen. We have to do these drills to keep ourselves safe.'
> So, they understand and they're not getting worried.

Participant AK also had a change in her tone of voice:

> I'll just say, (tone of voice gets softer) 'okay, boys and girls, we're going to move over to our safe spot" And, you know, I don't Just kind of gently, like, move them over and quiet them down. It's not a very, it's not a hurry, like, get over here, you know, I, you know, it's just very like, (tone of voice gets softer)

The educators' general language when talking about the drills also demonstrated their efforts to use softer terms. I used NVivo to run a query of the word "calm" and found nine of the 10 educators used this term 23 times during the interviews. Another query was done on the word "safe" and it was found that all the educators used the word "safe" for a total of 56 times.

Another technique mentioned by the educators was providing alternate, relatable scenarios to aid understanding. This was referenced by six of the 10 educators for a total of 15 times. Participant B1 said, "I try and relate it to, you know, a fire drill or any other procedural things that we do, that we, you know, we practice in order to, you know, make the best, you know, decisions for our safety." Participant BK commented, "I sort of say it's like a game, you know, we have to it's like playing hide and seek, you can't talk you can't make a sound, you don't want them to be able to find you it's like a game." Other participants talked about providing scenarios to lessen the threat of an active shooter. Participant A2 stated, "I try and bring it down a couple notches and say if a teacher- and teachers have -had medical emergencies in the hallway, and that it can be used to just keep the hallways clear. So just to, like, diffuse."

Seven of the 10 educators also spoke about providing preparation and practice beyond what is required by their school's emergency plan. Participant BK simply remarked, "because we're with little guys, you have to prepare them." Participant C2 described:

I get them… in a circle and circle time, or in the morning… and this is like in the beginning of school, the school year, and I just talked to them…I've practiced with the kids prior, I've let them know, okay…but breaking down in different ways.

In addition to providing preparation before the drills, five of the 10 participants mentioned providing a debriefing with the children after the drills. Participant AK said:

Afterwards, we usually talk I'll ask if anybody have any questions? How's everybody feeling? I don't want them leaving school upset that we did this. And that and that's for all ages, no matter what grade I am teaching. It's there, they always need some type of debrief.

Participant C2 also described how she debriefed the reasoning why she included this as part of her support for her students:

I always talk to my students after a drill has happened. And explain to them this was a drill. It was just a drill and we're doing it just in case anything ever happened so that we would know what to do in case emergency. I explained to them why we do the drill. So, we just have a kind debrief. We don't have to have a debrief with them, that's just something I do. I get we talk about how we feel

that it's really which is still part of the debrief. I just asked the kids how they feel.

How did you feel during the alarm? Did you feel sad? Are you scared?

Nine of the 10 educators referenced additional support strategies, including techniques like books, mindfulness, breathing, redirection, visual reminders, social stories, positive reinforcement, and utilizing other support staff. Participant B2 said, "We do a lot of mindfulness things. So, I would use those techniques of just deep breaths." Participant BS talked about some ways she incorporated to keep the students quiet:

Our biggest thing is just trying to keep the students quiet. So, we typically will bring over in our little space, any activity that we know the students will stay and participate in, quietly, so it's usually books, I have some students who love reading books. So, we have a ton of books, and the iPads that the iPads are turned down, but at least they'll just sit there and look at the pictures on the screen that we take over.

Theme 7

The majority of the early childhood educators perceived these drills were not stressful for the children, or the children could quickly return to previous activities after the drills. Theme 7 was also developed in relation to RQ2 and the educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population. When asked what it was like to participate in an active shooter drill, many of the educators reflected on their students' reactions. Seven of the 10 educators believed participation in the drills was not a stressful event for the students. Participant A2 said, "They think it's fun because they're close to you know,

what I you know, they're on the floor, you know, but it's, it's not fun, but they aren't thinking of it as a scary thing." Participant AS described the student's reactions as:

> And they would be fine. I mean, they would just they would just sit there like that they thought it was cool to be nice. You know, just next to each other and huddled together almost like cuddling about never, I never had a child really upset. It does not really heighten their anxiety much. I don't know if it's just the fact that we get to sit on the floor and the lights go down. And we kind of just sit and look at each other for the drill's over, surprisingly, many do really well with it

Four of the 10 educators indicated the students viewed these drills as normal behavior and quickly returned to previous activities. Participant AK stated once the drill was done, the students "typically, they're just like, yeah, and they go about their business." Participant C2 gave a similar response stating, "And it's almost like my grade level, they kind of like, oh, they're just, up, we're out of it. Now, you know, what I mean? Like, they kind of go back to normal, most of them". Participant B1 indicated these drills had become a habit for the students stating:

> They didn't know any differently because it was just part of what they do. It was kind of a habit. Because they're so used to knowing what comes next. I just think of like fire drills to that. It's just a matter of habit now. So the lockdown drills are probably just a matter of habit for them they don't they don't really think twice about it

Theme 8

Early childhood educators feel a responsibility to the students and struggle to determine what information is appropriate to share with their students in their role as an educator. This is the last theme developed in response to RQ2, that focused on the early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population. During the interviews, multiple educators made references to the feeling of responsibility they had regarding these drills Participant AK describes this as, "I have to say, I, of course, my first concern was those children. And I kept thinking to myself, how am I going to protect them." Participant BK reflected, "BK: And just your first response, responsibility is to take care of those kids. It's like you, you forget about yourself, you forget about everything else, and you just run to make sure the children are safe." Participant A1 described this feeling as:

> And I'm afraid that I'm not going to know what to do. If it comes down to it where you know, we go into panic mode or something. And that's why I always keep it with me (referring to the emergency card). Like if I'm at my desk, I have one right on my desk, I never move it. So I just feel like there's just so many procedures, and there's already so much that we have to remember as a teacher, you know, and this is just, it's, it's a lot, it's a lot to remember, I wouldn't be able to tell you all of this from the top of my head.

Another concern for the participants was determining what information was appropriate to share with their students in their role as an educator. Participant BK stated:

And this is just my thoughts as a teacher like, Do parents discuss these drills with their kids, you know, if they get a note that we did one, like, I wonder if, you know, they discussed them. And I really take on the role like it's like My mother, my motherly role and you know, as their teacher and as their educator

Participant A2 also expressed a concern about what her role was, stating:

You worry, like…how much is appropriate? Like, what's my role? Is it the role of a parent…some questions I can answer and…might be more appropriate for…Mom and Dad…Similar to like, if smoking comes up, it's like one of those things where it's like, if the more you talk about it …at this stage, the more you talk about it, is it? Is it appropriate for me to talk about it or spend a lot of time you know, I kind of keep it like very…like, 'When this happens, we do this. When this happens, we do this.' because I don't know if you're creating more anxiety by spending more time focusing on it

Summary

In Chapter 4, I provided a review of the purpose and the determined research questions for the study. I also clarified the setting, demographics of the participants and steps taken to promote the trustworthiness of the study. Detailed descriptions of how I collected, organized, and analyzed the data were presented. Any changes from my original proposal were noted and explained. Lastly, using a consistent format with a thematic review of qualitative data, I connected each theme to a research question and presented the determined themes using supportive data to support each finding. The study's key findings indicated early childhood educators were receiving professional

development and training regarding active shooter drills as required by the state guidelines but desired more training and preparation. I also determined the educators' perceptions of the current model of active shooter drills focused more on procedures, did not provide enough communication with families, and did not address their students' developmental or emotional needs. The early childhood educators also reported believing there was an expectation from the school district for them to address these developmental and have incorporated multiple techniques and strategies to support their students. Lastly, even though most educators did not view these drills as stressful for the students, the educators did express a feeling of responsibility and struggled with determining what information is appropriate to share with their students in their role as an educator.

In Chapter 5, I addressed the interpretation of the findings and the potential implications for positive social change this study might have for stakeholders including students, families, educators, and public policy officials. I also addressed the limitations of the study, made recommendations for future research and provided a conclusion for this study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this qualitative study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions on the developmental appropriateness of these drills when used with an early childhood population. An extensive review of the past and current literature regarding school safety, current trends in active shooter drills, recommendations and strategies for supporting students, the perceptions of major stakeholders, and the psychological impacts these drills have on different groups established knowledge and highlighted gaps. I designed this study to address a gap in the research and to specifically focus on the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population.

Active shooter drills are now required in many early childhood classrooms, but the design of these drills has been questioned. Researchers have suggested these drills were developed with little empirical evidence to support their effectiveness, were developed independently of state and federal guidelines, and often go beyond the recommendations established by the NASP and NASRO (2017) guidelines (Curran et al., 2020; King & Bracy, 2019; Stevens et al., 2019; U.S. Department of Education et al., 2013). Educators and school personnel find value in participating in school emergency drills (Embry-Martin, 2017) but have little confidence in their abilities during active

shooter drills (Brown, 2019; Leser et al., 2019; Price et al., 2016; Rider, 2015; Ugalde et al., 2018).

Concerning the early childhood population, Kostelnik (2019) found early childhood students learn best when they feel safe, and one way to increase feelings of safety is by including active shooter drills in the school's EOP (Curran et al., 2020; Kupchick et al., 2015; Tanner-Smith et al., 2018). Researchers have determined practicing school safety drills can improve students' feelings about being prepared (Schildkraut & Nickerson, 2020; Schildkraut et al., 2020) but may also decrease their feelings of safety. These drills could also be emotionally challenging for students and should be designed with a consideration of the cognitive, cultural, emotional, and special needs of children, including any past experiences with trauma (Bernardy & Schmid, 2018; Clarke et al., 2014; Erbacher & Poland, 2019; King & Bracy, 2019; NASP & NASRO, 2017; Peterson et al., 2015; Schonfeld & Demaria, 2020).

Early childhood educators often use the DAP approach to meet children where they are developmentally and help each child achieve challenging yet attainable goals (Copple & Bredekamp, 2009; Kostelnik, 2019). Because the design of active shooter drills asks early childhood students to perform and respond in ways that may be too advanced for their developmental level (Rygg, 2015; Stevens et al., 2019), a DAP approach to these drills could help support the students. Unfortunately, researchers have suggested the current design of the active shooter drills does not follow a DAP (Stevens et al., 2019), have established there are limited suggestions on how to address these

developmental needs of the early childhood population, and have called for more research focused on this population (Leser et al., 2019; Perkins, 2018; Rider, 2015).

The results from this study fill a gap in the literature in the field of early childhood education by exploring the perceptions of early childhood educators on the current model of active shooter drills and their perceptions of the developmental appropriateness of these drills when used with an early childhood population. A DAP is an appropriate curriculum for early childhood educators to use to teach abstract concepts, that are often difficult for this age group to understand (Kemple, 2017).

This study's key findings indicate early childhood educators are receiving professional development and training regarding active shooter drills as required by the state guidelines, but they desire more training and preparation. Educators' perceptions of the current model of active shooter drills focused more on procedures, did not provide enough communication with families, and did not address their students' developmental or emotional needs. The early childhood educators also reported believing there was an expectation from the school district for them to address these developmental needs, and they have incorporated multiple techniques and strategies to support their students. Lastly, even though most educators did not view these drills as stressful for the students, the educators did express a feeling of responsibility and struggled with determining what information is appropriate to share with their students in their role as an educator.

Interpretation of the Findings

The interpretation of this qualitative study's findings were determined after conducting a contextual analysis of the conceptual framework and completing a

comparison between the findings from 10 semistructured interviews and the research presented in the literature review. All these interpretations were determined through the conceptual lens based on DAP (Copple & Bredekamp, 2009) and the developmental theories of Piaget (1952) and Vygotsky (1978). These developmental theories helped to establish an understanding of the expected development for early childhood students and recognition of how educators use this approach in their classrooms. The interpretations of these findings are organized in relationship with the research questions.

The first four these relate to RQ1: What are early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms? The final four themes directly relate to RQ2: What are early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population?

Theme 1:

Early childhood educators receive professional development and training regarding active shooter drills as required by the state guidelines but desire more training, practice, and preparation. This theme is consistent with both the information obtained from the literature review and the document review. All school districts in the state must provide annual hazard school safety training by September 15 of each year (NYSED, 2016). This training must include components of violence prevention and mental health. This information could be combined in conjunction with existing professional development and training and must also be provided in the teacher's manual or handbook

(NYSED). The educators' descriptions regarding the training and professional development they received were all consistent with these state requirements.

However, the participants in this study indicated a desire for additional training, practice, and preparation. This is consistent with the information derived from the literature review that suggested educators do not feel confident about their training (Brown, 2019; Price et al., 2016; Ugalde et al., 2018) and that a teacher's level of self-efficacy in their abilities to prepare and respond to an active shooter event was directly related to the amount of training they received (Embry-Martin, 2017).

The desire for additional training, practice, and preparation may be due in part to the design of the participants' training. All their school districts were required to provide the same minimum training regarding active shooter drills because all the participants taught within the same state. However, as Rygg (2015) questioned, state guidelines could be vague and may allow too much leeway on how individual school districts design active shooter drills. This may be the situation with the setting for this study. The document review on the state regulations and laws regarding the drills established the state requirements do not include information recommended by research. This included the U.S. Department of Education et al.'s (2013) suggestion to recognize responding to an active shooter event could be different from responding to other kinds of crises and may present unique challenges. Another resource missing from the reviewed documents was NASP and NASRO (2017). This finding is consistent with the research; Olinger Steeves et al. (2017) found school crisis plans often lacked many of the components recommended by the NASP.

One of the desires from the educators was to have drills that included different scenarios. Perkins (2018) had a similar finding when exploring the explored educators' perceptions on school crisis preparedness and determined a need for consistency, clear communication, and the use of authentic drills. Abbinante (2017) also concluded when schools implement training related to options-based response, the educators had an enhanced situation awareness and increased empowerment of their abilities.

In this study, I suggested the level and type of training the educators receive does not provide them with self-confidence in their abilities. The recommendation for this study echoes that of Dagenhard et al. (2019), who also established there needs to be further research on the impact of different types of training.

Theme 2

The professional development and training early childhood educators receive regarding active shooter drills are focused more on procedures and provide little information regarding the students' emotional needs. This second theme was also in alignment with what was discussed in Chapter 2. All school districts were required to use the same template across the state when designing their emergency response (Bakst, 2015). This was done to standardize the language, procedures and improve building-level safety plans. Many of the educators referenced this checklist during their interview. It was questionable if this checklist approach to preparing for these drills has emphasized the procedures and less on how educators could support their students' emotional needs.

It was not surprising to learn the educators' perception of the professional development and training they receive regarding active shooter drills provided little

information regarding the students' emotional needs. In Chapter 2, I established many of the federal and state guidelines offered little information about supporting the emotional and psychological needs of the students and almost no information on supporting children with different developmental needs (NYSED, 2016; U.S. Department of Education et al., 2013). The results of this study regarding the participants experiences were consistent with literature review and the educators did not receive any information on how to support the students' emotional needs.

Theme 3

Early childhood educators initiate more communication with the families and students than is required by school policies and procedures. When asked about the communication they had with their students' families regarding active shooter drills, the majority of the educators had multiple examples of ways they kept the families informed. The document review of the state's laws and requirements regarding active shooter drills determined the minimal level of communication with the families is to make the district-wide safety plan public at least 30 days before its adoption and to contact families in the event of a violent incident (NYSED, 2016). As discussed in Chapter 2, limited communication with elementary-school families could make the families feel they are not adequately informed about the school safety measures, needs, and concerns (Ewton, 2014). Ewton suggested improved communication and a positive parent-school relationship would and cleared up misconceptions regarding school safety measures.

It appears the participants of this study agreed with Ewton (2014) who indicated early childhood educators disagree with the limited level of communication set by the

school policies and procedures. Eight of the 10 educators spoke about how and why they initiate more communication with the families than required by the state requirements. For most educators, the reasoning was so the families would be aware the children had practiced the drills and could talk with them about the topic.

Theme 4

Early childhood educators perceive an expectation from the school district for them to address the developmental needs of their students and use their best judgment and knowledge when discussing and preparing students for these drills. The last theme to develop regarding the participants' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms was an unspoken expectation for the early childhood educators to modify the drills to meet their students' needs. This finding was reinforced by the fact every participant gave examples of ways they had included strategies and techniques to meet their student needs. The surprising part of this finding was not the fact the educators were using their best judgment to address this, but the fact the educators seemed to prefer this approach as they pull from their understanding of DAP to meet the needs of their students. This was reflected in statements like the one from Participant A1 who "who's gonna come in and do it, you know, and give you any strategy?" and from Participant AK, who stated, "it's never the same way that I approach it, because the group is always different." This finding indicates if the school plans included suggestions for supporting the students, the educators might feel confined to the limited strategies.

Theme 5

Early childhood educators believe the current model for active shooter drills do not address the developmental needs of early childhood students. The participants in this study overwhelming agreed the current model for active shooter drills do not address the needs of early childhood students. This conclusion was supported through the document review that did not reveal any information specific to the developmental needs of the early childhood population. This finding was also supported by the U.S. Department of Education et al. (2013) were intended the training to be used by all grade levels from kindergarten to 12th grade with little variation regardless of cognitive or emotional levels.

Theme 6

Early childhood educators have incorporated strategies and techniques that are not a part of their school's emergency plan to support the developmental needs of their students during drills. With the school districts providing no information on how to meet the developmental needs of their students, all the participants had independently incorporated various strategies and techniques to support their students. Many of the educators' reasoning on why they decided to use these techniques reflected their knowledge of DAP and showed consideration for their students' developmental level, for student's individual learning styles, and each student's unique culture. The most common strategies discussed were considering softer and developmentally appropriate language, providing alternate, relatable scenarios to aid understanding, providing preparation and practice, and debriefing with the children after the drills. These techniques echo the

findings from Fisher et al. (2018) who suggested children have a greater feeling of safety when the adults work to create an emotionally safe and secure school environment.

Many of the strategies described had been explored in previous research and discussed in Chapter 2. These include BST (Dickson & Vargo), using a social narrative, proving sensory items (Clarke et al., 2014), and the use of social stories (Edmonds, 2017). Schildkraut et al. (2020) and Schildkraut and Nickerson (2020) both determined preparation had a positive impact on the student's feeling of preparedness but they explored the perspectives of students in middle- and high-school.

The participants' actions were also supported by the examples of developmentally appropriate safety explanations that were suggested by NASP and NASRO (2017). This included providing an alternate scenario that adults address and the repetitive use of the word safe. The review of the participant interviews showed these were both techniques used by the educators. Lastly, the idea that educators should consider current events and their students' exposure to media about school shootings is also supported by past studies. Connell (2018) and O'Neill et al. (2019) both questioned if students' perceptions were altered by outside factors included living in a time with high-profile school shootings.

Theme 7

The majority of the early childhood educators perceived these drills were not stressful for the children, or the children could quickly return to previous activities after the drills**.** The majority of the participants remarked they found the drills were not a stressful event for the children and the students quickly returned to their activities after

the drills. This finding was consistent with the limited research on the elementary students' reactions discussed in Chapter 2. Zhe and Nickerson (2007) found participating in the drills increased the student knowledge of the drills but did not cause a statistically significant difference regarding anxiety level and perception of safety. Other researchers like Schonfeld et al. (2017) suggested students and staff who participated in these drills experienced the same level of distress and had the same risk of psychological harm as those who have lived through an actual event. Meanwhile, Woesner (2018) believed there was not enough medical literature to address these drills' effects on children accurately. While there are few researchers who specifically looks at the students' reactions to these drills, there have been suggestions these drills may have the same level of fear and increase anxiety as the students who participated in the duck and cover drills in response to the threat of nuclear war (Beardslee, 1986; Schwebel, 1982). The findings from this study do not align with this belief.

Even though this interpretation of the students' reactions was based on the educators' perceptions, this was a common theme that needs to be noted. This finding is especially notable because there is so little research that specifically addresses the early childhood population. One explanation of why the students appeared to find these drills not stressful is the educators' developmentally supportive strategies. It has already been established the educators have incorporated multiple strategies and techniques into the active shooter drills to meet the developmental and individual needs of their students. Perhaps these actions by the educators are providing enough support they do not perceive these drills to be stressful.

Theme 8

Early childhood educators feel a responsibility to the students and struggle to determine what information is appropriate to share with their students in their role as an educator. This last theme from this study was an incidental finding. While Embry-Martin, (2017) suggested educators perceived themselves as the first line of defense for their students, some educators questioned their role during active shooter drills (Brown, 2019; Price et al., 2016; Ugalde et al., 2018), the idea the educators were not sure about what information they should be sharing with their students was unexpected and should be explored more in future research.

Limitations of the Study

During the proposal stage of this study, I outlined multiple limitations related to the design and methodology. One limitation was the use of purposeful sampling in determining participants. In my original proposal, I had intended to only recruit from one school district, but recruitment challenges necessitated a change in my design. As a result, the setting for this study was expanded to the entire state. This change did expand the geographic area for the study, that did offset this limitation by increasing the representation of school districts, but it still did limit the area to one state. However, data are collected from a small fraction of a specific group with a qualitative research approach. While assumptions could be made about the application of these findings to a larger population, it is important to acknowledge the limitations of the transferability of the results to the entire population.

In addition, the selection of participants was limited to educators of children from kindergarten through third grade. Because the definition of an early childhood educator is someone who teaches children from birth to 8 years of age, this study did exclude the younger early childhood population (NAEYC, 1993). This limitation created a question of the transferability of the results of this study to educators teaching children younger than 3 years. However, two of the participants did teach in a kindergarten and second grade special education classroom, and one of the educators noted the developmental level of her students was at 18 months to 2 years. This inclusion of a participant who worked with developmentally delayed students did, in part, address the limitation of excluding younger children.

Another potential limitation for this study was the potential for logical fallacies or statements made without the facts or research to support the conclusion. In my proposal, I outlined a concern that current literature on the topic of active shooters could include hasty generalizations, especially when estimating the emotional effects these drills have on young children based on the findings from studies that focused on older children. To compensate for this potential limitation, I kept a research journal and an audit trail of my research process. In addition, I routinely discussed with my dissertation committee my interpretations to ensure they did not exceed the data, finding, and scope of the study. I also discussed my recommendations to make sure they did not exceed the boundaries of the study. I also completed a self-review of both my interpretations and recommendations.

The decision to use interviews for data collection created another potential limitation to this study because the strength of data depends on both the interviewer and the interviewee. To encourage truthful and accurate information from the participants, I reassured them there was not a correct answer and all responses would be confidential. I also addressed this limitation by creating a rapport with the participants by being nonjudgmental, authentic, and trustworthy during the interviews (see Patton, 2015).

The last limitation addressed in the original proposal was the potential for personal bias. This stemmed from both my professional experience working with children in stressful situations and my personal experience with an active shooter situation. I addressed this potential limitation with a careful review and design of the interview questions and keeping a research journal to assess my ability to record objective data.

Recommendations

After reviewing the interpretation of this study's findings, there are a few areas where further research would build on and add additional understanding about active shooter drills in early childhood classrooms. These suggestions are based on and grounded in the strengths and limitations of this study and the literature reviewed in Chapter 2.

I determined even when school policies do not offer suggestions for supporting early childhood students with active shooter drills, the educators have incorporated multiple developmentally appropriate strategies and techniques to assist their students. The participants referenced multiple strategies, including using children's books that address the topic, mindfulness, breathing, redirection, visual reminders, social stories,

positive reinforcement, and utilizing other support staff. While some of these ideas, like social stories (Edmonds, 2017) and BST (Dickson & Vargo, 2017; Rossi et al., 2017), were researched in the literature review, the majority of strategies were not.

While the research on supporting the early childhood population during active shooter drills is limited, research has been done with this population looking at different developmentally appropriate strategies to reduce the psychological impact of other stressful situations. Some of these situations include hospitalization, illness, and natural disasters. One of the methods used in these situations is the use of play (Delaney, 2017). Research in this area would provide a broader scope on how to prepare and support early childhood students during active shooter drills by determining successful techniques used in other stressful situations and could establish which are the most effective in providing support for the students.

Another finding from this study suggested these drills were not a stressful event for the early childhood students. However, this finding is based on the educators' perception of student's feelings about these events and not an actual account of the students' emotions. There is minimal research on the emotional reactions of students from their point of view, and all the studies looked at middle-school and older populations (Bernardy & Schmid, 2018; King & Bracy, 2019; Peterson et al., 2015; Schildkraut & Nickerson, 2020; Schildkraut et al., 2020). The review of past research determined the only research study focused on early childhood students' emotional reactions was a dated study completed by Zhe and Nickerson (2007).

In addition, while my study did investigate a younger population than most studies on this topic, the research design only included educators teaching in grades kindergarten, first, second and third grades, and excluded younger students from this study. Active shooter drills are also being conducted in preschool, nursery schools, and daycare centers. There is a dire need for more research on the early childhood populations' physical and emotional responses to active shooter drills, especially from their perspective.

The last recommendation for further research would be regarding the incidental finding that early childhood educators feel a responsibility to the students and struggle to determine what information is appropriate to share with their students in their role as an educator. While some researchers indicated educators question their role as educators versus protectors during active shooter drills (Brown, 2019; Price et al., 2016; Ugalde et al., 2018), the idea the educators were not sure about what information they should be sharing with their students was unexpected. The view was not researched in the literature review, so there was no foundational understanding for this finding. I could imagine the educators' concern about what conversations to have about active shooter drills would be similar to how the educators feel about other sensitive topics like sex and alcohol. Further research in the role teachers take on educating students about the reasoning behind the active shooter drills would provide a better understanding of these issues.

Implications for Positive Social Change

While investigating the topic of active shooter drills in early childhood classrooms, it was determined there was limited research on the way these drills are

presented and practiced (Olinger Steeves et al., 2017; Perkins, 2018). The purpose of this qualitative study was to explore the perceptions of early childhood educators on the current model of active shooter drills and their perceptions on the developmental appropriateness of these drills when used with an early childhood population. My review of the results from this study, indicates early childhood educators desire more information, training, and clarity on their role as educators. Another unexpected finding reflected an uncertainty regarding the educator's role in explaining these drills to the students. Many of the educators questioned the appropriate level of information they should share with the students. My work from this study could bring about a significant level of positive social change by encouraging school districts to alter their current training and professional development early childhood educators receive on these drills. This could include providing more information specific to the developmental needs of younger students, offering suggestions on how to meet those needs, and establishing guidelines on what information to share with students and parents. These changes could create a greater sense of self-assurance in the educator's knowledge and confidence in their role with the drills.

My review of the results also suggested the early childhood educators believed these drills do not address the developmental needs of their students, so the educators are taking independent actions to provide appropriate developmental support. This knowledge added to the limited understanding of the current model of active shooter drills in early childhood classrooms. This empirical research could bring about positive social change by possibly altering the design of these drills to include developmentally

appropriate techniques that best support early childhood students. As previously stated in Chapter 1, the potential reach of these findings could be significant, especially if they influence school districts, government agencies, and other organizations rethink the existing model of active shooter drills and develop policies that best support DAP with early childhood students.

Lastly, shedding light on early childhood students' reactions to these drills could also bring about positive social change. While I did offer some information, this is still a relatively new topic in the early childhood field. There are still many questions on this subject, especially from the early childhood students' perspective. More research in this area would create a better understanding of how to best support early childhood students.

Conclusion

I wanted to come back to the kindergarten educator who had outlined the steps to a lockdown drill on a poster and had the students sing them to the same tune as the alphabet song introduced in Chapter 1. While the exact motivation for the educator was not known, my review of the results suggested the educator developed this poster as a developmentally appropriate way to discuss, practice, and remind the students what their role was during a lockdown drill. The fact this poem ends on a positive note, stating once the drill was over, "it's time to have some fun", placed a positive spin on a potentially negative situation (Chiu, 2018, p.1).

The educators I interviewed took a similar approach to these drills by using their understanding the DAP to educate and prepare their students for a potentially dangerous situation. Even with minimal guidance and suggestions from their school districts, these

educators worked to provide a physically and emotionally safe setting for their students during what could be a stressful moment.

The original catalyst for the development of active shooter drills schools was the desire to protect the physical safety of the children and educators. However, examining how these policies were developed raised concerns about the developmental appropriateness of these drills in early childhood classrooms and the potential negative psychological effect these drills may have on the early childhood population (Blad, 2018; NASP, 2018; Schonfeld et al., 2017). This study indicated the educators believe this was not a stress-inducing event for most of the students. This may be in part due to the educators' understanding of DAP and the different coping strategies they have incorporated into the drills. However, just as many researchers have questioned the level of support and preparation educators have in modifying these drills to meet the needs of early childhood students (Embry-Martin, 2017; Leser et al., 2019; Limber & Kowalski, 2020; NYSED, 2016; Olinger Steeves et al., 2017; Perkins, 2018; Rider, 2015; Stevens et al., 2019; U.S. Department of Education et al., 2013), my work may also encourage school districts to consider how they could support and train early childhood educators on ways they could best meet the needs of early childhood students.

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Appendix A: Document Review Checklist

Questions focused on RQ1: What are early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms?

1. Which document(s) provide information regarding active shooter drills to early childhood educators?

    1. When is the document(s) presented to the educators? i.e., during professional development? Orientation? How often are these documents reviewed with educators?

    2. Who produced the document(s)?

    3. What was the purpose?

    4. What research, references, policies were used to develop the document(s)?

2. Which document(s) providing information regarding active shooter drills addresses the developmental needs of early childhood students?

    1. Who produced the document(s)?

    2. What was the purpose?

3. Which documentation is provided to the students and parents regarding active shooter drills?

    1. Who developed this information?

    2. What is the tone of the document?

    3. How are the documents presented to the students and families?

    4. What was the rationale for providing this communication?

4. According to the documents, what is the role of the educator during an active shooter drill in the school or district?

    1. Who developed this information?

Questions focused on RQ2: What are early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population?

5. Which document(s) outline any strategies/techniques educators can use to support their students before, during, and after active shooter drills?

6. Which document(s) outline the process on how to decide which strategies/techniques to use when support students during active shooter drills?

7. Which document(s) outline how these strategies/techniques were developed?

8. Do the document(s) state if the developmental needs of early childhood students influenced the development of the suggested/required strategies/techniques used to support students during active shooter drills?

Appendix B: Interview Protocol and Interview Questions for Educators

Demographic Data

Participants Number: _____

Grade Taught: _____

Number of years teaching: _____

Opening Statement
[Read to interviewee] Thank you for agreeing to discuss early childhood educators' perceptions of school policies and procedures regarding active shooter drills and the developmental appropriateness of these drills when used with an early childhood population. Before we begin, I want to confirm that you have read and agreed to the informed consent and that you are voluntarily willing to be part of my study and be interviewed.

I will be conducting interviews with other early childhood educators. Your participation is entirely voluntary. At any time during the process, you may opt-out of the interview or decline to answer a question. Each interview will be audio recorded as a backup. A summary of the data will be sent to you to review for accuracy, to determine if the themes are accurate, and if the interpretations are fair and representative (Creswell & Guetterman, 2019). This process, known as member checking, adds to credibility of the study by allowing the participants to review the interpreted data and to confirm or deny that it is an accurate portrayal of their views (Candela, 2019).

As stated in the consent form, all personal information will be safeguarded for security. You will be assigned a participant number, and you will only be addressed by the assigned participant number. Do you have any questions for me before we begin the interview?

[Turn on computer recording software and test]

[Remember to remain in the role of a researcher and not as a counselor]

Interview Questions:

Rapport Building Question:

1) Tell me about your classroom and the children you teach.

   a) Follow-up probes:

      i) How many students are in your class?

      ii) Do any of the students have special needs or accommodations?

Questions focused on RQ1: What are early childhood educators' perceptions of school policies and procedures for developing active shooter drills in early childhood classrooms?

2) Please describe any professional development or training you have received regarding active shooter drills?

   a) Follow-up probes:

      i) What are your thoughts about this professional development or training?

      ii) How often does the PD occur?

      iii) Who facilitates this training? What is their background?

3) Please describe any information you have received during this professional development on active shooter drills regarding the developmental needs of early childhood students.

4) Please tell me about the communication you have with your students and parents regarding active shooter drills?

   a) Follow-up probe: What was the rationale for providing this communication?

5) When there is an active shooter drill in your school or district, what is your role according to the school's emergency plan?

6) Please describe in detail what an active shooter drill is like in your classroom?

   a) On average, how many drills do you have each year?

   b) What are some of the reactions you have while engaging in this type of drill?

Questions focused on RQ2: What are early childhood educators' perceptions of the developmental appropriateness of the current model of active shooter drills when used with an early childhood population?

[Screen share this information with the participant for reference]

Developmentally appropriate practice is an educational approach grounded in child development research and educational effectiveness that asks early childhood educators to use intentionality when planning the curriculum to provide optimal learning and development for young children (Copple & Bredekamp, 2009). Educators accomplish this by applying their knowledge on typical child development, what they know about the learning styles of individual students, and what they understand about their children's unique cultures (Copple & Bredekamp, 2009).

[Read to interviewee] Please consider the school current school's emergency management plan regarding active shooter drills when responding to the following questions.

7) Does the school school's emergency management plan have suggested or required strategies/techniques educators can use to support students before, during, and after active shooter drills?

   a) Follow-up probe for "Yes":

      i) What are these strategies/techniques?

      ii) How were you informed about these strategies/techniques?

      iii) What are your perceptions regarding the developmental appropriateness of these strategies/techniques?

      iv) Are there any strategies/techniques you have used in your individual classroom that are not suggested as part of the school's emergency management plan?

         (1) Follow-up probe for "Yes":

            (a) Please describe these strategies/techniques.

            (b) How did you develop these strategies/techniques?

            (c) How did the developmental needs of early childhood students influence this process?

   b) Follow-up probe for "No":

      i) Are there any strategies/techniques you have used in your individual classroom?

         (1) Follow-up probes for "Yes":

            (a) Please describe these strategies/techniques.

            (b) How did you develop these strategies/techniques?

(c) How did the developmental needs of early childhood students influence this process?

Closing questions:

8) If you could change how active shooter drills are in your classroom, would you change anything? If so, what and why?

9) When considering conducting active shooter drills in your early childhood classroom, is there anything else you would like to share with me? Are there any other question(s) I should have asked that I did not?

Closing Statement

[Read to interviewee] Thank you again for being willing to participate in the interview. After the data are analyzed, I will provide you with a summary of the data to review for accuracy, to determine if the themes are accurate, and if the interpretations are fair and representative. Once the study is completed, the results will be shared with you at your request. You may ask any questions you have now or if you have questions later, you may contact me.

As a thank you for your time and efforts in contributing to the body of knowledge for the early childhood profession, I will be mailing you a $10 gift card for Dunkin Doughnuts or Amazon. Please let me know your preference.

Appendix C: Mind Map