2020

Active Assailant Crisis Prevention and Response: An Analysis of Teacher Perceptions

John Courson
University of Central Florida

ACTIVE ASSAILANT CRISIS PREVENTION AND RESPONSE: AN ANALYSIS OF TEACHER PERCEPTIONS

By

JOHN J. COURSON II
B.A. University of Florida, 2004
M.Ed. University Florida, 2005

A dissertation submitted in partial fulfilment of the requirements
for the degree of Doctor of Education
in the Department of Educational Leadership and Higher
Education in the College of Community Innovation and Education
at the University of Central Florida
Orlando, Florida

Fall Term
2020

Major Professor: Thomas Vitale

ABSTRACT

A limited amount of research was found regarding teacher perceptions of their ability to respond to an active shooter incident. This study was intended to provide relevant information for school leaders to use in their efforts to improve school safety measures. Data was collected in a mixed-methods, explanatory model research study using a survey, the Active Assailant Prevention and Response Survey (AAPRS), and semi-structured interviews. Teachers enrolled in graduate-level education courses at a large university in the southeastern United States made up the study's population. A majority of the sample population agreed that they were confident in the planning protocol ($M = 3.22$), confident regarding their school's drills and procedures ($M = 3.12$), and confident in their ability to respond to an active school shooter ($M = 3.01$). Participants reported less confidence in the following areas: access to crisis management plans, involvement in developing crisis management plans, effectiveness of drills, training for faculty, training for students, and ability to protect students during an attack.

Demographic factors such as gender ($p > .10$), years of teaching experience ($p > .10$), and presence of security ($p > .10$) during the school day did not significantly impact teacher perceptions of their ability to respond to an active school shooter. Teachers working in secondary schools with students in grades 6 through 12 had slightly less confidence in their ability to respond than teachers working in elementary school settings, but this difference was not statistically significant ($p > .10$). Teachers working in schools that conducted fewer than three active shooter drills per year had less confidence in their ability to respond to an active shooter crisis than those whose schools conducted drills more frequently. A Pearson r correlation revealed $r\ (109) = .520$, $p < .001$, demonstrating a strong correlation between perceptions of

planning protocol and teacher's perceived ability to respond to an active shooter. There was also a significant correlation, r (109) = .637, $p < .001$, between participant perceptions of drills and procedures and perceptions of ability to respond.

The results from the interviews were consistent with the AAPRS findings and helped illuminate teacher perceptions. Many of those interviewed suggested that a more personalized approach to training that explored specific dynamics of individual classrooms would improve confidence in their ability to respond to an active shooter. The interviews also revealed a need for drills or practice during less structured times of the day, such as lunch or during an assembly, so that teachers and students can feel more prepared. Interview participants revealed a need for first-aid training as well as training for what to do if an attacker infiltrated their classroom. Policymakers and school leaders will be informed through these findings of factors that can help teachers feel more confident in their ability to respond to an active shooter crisis.

This work is dedicated to my family. I love you all and I did this for us.

ACKNOWLEDGMENTS

Thank you to my committee chair, Dr. Vitale, for his efforts and guidance during this process. I also want to thank Dr. Gresham for assistance with devising the plan to recruit participants. Dr. Baldwin was helpful with the statistical aspects of this study, and I want to show my gratitude for his efforts as an educator during the statistical courses and through the dissertation writing process. An extra thank you is extended to Dr. Slanda, who provided a crash course in qualitative methodology. A sincere thank you is also extended to my wife and daughters who stuck with me through this doctoral program and consistently provided much needed cheering and motivation.

TABLE OF CONTENTS

LIST OF FIGURES x

LIST OF TABLES xi

CHAPTER ONE: INTRODUCTION 1

Background of the Study 1

Law and Policy Regarding School Safety 3

The Role of Teachers in Prevention and Response 5

Statement of the Problem 7

Purpose of the Study 8

Definition of Terms 8

Theoretical Framework 11

Research Questions 16

Limitations 17

Delimitations 17

Assumptions 18

Organization of the Study 18

Summary 19

CHAPTER TWO: REVIEW OF THE LITERATURE 20

Introduction 20

Mass Killings and Targeted School Attacks 22
History of US K-12 School Mass Shootings 25
Laws Regarding School Attacks 37
Crisis Management Theory 42
Components of Active Shooter Prevention and Response 49
Self-Efficacy Theory 51
Value of Mixed Methods Research Model 53
Summary 53
CHAPTER THREE: METHODOLOGY 55
Design of the Study 55
Participants 56
Instrumentation 61
Data Collection 66
Data Analysis 69
Summary 78
CHAPTER FOUR: RESULTS AND IMPLICATIONS 80
Survey (AAPRS) Results 80
Interview Results 100
Summary 147

CHAPTER FIVE: SUMMARY, DISCUSSION, AND CONCLUSIONS 152

Summary of the Study 152

Discussion of the Findings 158

Crisis Management Implications 171

Recommendations for Future Research 201

Conclusions 203

APPENDIX A: IRB APPROVAL LETTER 205

APPENDIX B: SURVEY INSTRUMENT (AAPRS) 207

APPENDIX C: PARTICIPANT RECRUITMENT LETTER 214

APPENDIX D: INTERVIEW QUESTIONS 217

APPENDIX E: REQUEST AND CONSENT FOR USE OF SURVEY 219

APPENDIX F: INFORMED CONSENT LETTER 221

APPENDIX G: CODING SCHEME 224

APPENDIX H: RESEARCHER SELF-PORTRAIT 226

REFERENCES 232

LIST OF FIGURES

Figure 1 Crisis Stages 14

Figure 2 Crisis Stages and Active Shooter Crisis Management 173

LIST OF TABLES

Table 1 K-12 Active Assailant Incidents and Injuries by Decade 3

Table 2 K-12 20th and 21st century mass shootings 31

Table 3 Prevention and Response Components 51

Table 4 Participant Demographic Information 58

Table 5 Interview Participant Demographic Information 60

Table 6 Research Questions and Data Analysis 72

Table 7 Perceptions of Preparedness Descriptive Statistics (Q3) 84

Table 8 Response Mean Frequency Table 85

Table 9 Perceptions of Planning Descriptive Statistics (Q1) 87

Table 10 Perceptions of Drills and Procedures Descriptive Statistics (Q2) 90

Table 11 Planning and Response Descriptive Statistics 91

Table 12 Pearson r for Planning and Response 92

Table 13 Drills/Procedures and Response Descriptive Statistics 92

Table 14 Pearson r for Drill/Procedures and Response 93

Table 15 Response and Number of Annual Drills 94

Table 16 Presence of Security and Response Descriptive Statistics 96

Table 17 Presence of Security and Response t test results 96

Table 18 School Grade Configuration and Response Mean Descriptive Statistics 97

Table 19 Grade Configuration and Response Mean ANOVA 97

Table 20 Gender and Response Mean Descriptive Statistics 98

Table 21 Gender and Response Mean t Test 99

Table 22 Teaching Experience and Response Descriptive Statistics..... 100

Table 23 ANOVA for Teaching Experience and Response Mean 100

Table 24 Perceptions of Ability to Respond Interview Matrix..... 135

CHAPTER ONE: INTRODUCTION

In May 2018, Cable News Network (CNN) compiled a list of some of the deadliest single-day mass shootings in the United States since 1949. There were 35 incidents on the list and the number of lives taken in any single incident ranged from 58 to 8 (CNN, 2018). Eight of the incidents took place at a school. In the 1990's, American schools found themselves embroiled in overwhelming media coverage of school shooting attacks that left parents fearing for the safety of their children (Langman, 2009; Newman, Fox, Harding, Mehta, & Roth, 2004). The shootings and the killings continue in American schools. These acts of devastating violence have a dramatic impact on school administrators, teachers, staff, parents, and students in the school community. In response to the fear these attacks cause and the number of students losing their lives in active shooter attacks in schools, this study sought to analyze teacher perceptions of their ability to protect students during an active shooter attack. Crises such as these can wreak havoc on the community, the students, and the public view of school as an institution (Newman et al., 2004; Rider, 2016). Though teachers are not the only individuals affected by these attacks, they are regarded as the first line of defense and the actions of teachers can drastically impact the damage caused during an active assailant crisis (Jonson, 2017).

Background of the Study

A crisis at a school can take many forms. Crises in any form can make students, school faculty, staff, and parents feel unsafe. The feeling of safety in school is an important condition for academic success (Skiba & Sprague, 2008). In a 2019 nationwide poll conducted by the Associated Press, 67% of parents reported feeling that schools were less safe than they were 20

years prior, and 27% of the parents polled said they were not confident in the ability of schools to respond to active shooter incidents (Swanson, Thompson, & Fingerhut, 2019). However, In the face of this fear, reports compiled by the National Center for Education Statistics (NCES, 2019) indicated a slight decline in other types of violence such as gang violence, sexual assault, and fighting on school campuses. Reports have also noted that schools around the country implemented more safety measures from 2015 to 2017 than the entire decade prior (Musu, Zhang, Wang, Zhang, & Oudekerk, 2019). The fears of parents are compounded by heavily publicized active shooter attacks on schools such as the 1999 attack at Columbine High School in Colorado, the 2012 attack at Sandy Hook Elementary in Connecticut, and the 2018 attack at Marjory Stoneman Douglas High School in Florida. These fears have led to the implementation of policies that have little to no research to substantiate their effectiveness (Borum, Cornell, Modzeleski, & Jimerson, 2009; Cowan, Vaillancourt, Rossen, & Pollitt, 2013; Jonson, 2017).

The trend in active assailant attacks does not seem to be dissipating. The Center for Homeland Defense and Security US Naval Postgraduate School (2019) compiled information from the Department of Homeland Security and the Federal Bureau of Investigation (FBI) concerning active assailant attacks in K-12 school settings dating back to 1971. Table 1 outlines the number of incidents as well as the number of injuries, including fatalities, by decade. With 12 incidents in the 1970s, 29 incidents in the 1980s, 31 in the 1990s, 45 in the early 2000s, and 49 between 2010 and 2019, there is clearly no reduction in the number of incidents (Riedman & O'Neill, 2019). Injuries and fatalities from these attacks continue to increase across decades and while these incidents continue to occur in American schools, a sense of safety will never be fully achieved (Riedman & O'Neill, 2019). If crisis management plans in schools focus on preparing

teachers using research-based methods of prevention and response, then hopefully these jarring statistics will begin to decrease, and ultimately disappear.

Table 1

K-12 Active Assailant Incidents and Injuries by Decade

Decade	Number of Active Assailant Incidents	Number of Injuries Including Deaths
1970-1979	12	54
1980-1989	29	206
1990-1999	31	171
2000-2009	45	92
2010-2019	49	224

Note. Adapted from Riedman & O'Neill, (2019).

Law and Policy Regarding School Safety

The continued occurrence of active shooter incidents warrants more research-based planning and protocol in K-12 schools to improve teacher perceptions of their ability to respond to attacks (Katsiyannis, Whitford, & Ennis, 2018; Modzeleski & Randazzo, 2018). What constitutes effective planning and protocol for active assailant attacks has been a contested topic with solutions offered from divergent sources (Borum et al., 2009; DeVos, Azar, Nielsen, & Whitaker, 2018; Trump, 2019). Special interest groups, parents of active shooter victims, school leaders, and politicians have proposed laws and policies to help make school safer, but what is the answer (Cowan et al., 2013)? What policies and training programs are most effective in preventing and limiting the damage caused by these crisis attacks? To better understand factors that affect how teachers perceive their ability to respond to an active shooter, this researcher analyzed teacher responses to questions concerning crisis management planning and practices in

their schools. Participants were then asked to rate how confident they felt in their ability to respond. Though many factors may impact how a teacher would react when faced with a crisis, crisis management theory research supports the idea that proper planning and protocols in preparation for a crisis can positively impact the reactions of those involved (Pearson & Clarie, 1998; Shrivastava, Mitroff , & Alpaslan, 2013). A continued effort to understand the impact school protocols have on teacher perceptions will help direct funding away from ineffective strategies and toward quality crisis management plans.

Billions of dollars were spent between 2001 and 2019 to add metal detectors, security badge technology, safety training programs, and security cameras in America's schools (Jagodzinski, 2019, Jonson, 2017; Ruger, 2019). The United States Congress, in 2018, passed the STOP School Violence Act to allocate over a billion dollars for increased security measures in schools through 2021 (Kubena & Watts, 2019). The 2019 legislative session in Florida brought forth Senate Bill 7030, which allocated millions of dollars of funding for the Marjory Stoneman Douglas Act passed the previous year. In states around the country new laws resulted in over $950 million dollars toward making schools safer, specifically directed at combating active shooter attacks (Ruger, 2019). Researchers have stated that metal detectors, cameras, and security badges, are not the most effective methods for reducing violence from active assailant attacks (Bushman, Calvert, Dredze, Jablonski, Morrill, Romer, & Webster, 2016; Duplechain & Morris, 2014). Some of the emerging policies emphasize mental health care, school climate, teacher training, and student preparation as valuable components of active shooter crisis prevention (Bushman et al., 2016; Katsiyannis et al., 2018). An active shooter roaming a school campus, is a manifestation of a larger issue that should have been made secure long before the

breach of the school's security systems (Jonson, 2017; Langman, 2009). Crisis management theory points to effective prevention, protection, response, and recovery training for teachers and school leaders as keys to making schools safer and helping parents, staff, and students feel safe in schools (Brown, 2016; Bushman et al., 2016; Department of Education, 2002; Scherz, 2006).

Due to the importance of this safety issue, and as a result of increased safety initiatives, researchers are starting to uncover programs that show promise for making schools safer (DeVos et al., 2018; Frazzano, & Snyder, 2014; Kubena & Watts, 2019). Programs that demonstrate more effective results include: implementing school climate factors that promote safety, instituting anonymous reporting systems, increasing mental health access for students, improving training methods for faculty and staff, and implementing the threat assessment model (Borum et al., 2009; Bushman, Newman, Calvert, Downey, Dredze, Gottfredson, Webster, 2013; Bushman et al., 2016; Chapman, 2018; Jones, 2017). Finding research to support training methods and safety features has proven difficult due to the rarity of violent attacks on schools, the variability among attackers, and variety regarding the demographics of schools where attacks took place. Teacher perceptions provide a useful tool to help evaluate the effectiveness of safety protocols and crisis management plans in schools (Graveline, 2003; Rider, 2016).

The Role of Teachers in Prevention and Response

On Valentine's Day in 2018, former student Nikolas Cruz entered Marjory Stoneman Douglas High School where he killed 14 students and 3 adults (Berman, 2018). On December 14, 2012, 20-year-old Adam Lanza entered Sandy Hook Elementary school where he killed 20 students and 6 adults (Vogel et al., 2012). On April 20, 1999, seniors Eric Harris and Dylan

Klebold entered Columbine High school where they killed 12 students and 1 teacher (Langman, 2009). These types of events are rare, but they instigate fear, and the repercussions create a lasting impact on the communities affected (Bushman et al., 2013; Jagodzinski, 2019). To combat this fear, politicians and communities began calling for more security; but what is the solution to such a complex problem? Gates, security badges, armed resource officers, and visible security cameras may increase the feelings of safety, but making schools safe is more about the people, human-systems, prevention methods, and focused preparation for school personnel and students (American Institute of Research, 2019; Newman et al., 2004; Page, 2017).

One possible avenue to help parents feel safer involves implementing crisis management programs in schools that increase the self-efficacy of teachers in their ability to respond to these threatening acts of violence (Borum et al. 2009). Creating a climate of safety, increasing mental health screenings, lowering the ratio of mental health professionals to students, developing consistent disciplinary plans, and providing training for teachers, school leaders, and students in reporting and recognizing possible predictive elements of violence are all plausible methods to improve safety in schools (Borum, 2017; Jonson, 2017; Langman, 2018; Newman et al., 2004; Petrovich, 2016). In the aftermath of the attack at Columbine High School in 1999, the fear created by these rare but devastating active shooter incidents increased the nation's attention to issues of school safety (Sprague, Smith, & Stieber, 2002). The expedient response by legislators and the department of education has caused money to be spent on features that may, or may not, make schools safer (Borum, 2009; Ruger, 2019; Trump, 2019). The effects of these devastating incidents impact the entire school and surrounding community in immeasurable ways. Students, parents, the community, and all involved in the school are devasted when a crisis occurs. The

focus of this research is the role of teachers as the first line of defense against these attacks (Embry-Martin, 2017; Graveline, 2003, Rider, 2016). Most school shootings only last a few minutes, so increasing the self-efficacy of teachers in their ability to prevent and respond more effectively to issues of violence and safety is paramount (Bandura, 1993; Blanchfield, 2013; Borum, 2009, Jonson, Moon, & Hendry, 2018; Newman et al., 2004).

Statement of the Problem

There is a paucity of research regarding teacher perceptions concerning crisis management protocol in relationship to their ability to respond competently during an active shooter scenario (Brown, 2008; Bushman et al., 2016; Embry-Martin 2017). A deeper understanding of how crisis management protocol, school demographics, personal demographics, and the presence of security guards impact the perceptions of teachers in their ability to respond to active assailant attacks is needed (Brown, 2008; Bushman et al., 2013; DeVos et al, 2018, Embry-Martin, 2017). With the current status of fear stated by parents for their children due to active shooter incidents; politicians, parents, teachers, and principals want to implement measures now that can help make schools safer and diminish fears (PDK International, 2018; Ruger, 2019). Money is being rerouted and funneled into programs and measures to make schools safer, but what are teachers experiencing on the front lines? What programs and methods are being implemented, which are effective, and what does effective look like in practice?

A detailed look at many types of schools in multiple settings is needed to help add to the knowledge of programs and training practices that help teachers feel more confident in their ability to respond to violence and crises in schools (Brown, 2008; Graveline, 2003; Rider 2016).

The researcher's intent is to add to the available knowledge of teacher perceptions regarding the implementation of different prevention and safety measures in schools across grade levels and school types. Analyzing teacher perceptions across a variety of school settings may offer new insight into school safety initiatives for improving safety in all settings (Embry-Martin, 2017). Though populations are divergent, policies that show the potential to increase teacher self-efficacy could be beneficial on a much larger scale.

Purpose of the Study

The purpose of this study was to analyze teacher perceptions of their ability to respond to active shooter attacks, and to better understand how crisis management protocols and demographic factors might affect those perceptions. By analyzing responses from teachers across different grade-levels and school types, this research sought to provide a more richly detailed understanding of the effect training methods, demographics, and security measures have on teacher perceptions concerning their ability to respond during an active shooter crisis. Due to the limited research regarding teacher perceptions, the findings of this study may lead to improvements in active shooter response planning in schools.

Definition of Terms

According to the Center for Disease Control and Prevention (2014), violence is the third leading cause of death among people aged ten to twenty-four, and twelve young people die each day due to homicide (David-Ferdon, & Simon, 2014). In order to better understand violence (and more specifically, school violence), it is imperative to use a common vocabulary. Several terms

have been expanded and refined since the early 1990s as researchers attempted to better understand, predict, and prevent acts of violence in schools (Bushman et al., 2016; Warnick, Johnson, & Rocha, 2010). The focus of the study consisted of shootings and attacks in the context of schools, but mass shootings in multiple settings have been utilized to provide a deeper analysis of school shootings, particularly in relationship to creating response plans (Frazzano, & Snyder, 2014). Below is a list of definitions and terms referred to in this study. Some definitions are school specific, others were used in reference to attacks in multiple settings.

Active shooter/Assailant – "A law enforcement term from the FBI describing a shooting (or attack) in progress with one or more individuals actively engaged in killing or attempting to kill people in a populated area" (National Center for Education Statistics, 2018, p.6).

Climate – "The policies, practices, and procedures as well as the behaviors that get rewarded, supported, and expected in a work setting and the meaning those imply for the setting's members " (Schneider, Erhart, & Macey, 2011, p. 3)

Collective Teacher-Efficacy – "The perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect" (Goddard, Hoy, & Hoy, 2000, p. 480).

Emergency Preparedness – "A school employee's ability to respond appropriately in the event of a school shooting, which includes the prevention, reaction, and follow-up actions performed in the event of a school shooting" (Rider, 2016, p. 11).

Mass School Shooting – "A situation in which one or more people intentionally plan and execute the killing or injury of four or more people, not including themselves, using one or more guns, with the killings or injuries taking place on school grounds during the school day or during a school-sponsored event on school grounds, excluding organized

gang shootings" (Katsiyannis, Whitford, and Ennis, 2018, p. 3).

Mass shootings – Shooting incidents with four or more casualties (Layden, 2010; Langman, 2009).

Organizational Crisis – "A low-probability, high-impact process that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolutions, as well as by a belief that decisions must be made swiftly" (Pearson and Clair, 1998, p. 60).

Organizational Crisis Management– "A systematic attempt by organizational members with external stakeholders to avert crises or to effectively manage those that do occur. Organizational crisis management is considered effective when key stakeholders believe that the success outcomes of short and long-range impacts of crises outweigh the failure outcomes" (Pearson and Clair, 1998, p. 61).

Prevention – "What schools and districts can do to reduce or eliminate risk to life and property" (Department of Education, 2004, p. 12).

Rampage shootings - Attacks on multiple people who are seemingly selected at random by students who attend, or attended, the school under attack (Langman, 2009).

Response – "The steps to take during a crisis" (Department of Education, 2004, p. 12).

School Violence – "Aggression with the goal of extreme physical harm, such as injury or death directed at others or at one's self in a school setting" (Bushman et al., 2016, p. 18).

Self-efficacy. - "Peoples' judgments of their capabilities to organize and execute courses of action required to attain designated types of performance" (Bandura, 1986, p. 391).

Severe Targeted School Violence – A term used in international research that describes

attempted multiple killings where the school, or school property, is specifically chosen as the location of the attack and victims are either randomly selected or selected based on symbolic purposes of position. This type of attack excludes attacks caused by social, gang-related, or individual factors where the school location is a choice of convenience (Böckler, Seeger, Sitzer, & Heitmeyer, 2013).

Targeted school shooting - When a school is specifically selected as the intended location of a shooting attack with the intention of multiple killings where victims are selected either at random or for symbolic purposes. This excludes shootings caused by social, gang-related, or individual factors where the school location is a choice of convenience (Warnick, Johnson, & Rocha, 2010).

Theoretical Framework

Crisis management theory served as the theoretical framework to analyze teacher perceptions of their ability to respond during a crisis. This framework also helped identify how teacher perceptions might be affected by personal demographics and school characteristics. The principles of crisis management theory also provided a framework to better understand active assailant attacks and the crisis management plans implemented in schools to prevent attacks and diminish potential damage during and after an attack. Organizational crisis management theories apply to active assailant attacks in schools and to school safety protocols because these theories were developed to fit a wide range of organizational structures and crisis types (Boin, Stern, & Sundelius, 2016; Graveline, 2003; Rider, 2016). This study used crisis management theory to better understand active assailant attacks and the protocols implemented in schools to combat

these crises. Prior to explaining how crisis management theory applies to teacher perceptions of their ability to respond to an active shooter attack, the usefulness of teacher perceptions for this study is explained. Crisis management theory provided multiple definitions for the term crisis. The study focused on one particular definition of crisis and this selected definition provides a guide for the main tenets of this study. An explanation of this crisis definition and why it was selected is provided for clarity as part of the theoretical framework.

Perceptions in Educational Research

Perceptions are a useful tool in educational research as evinced by the numerous scholarly reports, dissertations, and peer reviewed articles analyzing teacher perceptions on a vast array of educational phenomena. A general keyword search for "teacher perceptions" through the University's library catalogue and educational leadership databases produced 14,582 results on numerous topics. These results demonstrate the viability and expediency of teacher perceptions in advancing knowledge concerning educational practices. School safety, preparation, planning, implementation, and preparedness are factors involved in this study that rely on the perceptions of teachers (Brown, 2016; Embry-Martin, 2017, Rider, 2008). How teachers and school leaders perceive the level of threat regarding active assailant scenarios directly affects the preparation and planning implemented (Pearson, & Clair, 1998). The psychology of teacher perceptions in reaction to threatening situations also exposes how preparation and planning can influence those reactions during a crisis (Goodman, Harnett, & Knight, 2018).

Defining Crisis

An active shooter event is a crisis for any school and community. Peter Langman (2009) pointed out in his book, *Why Kids Kill,* that "a student threatening mass murder is a student in crisis" (p. 9). Crisis management theorists and researchers assert that, "crises have been and always will be with us" (Boin, Stern, & Sundelius, 2016, p. 1). Defining crisis and crisis management is a hotly debated topic among researchers in this broad field, but each definition contains elements that apply directly to active assailant attacks in schools (Brown, 2008; Graveline, 2003). The application of crisis management theories to active shooter preparedness offers a theoretical lens to help understand how these events occur and how schools can limit the extensive damage caused in attacks (Mitroff, Alpaslan, & Green, 2004; Pearson & Claire, 1998: Shrivastava et al., 2013).

Boin, Stern, and Sundelius, (2016) define crisis as an undesirable and unexpected "phase of disorder" in the normal development of a system that requires immediate and urgent decision making (p. 2). Robert Irvine, president of the Institute for Crisis Management, maintains that everyone in an organization is a crisis manager (1997). He goes on to define crisis as "a significant disruption that stimulates extensive news media coverage and public scrutiny and disrupts the organization's normal business activities" (Irvine, 1997, p. 1). Shrivastava, Mitroff, and Alpaslan (2013), while promoting more extensive education concerning crisis and crisis management, rejected the notion that a universal definition exists for crisis or for crisis management. Instead, they offer a distinction between natural crises, which are unavoidable and caused by nature, and technological crises caused by agents or organizations (Shrivastava et al., 2013). This technological definition depicts a crisis as a process, not an event, that expands and

spreads in five stages.

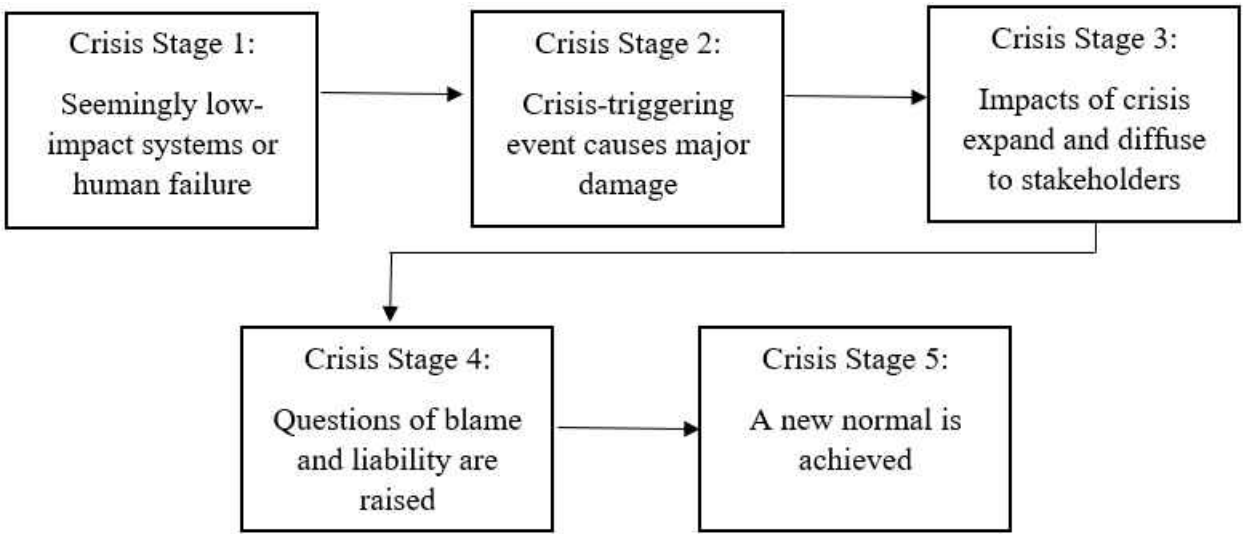


Figure 1: *Crisis Stages*

Note: Adapted from Shrivastava et al., 2013; p. 8.

Figure 1 provides a visual model to better understand a crisis as a process as opposed to a singular event. These theories offer a vantage point to explain the complexities of active assailant attacks in order to better analyze crisis management strategies as perceived by teachers. This will also assist in the evaluation of crisis management protocol to begin the process of vetting different programs and policies for effectiveness in predicting, preparing for, responding to, and limiting damage caused by active assailant attacks.

Crisis Management Theory

Pearson and Clair (1998), in their attempt to reframe crisis management, state that, "those interested in the psychological view might consider how individual's perceptions before, during, and after a crisis are mediated by organizational intervention" (p. 59). The major theoretical

focus of this study involved teacher perceptions of their school's organizational interventions concerning crisis management protocol for preventing, responding to, and recovering from active assailant attacks. Pearson and Clair (1998) provide another useful definition of organizational crisis that can be applied to active shooter incidents. "An organizational crisis is a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolutions, as well as by a belief that decisions must be made swiftly" (p. 60).

Crisis management theory, an expanding and complex theoretical framework, is used in business, economics, world governments, history, political science, psychology, and public administration (Mitroff et al., 2004). Crisis management theory provides a valuable lens to comparatively analyze different schools of thought and methodologies for training and preparing teachers and schools to respond to active assailant scenarios. According to Shrivistava (2013), "Our language and concepts about crisis, as well as our explanations of their causes and consequences, shape our crisis planning and ultimately the resilience of human communities" (p. 8). If the theories regarding crisis management are applied to incidents of active shooters in schools, a theoretical basis for understanding the role of teachers can be better outlined and defined in ways that may improve preparation and response practices.

This study focused on understanding perceptions among teachers concerning their ability to respond to an active shooter incident. Another focus was to analyze teacher perceptions of the planning and procedures for active shooter scenarios and to identify relationships that may exist between demographic factors and teacher perceptions in terms of protecting students during an active shooter crisis. A deeper understanding of these factors may help improve school policy

regarding school safety and crisis intervention to help increase the confidence that teachers have in their ability to keep students safe.

Research Questions

In order to better understand the impact that planning, safety protocol, and various demographic factors have on the perceptions of teachers regarding their ability to respond to active assailant situations, the following research questions were created. These questions guide the data collection and research methods utilized in this study.

RQ 1. How do teachers perceive their ability to respond to active shooter scenarios?

RQ 2. What are the perceptions of teachers regarding their school's planning and preparation for active shooter scenarios?

RQ 3. What are the perceptions of teachers regarding their school's drills and practice procedures for active shooter scenarios?

RQ 4. What relationships exist, if any, between perceptions of planning and preparation for active shooter scenarios, and preparedness to respond to an active shooter incident among teachers?

RQ 5. What relationships exist, if any, between perceptions of procedures and drills, and perceptions of preparedness to respond to an active shooter incident among teachers?

RQ 6. What effect, if any, do school factors such as presence of security, and grade-configuration have on the perceptions of teachers in responding to active shooter scenarios?

RQ 7. What effect, if any, do individual demographic factors such as gender and years of

educational experience have on the perceptions of teachers in responding to active shooter scenarios?

Limitations

This study to analyze the perceptions of teachers concerning how prepared they feel to respond to an active shooter crisis was limited by the following factors.

1. The sample size was limited to teachers enrolled in graduate-level education courses at a large university in the southeastern United States.
2. None of the participants were involved in an actual active shooter scenario, so the results focused primarily on teacher perceptions.
3. The use of multi-case study interviews provides for rich data, but still does not provide findings that can be generalized to larger populations.
4. Using surveys in research is problematic due to low response rates, possible dishonesty among participants, and inability to control for who elects to complete the survey.
5. There was approximately a 14% return rate for the AAPRS survey instrument, which limits the generalizability of the findings in this study.

Delimitations

In any endeavor to analyze perceptions, concessions must be made in terms of selecting a population and sample that fits the needs of the project. The design and methodology of this study contained the following delimitations.

1. Participants included teachers enrolled in graduate-level education courses at a large

university in the southeastern United States.

2. Participant school types, locations, and districts were limited by the pool of teachers enrolled in graduate-level education courses at a large university in the southeastern United States at the time of the study.
3. The only school personnel included in the study were teachers even though there are countless other individuals responsible for safety in schools whose perceptions are influential.

Assumptions

To collect a sample fitting the needs of this research project, assumptions were made regarding elements beyond the control of the researcher. The researcher approached this study with the following assumptions.

1. The participants filling out the surveys were certified teachers currently working in Florida schools.
2. All answers to survey and interview items were honest and factual based on the personal experiences and perceptions of participants.

Organization of the Study

This study contains five chapters of organization to better analyze and understand the perceptions of teachers' regarding their preparation and ability to respond to active assailant crisis scenarios in schools. The first chapter provides background for the study, details the problem and the purpose of the study, includes the seven research questions that guide the study,

and identifies the methods and limitations of the study.

Chapter 2 includes a review of relevant literature covering the history of active shooter scenarios in schools, the role of teachers in school safety, school law and policy related to active shooter prevention, the importance of teacher perceptions, crisis management theory, self-efficacy, and the components of active assailant protection in schools. The second chapter also supports the use of an explanatory mixed-methods model in providing more rich descriptions and a deeper understanding of teacher perceptions (Bogdan, & Biklen, 2007).

Chapter 3 contains a detailed description of the concepts used to conduct the study as well as the methodology of the study. This includes the selection of participants, data collection methods and instrumentation, and a plan for analyzing the data. In the fourth chapter the data is analyzed using descriptive, correlational, and qualitative statistical methods and calculations. In the final chapter, Chapter 5, the findings are discussed and recommendations for future school safety measures as well as future studies regarding this topic are outlined.

Summary

The current research regarding safety and protocol for active assailant scenarios is one of vital importance. Keeping students safe and helping parents feel that their children are safe is the goal of safety training protocol and practices in schools (DeVos et al., 2018). The purpose of this study was to better understand how crisis management protocols and demographic factors may affect the perceived ability of teachers to prevent and respond to active assailant incidents. These perceptions, and the factors that affect them, will add to the limited literature on this topic in the hopes that the findings will be used to improve school safety practices and protocol.

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

There is a paucity of research regarding teacher perceptions of their ability to respond to an active assailant crisis (Brown, 2008; Bushman et al., 2016; Rider, 2016). A deeper understanding of how school safety protocol, school demographics, and teacher demographics impact a teacher's perceived ability to respond to active shooter scenarios is needed (DeVos et al., 2018; Dwyer, 2002). The perceptions of teachers in their ability to respond to active shooter events, as identified through the lens of their own experiences with school protocol and crisis planning methods, can provide valuable information for school leaders in the development of school safety initiatives (Embry-Martin, 2008; Rider, 2016). The theoretical concept in this study involved the application of crisis management theory to active shooter attacks and safety protocols in schools.

A search of educational research databases including EBSCO, ERIC, SAGE, and EBSCO PSYCH using key search terms: "teacher perceptions," and "crisis management," or "active shooter" uncovered five research-based articles directly focused on teacher perceptions regarding active assailant prevention, preparation, and response. One was from the country of Turkey, four of the five works concerned high school teachers only, two out of the five were qualitative studies with few participants, and two offered quantitative data from limited sample sizes specified to certain geographic areas. The intent of this study was to add to the limited research and help codify the perceptions of teachers regarding this far reaching and important issue of school safety (Newman et al., 2004; Page, 2017). Designating plans, programs, and money to improve crisis management plans without a clear vision of what is happening in schools will not

help the nation feel safer at school (Jonson, 2017). The limited data about teacher perceptions regarding school safety protocol could continue to exacerbate feelings of insecurity among parents and students. Not knowing how programs and safety measures are being implemented or how they impact teachers could lead to millions of dollars in funding spent on ineffective or unnecessary programs and measures.

The intent of this study was to add to the limited research in this area by analyzing the perceptions of teachers regarding this far reaching and important issue of school safety. Identifying various factors that affect the perceptions of teachers in their ability to respond to active shooter scenarios may lead to improvements in active shooter response planning, and reduce fears regarding school safety (Newman et al., 2004; Page, 2017). The following sections provide a detailed literature review of topics related to active shooter scenarios and the role of teachers concerning prevention and response to these deadly attacks.

The literature review begins with a discussion of mass killings and a global analysis of targeted school attacks. A history of active shooter attacks in schools is followed by a description of national and state legislation regarding school safety policy enacted in response to mass school shootings and gun violence. National and state policy effects on active shooter prevention and crisis response protocol in schools provides a connection to the importance of teachers and their perceptions in the analysis and implementation of school safety programs. After discussing legislation and policy regarding active shooter attacks in schools, there is a section devoted to the theoretical framework of crisis management theory. This theoretical frame provides an in-depth understanding of active shooter scenarios along with valuable methodology to guide policy and protocol for prevention and response to attacks. A description of the concept of teacher self-

efficacy promotes the value of effective training and crisis management planning in schools to improve teacher response to attacks. The chapter ends with research to support the use of an explanatory mixed-methods model to provide a deeper understanding of teacher perceptions by combining results from qualitative and quantitative data.

Mass Killings and Targeted School Attacks

November 14, 2019 a 16-year-old boy shot five students, killing 2 and wounding 3, before turning the gun on himself at his school in California (Winton, 2019). On August 4, 2019 Connor Betts shot 36 people, killing nine, just outside a bar in Ohio (Pearson, 2019). On October 17, 2018 Vladislav Roslyakov killed 20 students and wounded 70 with a shotgun in a school in Crimea (Pearson, 2019). October 1, 2017 Stephen Paddock killed 58 people and injured more than 800 from his Mandalay Bay Hotel window in Las Vegas, Nevada (Pearson 2019). Mass Shootings, or mass homicide attacks, internationally gain wide attention in the media. Ambiguity of definitions and limited access to data in certain global areas, impedes research on these attacks making it difficult to create global comparisons (Böckler et al., 2013; Lankford, 2016; Lott, 2018). Nearly all definitions exclude terrorist attacks and attacks related to military combat. Some definitions require a minimum of 4 deaths, some definitions require the perpetrators to have connections to the site of attack, some definitions require the attacker(s) to only use guns, and yet other definitions contain complex exclusions regarding assailant motives (Böckler et al., 2013; Borum, 2017; Langman, 2004; Warnick et al., 2010). The lack of clearly defined terms makes it nearly impossible to determine the depth and breadth of this phenomenon in a global context (Harding, Fox, & Mehta, 2002). Some areas of the world are embroiled in

political/ideological conflicts and attacks on every aspect of society either go unreported or are too commonplace to garner significant global media attention (Bennouna, Boetzelaer, Rojas, Richard, Karume, & Nshombo, 2017; Leushner, Bondu, Schroer-Hippel, Panno, Neumetzler, Fisch, & Scheithauer, 2011). Most media portrayals and researchers point to the United States as the leading nation in terms of mass murder attacks that align with many of the definitions presented (Agnich, 2010; Agnich, 2015; Lankford, 2016; Pearson, 2019). In 2016, Lankford published an article stating that the United States accounted for 31% of all reported mass shooting attacks in his examination of mass shootings in 171 countries between 1966 and 2012. With 90 total perpetrators of this type of violence, the United States recorded twice as many attacks as the next four countries combined (Lankford, 2016).

Not only does the United States lead the world in public mass shootings, but this trend carries over into schools. Böckler (2013) wrote a book analyzing international school shooting incidents and found that between 1925 and 2011 the United States accounted for 76 school shooting attacks, while the rest of the world had 44 reported incidents. In some nations where access to guns is restricted, reports of shooting attacks in schools are much lower than in the United States, but attacks with other weapons still appear in media headlines (Agnich, 2015; Harding et al., 2002). Rampage and mass homicide attacks in schools have become a perpetual problem that needs to be addressed globally by continually updating and adding to research in areas that show promise for reducing or eliminating this safety issue.

In most other aspects, youth violence in the United States has steadily declined since the 1990s (Blanchfield & Ladd, 2013; Scherz, 2006; Page, 2017). The early 1990s saw a massive increase in violence in the United States attributed to gang and drug related cultural issues

(Scherz, 2006). Youth violence decreased throughout the late 1990s and early 2000s as a result of national, state, and local policies aimed at reducing this deadly trend in drug use and gang violence through a multipronged approach involving anti-drug media campaigns, increased security measures, improved school climate initiatives, and more stringent punishment for rule violations in schools (Blanchfield & Ladd, 2013; Kubena & Watts, 2019). It seemed the new programs and policies were working, until February 2, 1996 when fourteen-year-old Barry Loukaitis entered Frontier Middle School with a hunting rifle, two handguns, and 78 rounds of ammunition. During this unprecedented style of attack, Loukaitis killed a teacher along with two students and forever altered the dynamics of school violence (Scherz, 2006; Coleman, 2004).

There is no way to tell definitively exactly how many mass school shootings have taken place (Lott, 2018). Although a multitude of different agencies attempt to collect data regarding school shootings in all forms, no record is exhaustive and many use divergent definitions for their data collection sets (Nicodemo & Petronio, 2018; Riedman & O'Neill, 2019). In 2016, the New York Police Department compiled data regarding active shooter incidents from the Department of Homeland Security and the FBI from 1966 through 2016. They reported 308 total incidents and 83 of them took place at a school (O'Neill, Miller, Waters, 2016). The Center for Homeland Security and the Naval Postgraduate School contends that there were 465 school shootings between 2010 and 2019 (Riedman et al., 2019). This number includes any time a gun was fired at a school or school owned property. The same data set reports that 49 of these incidents fit the FBI definition of an active shooter attack (Riedman et al., 2019). The data for 2018 and 2019 are particularly alarming, showing that a gun was fired at a school location 204 times with 15 of these incidents fitting the active shooter definition (Riedman et al., 2019).

School shootings are a problem. Even though these events are rare, they have shown an increase in frequency since the FBI's first recorded case in 1940 (O'Neill et al., 2016). No significant sign of decrease in these attacks exists (Katsiyannis et al., 2018). The fears of parents that schools are not prepared to handle active shooter attacks are noted (Agnich, 2015; CNN, 2018; Jonson, 2017), and with no end to these attacks in sight, schools must make significant efforts in response to these crises in schools.

History of US K-12 School Mass Shootings

The FBI, the Department of Defense, the Department of Homeland Security, and numerous researchers have worked to collect data from media outlets, news reports, police records, and various sources in an effort to better understand and identify the history of mass school shooting attacks in the United States. Often, researchers will turn to these sources in order to compile data sets for their research (Borum, 2017; Bushman et al., 2013, Langman, 2018; Newman et al., 2004; Katsiyannis et al., 2018). The earliest description of a targeted mass school shooting occurred in 1940 when principal Verlin Spencer shot six school administrators after being fired from South Pasadena Jr. High School (Williams, 2017). The extensive sources utilized for this study do not contain any other similar attack descriptions until the 1970s. Most other school shooting incidents prior to the 1970s related to desegregation in schools, were social disputes, accidents, or grievances where only one or two people were killed (Katsiyannis et al., 2018; Riedman et al., 2019). One major incident occurred in 1966, but it was an attack at the University of Texas, where Charles Whitman climbed the observation deck and shot 46 people during 96 minutes of terror (Wallenfeldt, 2016).

This section is intended to outline the breadth and variety of school attacks. A better understanding of attacks and attackers allows these events to be further classified as crisis situations for the application of the crisis management theoretical frame. The different motives, methods, weapons, and styles of attacks makes finding solutions much more problematic. People should not be able to enter a school campus with weapons and begin taking lives. Combatting this issue demands a multi-faceted approach.

1970s and 1980s

Data for the 70s and 80s contain 41 K-12 active assailant attacks resulting in 260 injuries or deaths (Riedman et al., 2019). The increase in attacks at schools during this time is attributed to desegregation violence as well as the counterculture movement and reactions to political events such as the Vietnam War (Page, 2017). The late 1980s also instigated a rise in many other forms of violence in schools that fed into the early 1990s, where an increase in gang activity and drug use followed the expansion of crack cocaine and drug trafficking elements into the United States (Warnick et al., 2010). The majority of K-12 active assailant cases compiled throughout the 70s and 80s were perpetrated by adults at elementary schools (Katsiyannis et al., 2018; Pearson, 2019). The large number of injuries during this decade is attributed to one major hostage incident in 1986 at Cokeville Elementary School in Wyoming where 78 students were injured when a makeshift bomb exploded (Mitchell, 1996). The perpetrators were adults who committed suicide during the attack (Mitchell, 1996).

From 1970 to 1980 there were two notable incidents involving students as perpetrators of mass school targeted attacks. In 1979 a 16-year-old girl with diagnosed mental health issues shot

at Grover Cleveland Elementary School from her home across the street from the school, killing two and wounding nine (Daly, 2014). In Goddard, Kansas in 1985, 14-year-old James Alan Kearbey donned a long dark coat and dark shades, gathered ample ammunition, a rifle, and a .357 Magnum pistol, then walked to Goddard Jr. High School and proceeded to shoot four people (Adame, 2015). One applicable event was found in 1988 but excluded from lists of mass shooting attacks since only two were killed. The student, 16-year-old Nicholas Elliot, attended Atlantic Shores Middle School in Virginia. He used a semiautomatic pistol to shoot two teachers before his gun jammed and a teacher wrestled him to the ground to subdue him (Glavin, 2019). Reportedly, four homemade bombs were found in his locker after the incident and his intentions to kill multiple victims were clarified in the proceeding court case where he was sentenced to life (Somerville, 1989). The attack by Elliot would not be included in most data sets for mass targeted school violence or mass shootings because there were fewer than 4 injuries.

The 1990s and Columbine

The early 1990s saw an increase in all levels of violence among young people, both in and outside of school (Bushman et al., 2013; Bushman et al., 2016; Borum, 2017). There were more than 272 documented cases of shootings that took place at a K-12 school or school-based location (Riedman et al., 2019). About 31 of these shootings fit the description of an active assailant attack resulting in 171 wounded or dead (Katsiyannis et al., 2018; Riedman et al., 2019). Before 1996, most school active shooter attacks continued to be perpetrated by adults entering school buildings or school events and taking lives as a result of grudges held, mental health issues, disputes, or work-related conflicts (Glavin, 2019). The 1985 attack in Kansas, by

Kearbey, stood out as an anomaly and nothing similar had taken place for over a decade. The majority of mass targeted school violence shifted dramatically after Barry Loukaitis entered Frontier Middle School in Washington wearing a long black coat to conceal his rifle and two handguns (Geranios, 2017b). Loukaitis shot and killed three and wounded another before a teacher, Jon Lane, wrestled the gun away (Geranios, 2017b). The majority of active shooter incidents since 1996 have been perpetrated by students between the ages of 11 and 19 (Katsiyannis et al., 2018). The 1985 and 1996 incidents portended future school attacks. There were several similarities to these events including the long cloaks, the massive arsenals, as well as the motives and methods.

The three years following the incident in Moses Lake, Washington presented some of the most widely studied and notable active shooting events to date. Bethel, Alaska; Pearl, Mississippi; West Paducah, Kentucky; Jonesboro, Arkansas; Edinboro, Pennsylvania; and Springfield, Oregon all witnessed the devastation from active shooter attacks in schools (Glavin, 2019; Katsiyannis et al., 2018). The decade ended with the attack in Littleton Colorado at Columbine High School, which is arguably the most notorious of the mass school shootings in America. During this attack, Eric Harris and Dylan Klebold, who were students at the school, killed 13 and injured 21 while wearing long dark jackets in an attack they spent months planning (Langman, 2009). The phrase ‘going Columbine’ is now synonymous with shooting attacks in schools as a result of the media attention and expansive research dedicated to understanding and explaining this terrible event (Langman, 2018).

Twenty-First Century Attacks

In the 30 years from 1970 to 2000 there were about 72 active assailant attacks in elementary, middle, and high schools in the United States (Riedman et al., 2019). Between 2000 and 2019, the same data set shows 94 attacks, a 31% increase (Riedman et al., 2019). School shootings continue to increase each decade and 2018 through 2019 were the most dangerous two years on record, with 109 injuries or fatalities resulting from active shooters (Glavin, 2019). Table 2 contains data and details for targeted mass school shootings in the United States for K-12 schools dating back to 1940. The table shows the transition from the 80s to the 90s toward more attacks perpetrated by teenage students in middle and high schools as opposed to adult perpetrators attacking elementary schools. Much of the information from the table comes from Katsiyannis in a 2018 article of intentional mass shootings with the addition of three school shootings that took place after the article's publication.

The common denominator throughout all this tragedy is that school leaders, politicians, and communities are working toward solutions. Though these incidents are rare occurrences, they require quick decisions, and the safety of students is paramount. Each of these shootings brought changes to the communities that suffered them. Some of the attacks, such as the Columbine attack and the Parkland, Florida attack in 2018 that claimed 17 lives, have led to major changes in legislation and policy in an attempt to end these crises in schools (Kubena & Watts, 2019; Jagodszinski, 2019). After Columbine, the Department of Education analyzed mass school shooting incidents and found the following: (a) most of the attacks were not sudden or impulsive; (b) other people knew about the attack before it happened in most cases; (c) there usually was no direct threat made toward the targets by the attacker; (d) no useful profile exists

to describe the attackers; (e) prior to the attack, most attackers behaved in a way that caused others concern or suggested they needed help; (f) many attackers considered or attempted suicide and had poor coping skills in the face of a loss or personal failure; (g) Many attackers claimed they were bullied or marginalized by others; (h) most attackers had used weapons in the past and they had access to guns; (i) others were involved in many of the attacks, either in planning stages or other capacities; (j) most of the attacks were not ended by law enforcement (Vossekuil, Fein, Reddy, Borum, & Modzeleski, 2004, p. 31). An extensive amount of data was consulted from a multitude of sources to compile descriptions of the active assailant attacks on schools found in Table 2. This extensive table does not account for each shooting incident at a school, but it includes details about notable mass school attacks from 1940 through 2019.

Table 2

K-12 20th and 21st century mass shootings

Date	Location	School Level	Victims: Killed	Victims: Wounded	Firearm(s)	Description of Perpetrator(s)
5/6/1940	Pasadena, CA	Jr. High/ Middle	5 adults	1 adult	One pistol .22-caliber semiautomatic	A 38-year-old White male, described as the junior high school's principal, thought he was going to be fired at the end of the school year (Williams, 2017).
1/29/1979	San Diego, CA	Elementary	2 adults	8 students 1 adult	One rifle .22-caliber semi-automatic with scope	A 16-year-old white female, described as having mental issues at the time of the shooting (Daly, 2014)
2/24/1984	Los Angeles, CA	Elementary	1 student	11 students 1 adult	One AR-15 rifle, one shotgun 12-gauge double barreled, one shotgun 12-gauge pump action	A 47-year-old black male described as a surviving child of the Jonestown massacre (Lindsey 1984)
1/21/1985	Goddard, KS	Jr. High / Middle	1 adult	1 student 2 adults	One Rifle .308 caliber semi-automatic, one pistol .357 caliber	A 14-year-old white male described as a loner who was bullied (Adame, 2015)
5/16/1986	Cokeville, WY	Elementary	0	78 students 1 adult	Five rifles and explosives	A 43-year-old white mail and a 47-year-old white female, husband and wife, took 136 children and 18 adults hostage because the husband was fired from his position as the town marshal. Both committed suicide after the bomb they used was detonated. (Mitchell, 1996)
12/4/1986	Lewiston, MT	High	1 adult	2 students 1 adult	One pistol 44 magnum	A 14-year-old white male went to school with the intention of killing his teacher for giving him a failing grade (Associated Press, 1986)

Date	Location	School Level	Victims: Killed	Victims: Wounded	Firearm(s)	Description of Perpetrator(s)
5/20/1988	Winnetka, IL	Elementary	2 students	6 students 2 adults	1 pistol .22 caliber semi-automatic, 1 pistol .357 magnum, 1 pistol Smith & Wesson	A 30-year-old white female describe as having mental health issues. She committed suicide. (McCoppin and Berger, 2013)
9/26/1988	Greenwood, SC	Elementary	2 students	7 students 2 adults	1 revolver .22 caliber	A 19-year-old white male described as having mental issues (Knapp, 2012)
1/17/1989	Stockton, CA	Elementary	5 students	31 students 1 adult	1 Ak-47	A 24-year-old white male described as a drifter. Committed suicide after the attack. (Emmons & Richman, 2016).
5/1/1992	Olivehurst, CA	High	3 students 1 adult	9 students 1 adult	1 shotgun 12-gauge, 1 rifle .22 caliber	A 20-year-old white male described as a former student with a grudge against a teacher (Luery, 2017)
9/17/1993	Sheridan, WY	Jr. High/ Middle	0	4 students	1 handgun 9mm	A 29-year-old white male described as a former student with a recent discharge from the Navy that was less than honorable. He committed suicide after the attack. (Glavin, 2019)
11/7/1994	Wickliffe, OH	Jr. High/ Middle	1 adult	1 student 4 adults	1 Shotgun	A 37-year-old white male described as having mental health issues (O'Donnell, 2014)
2/2/1996	Moses Lake, WA	Jr. High/ Middle	2 students 1 adult	1 student	1 rifle .30/30 caliber, 1 revolver .357, 1 pistol .25 caliber semi-automatic	14-year-old white male who had mental issues at the time of the shooting (Geranios, 2017a)
2/19/1997	Bethel, AK	High	1 student 1 adult	2 students	1 shotgun	A 16-year-old white and Alaska Native male who was abused and lived in foster care (Langman, 2009)

Date	Location	School Level	Victims: Killed	Victims: Wounded	Firearm(s)	Description of Perpetrator(s)
10/1/1997	Pearl, MS	High	2 students	7 students	1 rifle .30/30 caliber	A 16-year-old white male who killed his mother and claimed he was part of Satanic cult (Mitchell, 2016)
12/1/1997	West Paducah, KY	High	3 students	5 students	5 rifles, 2 shotguns, 2 pistols	A 14-year-old white male on schizophrenia medication (Associated Press, 2010)
3/24/1998	Jonesboro, AR	Jr. High/ Middle	4 students 1 adult	10 students	4 revolvers, 3 rifles, 2 pistols	An 11-year-old white male and a 13-year old white male, described as bullies by their peers (Langman, 2009)
4/24/1998	Edinboro, PA	Jr. High/ Middle	1 adult	2 students 1 adult	1 handgun .25 caliber	A 14-year-old white male described by peers as a "loner who never smiled and dressed sloppily." (Associated Press, 1998)
5/21/1998	Springfield, OR	High	2 students	25 students	1 rifle semiautomatic	A 15-year-old white male who took Prozac, killed his parents, and then went to school during lunch for the attack. (Bennett, 2012)
4/20/1999	Littleton, CO	High	12 students 1 adult	21 students	2 shotguns, 1 assault rifle, 1 pistol semiautomatic	A 17-year-old white male and an 18-year-old white male both described as mentally ill and having been bullied, also described by some as bullies themselves. Both committed suicide (Langman, 2009)
5/20/1999	Conyers, GA	High	0	6 students	1 Rifle .22 caliber	A 15-year-old white male who threatened to kill himself but did not. (Queen, 2016)
12/6/1999	Fort Gibson, OK	Jr. High/ Middle	0	5 students	1 Handgun 9mm	A 13-year-old Native American male who was an honor student seeing a psychiatrist for mental health issues before the shooting (Walton, 2005)

Date	Location	School Level	Victims: Killed	Victims: Wounded	Firearm(s)	Description of Perpetrator(s)
3/5/2001	Santee, CA	High	2 students	11 students 2 adults	1 revolver .22 caliber	A 15-year-old white male described as having been bullied and sexually abused by an adult (Dickey, 2013)
3/22/2001	El Cajon, CA	High	0	4 students	1 shotgun 12-gauge, 1 pistol .22 caliber	An 18-year-old white male described as a loner with a history of mental illness (Texaira et al., 2001)
3/21/2005	Red Lake, MN	High	5 students 2 adults	5 students	1 pistol .22 caliber	A 16-year-old Native American male killed two family members and was described as having been bullied was also taking Prozac and anti-depressant medication (Langman, 2018)
10/2/2006	Nickel Mines, PA	Elementary/ Middle	5 students	5 students	1 handgun 9mm, 1 shotgun 12-guage pump-action, 1 rifle .30-06 bolt-action	A 32-year-old white male who committed suicide (Folmer et al., 2013)
10/10/2007	Cleveland, OH	High	0	3 students 2 adults	2 revolvers .22 caliber and .38 caliber	A 14-year-old white male at an alternative high school described as having mental health issues and having been bullied and suspended from school (Maag, 2007)
2/27/2012	Chardon, OH	High	3 students	3 students	1 handgun .22 caliber semiautomatic	A 17-year-old white male (Caniglia, 2014)
12/14/2012	Newton, CT	Elementary	20 students 6 adults	2 adults	1 rifle .22 caliber bolt action, 1 rifle Bushmaster XM15-E2S	A 20-year-old white male who killed his mother, was describe as having mental health issues who committed suicide (Vogel et al., 2012)

Date	Location	School Level	Victims: Killed	Victims: Wounded	Firearm(s)	Description of Perpetrator(s)
10/24/2014	Marysville, WA	High	1 student	4 students	1 pistol .40 caliber	A 15-year-old Native American male described as an outgoing and popular football player. Committed suicide after the attack. (Johnson and Dewan, 2014)
2/29/2016	Middletown, OH	High	0	4 students	1 pistol .38 caliber	A 14-year-old white male self-described as having abused Adderall and not being wanted by others, including his parents (BieryGolick, 2018)
9/28/2016	Townville, SC	Elementary	1 student	2 students 1 adult	1 pistol .40 caliber	A 14-year-old white male who killed his father and was homeschooled after being expelled for bringing a hatchet to his middle school (Mayo, 2018)
9/13/2017	Rockford, WA	High	1 student	3 students	1 assault weapon and 1 pistol	A 15-year-old white male described as having mental health issues and having been bullied (Geranios 2017a)
1/23/2018	Benton, KY	High	2 students	14 students	1 pistol 9mm semi-automatic	A 16-year-old white male (Sayers and Wolfson, 2018)
2/14/2018	Parkland, FL	High	14 students 3 adults	17 students	1 AR-15 style semi-automatic rifle	A 19-year-old white male described as a former student with mental health issues (Berman, 2018)
5/18/2018	Houston, TX	High	8 students 2 adults	13 students	1 shotgun, 1 revolver	A 17-year-old white male described as having been bullied and having mental health issues (Hanna et al., 2018)

Date	Location	School Level	Victims: Killed	Victims: Wounded	Firearm(s)	Description of Perpetrator(s)
5/7/2019	Highlands Ranch, CO	K-12 charter	1 student	8 students	3 handguns, 1 rifle	An 18-year-old white male student and a 16-year-old student in transition described as having mental health issues and abused drugs even on the day of the attack (Helsel, 2019)
11/14/2019	Santa Clarita, CA	High	2 students	3 students	1 Pistol .45 caliber semiautomatic	A 16-year-old white male who committed suicide (Yan, 2019)

Note: Adapted from Katsiyannis, A., Whitford, D. K., & Ennis, R. P. (2018). Historical examination of United States intentional mass school shootings in the 20th and 21st centuries: Implications for students, schools, and society. *Journal of Child and Family Studies,* doi:10.1007/s10826-018-1096-2

Laws Regarding School Attacks

The 1985 shooting in Goddard Kansas was the impetus for a 1990 change in state legislation that would allow 14-year-olds to be tried as adults in similar cases (Adame, 2015). Expansion of gun violence in the early 1990s led to zero-tolerance discipline policies in schools (Graveline, 2003; Morton, 2013). There are national laws regarding school safety that date to the 1960s, but the majority of laws passed since the 1999 Columbine attack focus on grants to fund new programs and safety initiatives referred to as 'target-hardening' measures that provide money for gates, metal-detectors, and other safety features for schools (Warnick & Kapa, 2019). Below is a brief description of laws relevant to school shootings nationally and in the state of Florida.

National Laws and Policy for School Safety

In the 1960's, President Linden B. Johnson waged a war on crime in an effort to create the Great Society. *The Omnibus Crime Control and Safe Streets Act* emerged as a major part of this program. One component of this legislation promoted grant funding for research-based programs related to criminal justice and alternative punishment options for juvenile offenders. Public Law 90-351 was introduced by Emanuel Celler, a Democrat from New York, as HR 5037 on July 17, 1967. It was signed into law by President Johnson the following June. Title I of the law outlines three main goals.

1. Assist states in evaluating law enforcement needs to develop effective plans for combatting crime.
2. Provide grants to state and local government agencies to improve their ability to deal with

local and state criminal justice issues.

3. Support and fund research focused on reducing crime and improving law enforcement's ability to detect and catch criminals.

Title I also established the Law Enforcement Assistance Administration (LEAA), which morphed into the National Institute of Justice (NIJ), the Bureau of Justice Statistics (BJS), the Bureau of Justice Assistance (BJA), and other agencies as part of an expanded Justice Department with the 1979 *Justice System Improvement Act*. The remainder of the Omnibus legislation raised the minimum age of purchasing guns to 21, provided rules for wiretapping, expanded the FBI, and clarified the system of Miranda rights for those accused of crimes.

Secure our Schools Act 2001

HR 4108 was the first addition to the Omnibus Act that specifically devoted grant money to making schools safer. Written and introduced 1 year after the attack at Columbine High School, the intent was to take steps to help prevent and respond more effectively to similar events. The *Secure our Schools Act* placed the Attorney General in charge of approving proposals for grants to states, local government agencies, or Indian Tribes. The funding would be awarded to grantees who could demonstrate improving school safety through (a) installing metal detectors, lighting, locks, or other deterrent measures; (b) security assessments; (c) security training of personnel or students; (d) coordinating with local law enforcement; (e) any other measure that may provide a significant improvement in security (Jones, 2015).

STOP School Violence Act

After a series of well publicized shootings in schools throughout the late 1990s, legislators focused their attention on schools by updating the *Omnibus Act* with provisions in the Secure Our Schools Act that reallocated and added funding from the original Omnibus grant program to organizations implementing safety measures in schools. *The STOP School Violence Act* was an update and enhancement of the *Secure Our Schools Act*. Since President Donald Trump Signed the legislation into law in March of 2018, states, counties, and schoolboards have produced grant requests to back a myriad of programs and technologies for school safety improvements (Jonson, 2017; Ujifusa, 2018).

The extended name for *HR 4909* is, *The Students, Teachers, and Officers Preventing School Violence Act* of 2018 (*STOP School Violence Act*). The law provides grant funding through the Bureau of Justice Assistance (BJA) and the Office of Community Oriented Policing Services (COPS) to train teachers, students, and law enforcement in methods for preventing school violence. Money is earmarked to develop anonymous reporting systems, security enhancements, and mental health programs to make schools safer. There are also provisions for programs intended to train local law enforcement agencies, in conjunction with schools, to improve the response to active shooter scenarios.

Up to 100 million dollars is available each year from 2019 through 2028. This is an enhancement on the 2001 amendment to the *Omnibus Crime Control and Safe Streets Act* of 1968 -*The Secure our Schools Act*- which provided 60 million dollars toward similar goals for the fiscal years 2001-2009. Grant funding is provided to appropriate and effective research-based programs that show valuable and measurable evidence for violence prevention. The verbiage in

the law refers to “evidence-based strategies and programs to prevent school violence” (34. USC. §10551). The provisions include metal detectors and various safety equipment along with reporting systems and training programs directed at students, school faculty, and local law enforcement to identify, mitigate, and respond to violence.

A portion of the bill funds effective threat assessment systems. This threat assessment model was developed under a coordinated effort between the Department of Education and the Secret Service to identify early warning signs for possible targeted school shootings and provide effective mediation to prevent acts such as the attack at Marjory Stoneman Douglas High School in Parkland, Florida on February 14, 2018 where 17 students were killed by a 19 year old former student of the school (Chapman, 2018; Modzeleski, & Randazzo, 2018). The threat assessment model has four important objectives to help prevent school violence (Modzeleski & Randazzo, 2018).

1. Identify the person or people who may become a threat.
2. Gather information about the person or people from multiple sources.
3. Evaluate whether there is a threat of violence to others.
4. Develop an individualized plan to reduce the threat.

Florida Law and Policy for School Safety

This study focused on teachers enrolled in graduate-level education courses at a large university in the southeastern United States. Education is a power reserved to states, and as each state works toward solutions to this indiscriminate problem of school shootings, it is important to understand the political landscape that impacts school policy (Cowan et al., 2013).

Marjory Stoneman Douglas Act

Passed in the aftermath of the shooting in Parkland, Florida that claimed 17 lives, *The Marjory Stoneman Douglas Act* law was an attempt by lawmakers to promote research-based solutions through grant funding while also making updates to Florida schools particularly in areas of security and mental health. The bill also contains provisions for the removal of personal guns from individuals where documentation supports a threat to others or themselves, restrictions on the sale of guns to individuals labeled by law enforcement and mental health professionals as dangerous, and updated definitions of terms such as 'bump-stock'. The creation of the Office of Safe Schools and the establishment of the Coach Aaron Feis Guardian Program represent main portions of the legislation geared toward providing more security for schools while also promoting research in the area of school shootings for future policy. One of the most controversial portions of the bill promotes the training and arming of school staff members. The law also calls for upgrades for school practices to include active shooter response training and annual drills as well as threat assessment teams.

Senate Bill 7030

This bill was approved by the governor on May 8, 2019. This law expanded the *Marjory Stoneman Douglas Act* and implemented protocol for specific aspects of the *Stoneman Douglas Act*. It notably added teachers and other certified staff members to the list of those who could be trained to carry guns as long as the district voted to approve the plan and the superintendent made recommendations for individuals eligible for the training to carry guns. Two important technical additions were provided for schools. The first is called FortifyFl, and it is a mobile

reporting tool that allows individuals to report suspicious activity in an anonymous way that leads directly to school officials and local law enforcement for investigative purposes. The second is the School Environment Safety Incident Reporting (SESIR) for logging and reporting behavior infractions and related incidents in a connective system. These tools were devised to provide more fluid lines of communication to help prevent mass targeted school attacks. Other components of the new Florida Law require the use of the Florida Safe Schools Assessment Tool (FSSAT) for school districts to evaluate the safety practices and protocol in schools annually. Reference is also made to altering zero-tolerance discipline policies that have been controversial since their passage in the 1990s in response to increased gun violence.

Nation and state legislators continue to respond to the public outcry for help in the aftermath of school shootings (Jones, 2015). The response is pervasive but is it enough? Analyzing these incidents in new ways will help lead to more effective solutions (Dumitriu, 2013). The efforts and research regarding school protection and response against active shooters has been singularly focused either on the attackers and their motives (Langman, 2009), or on increasing school security factors (Jonson., 2017), or on school and district policy (DeVos et al., 2018). A more collective look at the entire issue from the standpoint of the school as an organization through an effective lens of crisis management theory can offer a more collective overview and possibly provide novel and useful solutions (MacNeil & Topping, 2007; Pearson & Claire, 1998).

Crisis Management Theory

Crisis management theory has developed into a research-based, multi-faceted method for

analyzing crises that occur in organizations. This field of research dates to the early 1960s and has expanded through the decades to political science, economics, world governments, history, psychology, and public administration (Boin et al., 2016; Mitroff et al., 2004). Active shooter events in schools qualify as organizational crises and the crisis theoretical frame can help better explain these attacks and promote possible solutions for prevention and response (MacNeil & Topping, 2007; Rider, 2016)

Mass School Shootings and Crisis

In chapter 1, crisis was explained as a 5-stage process that begins with a low-impact systems or human failure, followed by a crisis triggering event. The crisis event then begins to spread its impact to all stakeholders. After this diffusion of impact, questions of blame and liability are raised. The final step is the creation of a "new-normal" (Shrivastava et al., 2013). Mass school shootings follow this model of crisis in stages.

In 87% of all mass shooter cases, the assailant told someone about the attack either in person or though social media posts (Lankford, Adkins, & Mathis, 2019). The attackers in nearly all the school mass shooting attacks (93%) behaved in a way that caused concern for teachers, friends, parents, or others they knew (Bonanno & Levenson, 2014). In 68% of mass school shooting cases the perpetrator(s) obtained the weapons used from their own home or from the home of friends and family (Bushman et al., 2016; Katsiyannis et al., 2018). In addition, 85% of shooters came from dysfunctional homes, were suicidal or depressed, or suffered from a major mental illness (Bushman et al., 2016; Newman et al, 2004). Each of these elements clearly fit the idea of a low-impact human or systems failure. Failure to report what was heard or read on social

media, ease of access to weapons, and lack of response to student mental health needs, represent incidents of failures that could have potentially prevented a shooting (Bonanno & Levenson, 2014; Jagodzinski, 2019; Jonson, 2017).

In Stage 2, major damage is caused in a crisis-triggering event (Shrivastava et al., 2015). In 2004, Dr. Newman and colleagues wrote a book about the roots of rampage shootings. In this book "five necessary but not sufficient conditions" for a school rampage shooting were identified and are explained below.

1. Marginality refers to poor or unsuccessful peer social interactions (Newman et al. 2004). The degree of marginality is difficult to measure but the researchers used personal testimony from living shooters, family members, and peers, along with the journals of some of the perpetrators who committed the shooting acts to classify the shooter's social standing and interactions (Bushman et al., 2016; Newman et al., 2004). Approximately 78% of the shooters were found to have been marginalized by their peers and family to some extent (Bushman et al., 2016; Newman et al., 2004).

2. Individual vulnerability refers to personality and mental health disorders, either diagnosed or un-diagnosed (Newman et al. 2004). The major measurable component had to do with individual narcissism and individual self-control. Students who committed acts of violence showed a lack of self-control and high levels of narcissistic behaviors (Bushman et al. 2016). The fact that 85% of the shooters either came from dysfunctional homes, showed previous incidents of suicidal tendencies, or suffered from a major mental illness points to a high correlate for the factor identified as individual vulnerabilities

(Bushman et al., 2016; Newman et al., 2004).

3. Cultural scripts can come from family examples or from media and video games or from peers that provide imagery and ideas that point to violence. The ability to measure this influence, contrary to media hype, is difficult since there are millions of people who watch violent movies, listen to violent songs, and play violent video games but never commit rampage shootings (Bushman et al., 2016; Langman, 2009; Newman et al., 2004). Exposure to media violence has shown an effect size of d = 0.2 for violent criminals and 0.47 for aggressive actions in students (Bushman et al., 2016). According to Cohen (1988) a small effect size is less than .25, a medium effect size is between .25 and .40, while a large effect size is .40 or higher.

4. Under the radar refers to the characteristic of school shooters and events that either went unnoticed or failed to be reported due to the lack of cohesive information processing systems (Harding et al., 2002; Newman et al., 2004). This also points to the need for more reporting systems in schools and more mental health professionals performing evaluations for students in need. Roughly 61% of high schoolers who knew of someone bringing a gun to school did not report it and 56% of those who heard a student threaten to use weapons did not report it (Bushman et al., 2013). In the past two decades 10 or more school shootings were prevented due to peer reports (Agnich, 2015; Bushman et al., 2016; Page, 2017).

5. Access to guns made multiple headlines after shooting incidents in 2018 (Lankford et al., 2019; Lott; 2019). The prevalence of guns in the United States, combined with the fact

that the majority of gun owners practice gun safety, makes this a difficult singularly identifiable cause of rampage shootings (Bushman et al., 2016; Chapman, 2017; Langman, 2009; Newman et al., 2004). The facts show that 62% or more of rampage shooters obtained guns from their own home (Borum, 2017; Bushman et al., 2016).

Stage 2 is the culmination of many factors, and the major crisis event is the shooting itself. As a school shooting unfolds, the impact is felt immediately. During and immediately after the shooting, stage 3 begins with the expansion of the crisis to stakeholders. In a mass school shooting the victims, the families, the staff, and the entire community are impacted by the tragedy (Fox & Fridel, 2018). The media reports following an event greatly expand the impact, exasperating fears nationwide about the safety of schools (Nicodemo & Petronio, 2018). During Stage 4, questions of blame and liability are raised as officials and stakeholders begin looking at the tragedy in search of reason in an effort to place blame. Some stakeholders blame the prevalence of guns and certain types of guns (Lankford, 2016), others point to mental health issues (Langman, 2009; Langman, 2018; Newman et al., 2004), some see a need for even greater increased security measures in schools (Jonson, 2017; Trump, 2019). After the February 14, 2018 attack at Marjory Stoneman Douglas High School in Parkland, Florida the actions of the security guard on campus were pointed to as inadequate, and blame and liability were projected (Siemaszko, 2019). A new normal, or equilibrium state, develops during Stage 5 (Shrivastava et al., 2013). Schools in America are still seeking this new normal. The reactions in each community affected differ widely, but support, vigils, and thoughtful steps toward solutions continue (Kubena & Watts, 2019; Page, 2017).

Applying Crisis Management Theory to Active Shooter Prevention

Early crisis management research in the 1960s pointed to three levels of crisis intervention: (a) primary intervention, which includes methods and systems to prevent a crisis; (b) secondary intervention, which takes place during and in the immediate aftermath focused on minimizing the effects and expansion of a crisis; and (c) tertiary intervention, which provides long-term assistance for those affected by a crisis (Caplan, 1964). In 1988, Comfort continued the tradition of using three levels to explain crisis management but adapted the names for each level to include, preparation, coping with crisis, and back to normal (Comfort, 1988). Wildavsky (1988) narrowed three components down to two in the identification of (a) anticipation, or efforts made to predict and prevent crises and (b) resilience, which is the capacity to cope with and bounce back from the damage caused by a crisis. In 1993, Shrivastava proposed the 4Cs, (causes, consequences, caution, and coping) to frame crisis management theory. The causes are the failures and triggering events that led to the crisis. The consequences are the impacts during and following the crisis event. The caution component involves efforts taken before a crisis occurs to prevent a crisis and minimize damage during a crisis. While coping, the fourth C, relates to steps taken in response to, and in the aftermath of, a crisis (Shrivastava, 1993). There is also a PPRR model (Boin et al., 2016) that contains prevention, protection, response, and recovery as the four main tenets. This study focuses primarily on the PPRR model since it is the one utilized most frequently in research related to crisis management in schools and since it is the basis of culminating research that synthesized the other major crisis management models in its inception.

As school leaders, politicians, and researchers worked since the late 1990s to develop

programs and protocols to assist schools in combating deadly school shooting attacks, very few have applied the ideas of crisis management theory (Dumitriu, 2013; Lawrence, 2007). Research in the areas of political science, psychology, criminal justice, and communications working toward solutions to make schools safer, only focus on one or two aspects in the complex web of events surrounding mass school shooting attacks (Lawrence, 2007). According to Dumitriu in a 2013 article, crisis management theory can be applied to all aspects of school shooting attacks. This application provides a frame for prevention efforts before an event, response training and drills to limit the immediate damage during an attack, and recovery planning to assist with the aftermath of the attack to bring the school and community to a new normal state (Dumitriu, 2013). Using the complex definitions of the topic, the goal of applying crisis management theory is to develop plans and protocols in schools that prevent an active assailant from committing severe targeted mass violence through proactive systems and training. Since teachers are consistently on the front lines of school safety (Rider, 2016) and have the most constant connections with students (Brown, 2008), their perceptions of the crisis management strategies used in schools are supremely important (Embry-Martin, 2017).

Crisis management capacity, resilience, and preparedness define an organization's ability to predict and prevent crisis, while establishing human and technological systems that limit any damage that might be caused by a crisis (Boin et al., 2016; Rider, 2016; Wildavsky, 1988). The focus of this study involves those systems within the organization of schools as they relate to teachers. If teachers are better prepared to deal with crisis through training, practice, planning, and protocol, then fewer attacks will occur and when they do occur, teachers will be able to respond with confidence in those systems and in their own abilities.

Components of Active Shooter Prevention and Response

Prevention, protection, response, and recovery were identified in a 2007 school crisis response document endorsed by former secretary of education, Margaret Spellings, as the four integral elements of crisis protocol for schools (Department of Education, 2004). Spellings also pointed out the importance of all stakeholders knowing their role during an attack.

> Knowing how to respond quickly and efficiently in a crisis is critical to ensuring the safety of our schools and students. The midst of a crisis is not the time to start figuring out who ought to do what. At that moment, everyone involved – from top to bottom – should know the drill and know each other. (Department of Education, 2004, p. 6)

To guide this study's efforts to analyze teacher perceptions of crisis management plans, these four components are utilized to explore and expand upon current research regarding factors that impact teacher perceptions of their ability to respond to an active shooter crisis. The elements of prevention and protection include anything done to attempt to stop a school shooting from taking place and limit the amount of damage caused in the event of a crisis (Department of Education, 2004; DeVos et al., 2018). This involves the climate of the school, threat assessment teams, mental health professionals on campus assisting in identifying student needs, anonymous reporting systems, and security measures such as gates, screenings, and cameras. These elements protect students, and they offer methods of preventing a devastating act by analyzing the school environment and providing ways to identify threats, mitigate them, and stop an active shooter before they can harm anyone.

Threat assessment was a model for school violence prevention developed by a coordinated effort between the United States Secret Service and the United States Department of

Education in 2002. The model has been studied and expanded since its inception (Chapman, 2018; Modzeleski & Randazzo, 2018; Mohandie, 2014; Vossekuil et al., 2004). The model involves a 7-step process and is recommended for Florida Schools by Florida Statutes section 1006.07(7). Cornell and Sheras (2006) describes seven components of the threat assessment model for use in schools:

1. Evaluate threat.
2. Decide whether threat is transient or substantive.
3. Respond to transient threat.
4. Decide whether substantive threat is serious or very serious.
5. Respond to serious substantive threat.
6. Conduct safety evaluation.
7. Implement a written safety plan.

Response and recovery, in this study, include all elements that are intended to limit the damage done by an active shooter during and after an attack. This will also involve components of school crisis programs and safety plans that relate to the recovery and aftermath of an active shooter. The elements included in the response realm consist of, security officers on campus, connections with local law enforcement, active shooter drills with students and faculty, mental health professionals on campus to help deal with possible issues that may result from an attack, and other elements such as school personnel carrying weapons, that are intended to limit the damage caused by an active shooter. Table 3 explains the major components within active shooter prevention and response categories.

Table 3

Prevention and Response Components

Active Shooter Prevention and Protection: Stop the attack from happening	Active Shooter Response and Recovery: Limit the damage from an attack
• School climate • Physical security systems • Threat assessment teams • Security cameras, limited entry points, and screenings for campus visitors • Mental health professionals and screenings for students and faculty	• Security officers on campus • Connections with local law enforcement • Active shooter drills and training • Armed teachers and school personnel • Mental health professionals to assist with long-term needs

Compiled from (Department of Education, 2004; DeVos et al., 2018).

Self-Efficacy Theory

The concept of self-efficacy was developed by Bandura in the late 1970s and refined by Tschannen-Moran in the early 2000s. Bandura's initial concept proposed that individual teacher beliefs about their abilities greatly influenced their effort, persistence, resilience, and performance in the face of stress and demanding situations (Bandura, 1977; Goddard & Hoy, 2000). This theory also states that an individual's perception of their capability, practiced proficiency, and self-confidence in a task, help produce better quality outcomes in test-based situations (Bandura, 1977; Tschannen-Moran, 2004). This form of belief in one's ability to perform a given task promoted by practice, information gathering, and effective training results in improved outcomes when the given task is needed, even under stressful or taxing conditions (Bandura, 1993; Tschannen-Moran, 2004). An active shooter in a school setting would be very taxing and stressful, therefore, utilizing self-efficacy principles to analyze teachers provides a useful model.

Understanding Self-Efficacy in Schools

Self-efficacy has been used in a wide range of studies since its initial discussion in the 1970s by Bandura (Bandura, 1993; Blanchfield, 2013; Borum, 2009; Brouwer, 2018; Graveline, 2003; Tshannen-Moran, 2001). These studies examined self-efficacy in many areas, but most notably in terms of both teachers and principals in school settings. The findings of each support the use of self-efficacy as a construct for better understanding how various factors impact important educational outcomes. Some of the studies are directly related to schools, where self-efficacy perceptions offer a meaningful way to analyze how individuals will likely respond to specific incidents of violence (Embry-Martin, 2017; Graveline, 2003; Rider, 2016). Self-efficacy research in education has mostly been used to focus on teaching or leadership methods and how these methods impact student achievement (Brouwer, 2018; Tschannen-Moran, 2004). The self-efficacy theoretical frame in this mixed methods study helped provide a deeper understanding of school safety perceptions among teachers and supplied a measurable construct to guide data collection and analysis (Lunenburg & Irby, 2008; Tschannen-Moran, 2004).

The self-efficacy of teachers in responding to school violence and active shooter scenarios stands as an important factor in developing training programs for schools (Graveline, 2003; Embry-Martin, 2017). A better understanding of how training methods, school safety protocol, school security measures, and demographic factors affect the confidence among teachers in responding to serious incidents of school violence is needed. Studies in Virginia schools demonstrated connections between school safety measures, demographic factors, and teacher perceptions of safety (Gregory & Cornell, 2009; Gregory et al., 2012). The results showed little influence regarding gender and school size, but years of experience, school climate,

school disciplinary practices, and school location showed moderate to high correlates with teacher perceptions of threats (Gregory & Cornell, 2009; Gregory et al., 2012).

Value of Mixed Methods Research Model

One of the studies used to help guide this current work conducted by was conducted by Rider (2016) who suggested using a mixed methods study to provide a deeper understanding of teacher perceptions. Embry-Martin (2015) conducted a study comprised only of qualitative data through nine interviews with teachers in elementary, middle, and high schools in California. He called for more quantitative approaches to provide more substantial backing for elements that affect teacher perceptions (Embry-Martin, 2015). The intent of this study was to combine both quantitative and qualitative findings to analyze teacher perceptions of their ability to respond to an active shooter crisis. Though the population and sample were limited geographically, the intent was to utilize both quantitative and qualitative methods to add to the literature on this important issue of school safety.

Summary

The literature review above provided a detailed review of active shooter cases in K-12 settings as well as an overview of the need for more cohesive terminology. These shooting attacks have altered national and state legislation. Law makers hope the new laws will provide more effective programs and protocol to help make schools safer (DeVos et al., 2018). Yes, these mass shooting attacks on schools are rare, and this helps qualify them as crises in schools. Crisis management theory can be used to better understand mass school shootings from a more

complete and organization-based model (Dumitriu, 2013; MacNeil & Topping, 2007). The next chapter presents details of the methodology of the current study to analyze teacher perceptions of their ability to respond to active shooting incidents. Chapter 3 begins with an introduction then presents the methods used to collect data for the quantitative components of this mixed methods study using a survey. The chapter also outlines the procedures used to collect qualitative data through nine interviews in a multiple-case study design.

CHAPTER THREE: METHODOLOGY

This study sought to provide a better understanding of perceptions among teachers enrolled in graduate-level education courses at a large university in the southeastern United States concerning active shooter preparedness. A deeper understanding of teacher perceptions concerning their ability to respond to an active shooter was developed using a combination of quantitative and qualitative data collected and analyzed using an explanatory mixed-methods research design. The following sections describe the design of the study, the participants, how participants were selected, the data collection procedures, the instruments used in the study, and the methods used to analyze the data. Each subsection begins with a description of the quantitative components, followed by the qualitative components.

Design of the Study

In order to better analyze teacher perceptions, an explanatory mixed-methods research approach was used. This mixed-methods approach included a survey instrument, the Active Assailant Prevention and Response Survey (AAPRS) found in Appendix B, supplemented by a multiple-case study using nine semi-structured interviews. Interviews were conducted until a point of saturation of data was reached. Use of the term saturation, was first introduced by Glaser and Strauss (1967) where they describe saturation as the point in which the collected data becomes redundant and no new findings are presented (Creswell, 2009). Selecting the explanatory mixed-methods design was purposeful to provide depth in the analysis of teacher perceptions, to capitalize on the strengths of quantitative and qualitative approaches, and to use the quantitative data to provide themes for analyzing the qualitative data from interviews

(Fraenkel, Wallen, & Hyun, 2011; Simons, 2009).

Fraenkel, Wallen, and Hyun (2011) outline three distinct types of mixed-methods research designs; exploratory, explanatory, and triangulation. The focus of this study was teacher perceptions and the seven research questions aligned best with the explanatory model. The purpose of the exploratory model is to identify relationships and assist in developing instruments in a model where the qualitative component usually comes first, followed by the quantitative (Schensul, 2008; Schram, 2006). The triangulation design involves convergence on a particular phenomenon while collecting qualitative and quantitative data simultaneously (Fraenkel et al., 2011). Neither of these methods fit the intent of the researcher for this study. The researcher chose the explanatory design over the others because the quantitative data was collected first using a previously constructed survey instrument and then supplemented by information from semi-structured interviews using open-ended questions to help clarify and expand on the findings from the survey (Fraenkel et al., 2011; Simons, 2009). This matched more cohesively with the parameters of the explanatory model.

Participants

At the time of the study there were approximately 1,200 teachers enrolled in graduate-level education courses at the large university in the southeastern United States where this study was conducted. This population of teachers was selected to provide a purposive sample where participants represented a range of demographic factors, multiple districts, and school types. The researcher also sought participants that represented a wide range of teaching experience. Educators seeking higher level degrees were selected to provide valuable information regarding

their perceptions of planning, training, and safety strategies for responding to active shooter incidents at multiple schools.

AAPRS Response Sample

The AAPRS was sent as an electronic link to approximately 1,200 graduate students at a large university in the southeastern United States enrolled in graduate-level education and educational leadership courses during the fall and spring semesters of 2019 and 2020. It was unknown exactly how many of the 1,200 graduate students were working teachers at the time the survey was distributed. The survey was completed or attempted by 165 individuals, representing a 14% response rate. Each participant provided their consent by selecting the appropriate agreement option within the survey instrument. The consent form with guidelines for participation is provided in Appendix F.

The first item in the survey served as the consent form. Participants were asked to read the consent form and indicate whether or not they agreed to. There were 151 who agreed to participate. The second item asked if the participant was currently a teacher in a school. Thirty-two individuals responded that they were not teachers. These participants were then sent to the end of the survey since they were not part of the purposive sample. Fourteen participants did not answer this question at all. Either they chose not to participate in the first question, or they chose not to complete the survey for various reasons. There remained after the first two questions, 119 possible valid responses for the survey. Valid responses for each section of the AAPRS varied from 111 to 114. A sample size of 113 with a population of 1,200, provides a 95% confidence level with a confidence interval of 8.66. Only valid responses were used in the data analysis.

Table 4

Participant Demographic Information

Gender	Teaching Experience	School type	Grade Configuration	Presence of Security
Female 77.5	1-3 Years 13.3	Public 58.4	Elementary School 42	Yes 80.5
Male 21.6	4-6 Years 22.1	Private 39.8	Middle School 10.5	No 19.5
Undeclared 0.9	7-9 Years 19.5	Charter 1.8	High School 13.2	
	10 + Years 45.1		Alternative Configuration 34.2	
n = 111	n = 113	n = 113	n = 114	n = 113

Note: Measures represent the percentage of valid responses.

Out of the 165 participants who started the survey, 111 of them completed the question asking them to identify their gender. The sample was made up of 24 men (21.6%) and 86 women (77.5%). One participant refused to identify their gender. Participants represented a variety of teaching experience. Out of 113 valid responses, 15 (13.3%) reported 1 to 3 years of teaching experience, 25 (22.1%) had 4 to 6 years of experience, 22 (19.5%) had 7 to 9 years teaching experience, and 51 (45.1%) reported 10 or more years of teaching experience. There were 113 valid responses for the question regarding school type and 66 people reported working for public schools, 45 for private schools, and two worked for charter schools. For the survey item in which participants were asked to identify their school grade configuration there were 114 valid responses. Forty-Eight (42%) worked at elementary schools, 12 (10.5%) worked at middle schools, 15 (13.2%) worked in high schools, and 39 (34.2%) worked in alternative school configurations. A majority of participants, 91 (80.5%) said their school had a security guard or

resource officer on campus during the school day, with 22 (19.5%) reporting that their school did not have security personnel on campus during the school day. Table 4 synthesizes the school and individual demographics for participants.

Interview Participants

The survey yielded 48 participants who provided consent and contact information for the interview. The researcher selected interviewees in an effort to create a purposive sample that would provide maximum variance to represent the widest possible range in terms of demographics, teaching experience, and school settings (Merriam, 1998). The interview selection process ended after the ninth interview, when a point of saturation was reached and repetition was found in the data provided (Glasser & Strauss, 1967). Participants represented public and private schools across five different grade configurations. Two interviews were conducted with elementary school teachers who worked in standard kindergarten through fifth-grade schools. Two interviews were with teachers who worked in pre-kindergarten through sixth-grade private schools. One of the subjects worked in a seventh through 12th grade school, while two of the participants worked in standard high schools with ninth through 12th grade students. One participant worked at a private pre-kindergarten through 12th grade school as a math teacher on a separate campus for seventh and eighth-grade students. One participant worked at a public middle school. Five of the participants were women and four were men. The sample contained 3 teachers with less than 10 years teaching experience, 4 teachers with 10 to 20 years teaching experience, one teacher with 25 years teaching experience, and one teacher with 45 years of teaching experience.

Table 5

Interview Participant Demographic Information

Participant	Gender	Total years teaching experience	Years at current school	School grade configuration	Current grade level	School Type
Mari	Female	12 years	6 years	K - 5th	1st	Public
Alice	Female	5 years	3 years	K - 5th	2nd	Public
Bettie	Female	17 years	5 years	K4 - 6th	5th	Private
Shannon	Female	45 years	18 years	K4 - 6th	6th	Private
Newman	Male	17 years	1 year	K4 – 12th	7th and 8th	Private
Jack	Male	25 years	2 years	6th - 8th	7th and 8th	Public
Mark	Male	6 years	5 years	7th - 12th	9th and 10th	Public
Bobby	Male	8 years	8 years	9th - 12th	10th, 11th, and 12th	Public
Connie	Female	10 years	7 years	9th - 12th	9th - 12th	Public

Case study research requires detailed description in order to provide context (Bloomberg & Volpe, 2012). Table 5 displays demographic details for the interview participants to provide context. This background information was derived from interview questions, and researcher notes during each interview. Detailed notes were also recorded during the interviews for non-verbal cues, such as long pauses or laughter, that helped enhance the thick descriptions of each case. Erlandson, Harris, Skipper, and Allen (1993) promote the use of rich, thick descriptions as a method to ensure validity and reliability within a qualitative study. In order to promote trustworthiness and protect the confidentiality of participants, each subject was provided a

pseudonym (Meriam & Tisdell, 2016). The interviews were recorded using an electronic recording device, which stored the recordings in a password protected file on the recording device. Once recorded, the interviews were transcribed verbatim by the researcher and identifying elements such as name, school name, and district name, were removed from the transcripts for confidentiality. The transcripts were then stored in a password protected file on the researcher's laptop for analysis.

Instrumentation

The survey instrument and the interview questions were selected from models derived from other studies and adapted to the needs of this explanatory mixed-methods research study. To identify possible instruments for use, the researcher used key terms: teacher perceptions, school safety, crisis management, self-efficacy, and active shooter preparedness to search a university's library databases. In order to analyze perceptions, one method that offers measurable data is a survey (Benbenishty, Astor, & Estrada, 2008). A 2016 study conducted by Rider provided the Active Shooter Preparedness Training Survey (ASPTS). The ASPTS was developed using a 4-point Likert-scale. The scale contained a rating system where 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. These options were followed by a section for participants to mark "I don't know" as a response (Rider, 2016). Rider (2016) consulted a panel of experts to help with question creation and she piloted the study to provide validity and reliability (α = .936). The open-ended interview questions used for the qualitative component of the study were modeled after those developed in a study conducted by Embry-Martin in 2017 at Northcentral University titled: Perceptions in Preparing for and Responding to an Active Shooter

Incident: A Qualitative Study of K-12 Teachers' Self-efficacy (Embry-Martin, 2017).

Active Assailant Prevention and Response Survey (AAPRS)

Developing an instrument for research is a complex process (Fraenkel et al., 2011; Simon, 2009). Simplifying the research process by utilizing and modifying previously developed instruments is common in research (Fraenkel et al., 2011). Protecting the validity and reliability of instruments is the goal of utilizing previously constructed instruments. Validity is a construct that identifies whether an instrument accurately measures the intended phenomenon, while reliability denotes ability of the instrument to produce consistent results (Fraenkel et al., 2011). Rider used a panel of experts to create and refine the items in the ASPTS as well as a pilot study to promote validity and reliability (Fink, 2009). To fit the needs of this study, attempts were made through email and through phone book searches of the Mississippi area to contact Carole Rider to gain permission to use her instrument. Once contact was made, Rider was sent a request to use the instrument she created for her study. The request was granted. The email confirmation from Rider can be found in Appendix E. The ASPTS components were valuable and useful but limited by the parameters of Rider's study, which focused on high school teachers in Mississippi schools. The study also focused on teacher perceptions of principals' ability and preparation in response to active shooters in schools (Rider, 2016). Since the current study was based on Florida teachers in multiple grade levels, and since the researcher was not concerned with teacher perceptions regarding their principal's effectiveness, the ASPTS was modified to create the Active Assailant Prevention and Response Survey (AAPRS).

The ASPTS instrument used as the model for the AAPRS contained five sections. The

first section gathered both individual and school demographic information from participants for categorization and for use in the descriptive analysis of self-efficacy (Rider, 2016). The second section was developed to analyze perceptions of planning methods in schools to develop their response to active shooter scenarios. The Cronbach's alpha, a commonly used statistic to determine the reliability of a Likert-scale survey, was calculated by Rider for each section of the ASPTS (Rider, 2016). An alpha score greater than $\alpha = .80$ is considered to have moderate to strong internal consistency and reliability (Fraenkel et al., 2011). The Cronbach's alpha for section two of Rider's instrument, which collected information about teacher's perceptions of the planning protocol in their school, was .945 (Rider, 2016). The third section collected perceptions regarding practice and drill procedures and had a Cronbach's alpha of .959 (Rider, 2016). The fourth section analyzed teacher perceptions of their preparedness to respond effectively to an active shooter scenario. This section had a Cronbach's alpha of .903 (Rider, 2016). The fifth section of the ASPTS was developed to analyze teacher perceptions of their principal's abilities and attitudes about school crises. Since teacher perceptions of their principal's preparedness was not a focus of this study, these items were eliminated when adapting the ASPTS for this study.

In modifying the ASPTS to fit the needs of this study, great care was taken to protect the validity of the major sections of Rider's instrument. The ASPTS sections concerning planning, practice and drills, and teacher preparedness were completely unchanged in the development of the AAPRS. This served to preserve the validity measures for those sections. One component of the ASPTS that needed modification was the demographics section. Item number 2: "What region of the state do you currently teach in?" was modified to read: "Which of the following best describes your school type?" (Rider, 2016, p. 164). An item was added to the demographic

section for participants to identify the grade configuration of their school, and a second item was added for participants to identify whether or not their school has a security guard on campus. In order to develop the AAPRS, the demographics section was moved to the end of the survey for ease of use for participants. Items in this section were also adjusted to fit the purposive sample of participants. Rider's study focused on high school teachers in areas of Mississippi, while this study included teachers from multiple grade levels in Florida schools who were enrolled in advanced degree education and educational leadership courses.

Interview Questions

To provide a detailed understanding of elements that impact perceptions among teachers regarding their competence in responding to active shooter incidents, a multiple-case study approach was selected as a follow-up to the data collected from the AAPRS. A multiple-case study is explained by Simmons (2008) as a useful method for documenting and interpreting complex experiences and phenomenon. The elements that influence the sense of safety and preparedness in schools are pertinent examples built around the complex experiences of teachers in their schools. The use of multiple-case studies through semi-structured interviews fit the needs of this study beyond other qualitative models such as grounded theory or phenomenological studies (Fraenkel et al., 2011). The goal of interviewing teachers enrolled as graduate students in education classes, within the parameters of the multiple-case study model, was to provide thick descriptions and detail regarding teacher perceptions of factors related to response and protocol for active shooter incidents (Fraenkel et al., 2011; Simmons, 2008).

The semi-structured interviews were conducted using a list of 12 open-ended questions

that allowed participants to describe their perceptions in detail and provided the researcher with the freedom to ask follow-up questions for clarity. Creswell (2007) recommends the use of open-ended questions and semi-structured interviews to allow the researcher to adapt to the information provided. The first three questions were demographic in nature to provide context and help clarify data for research questions 6 and 7 that intended to identify whether demographic factors affect perceptions of ability to respond during an active assailant crisis. This information included teaching experience, gender, school population, school grade configuration, presence of security during the school day, and whether the school was public, private, or charter. Questions 4 through 12 were developed to provide more detail regarding teacher perceptions of their ability to respond to an active shooter scenario and the factors that might influence these perceptions. The interview questions are listed in Appendix D. Having a set of guiding questions is also helpful to promote fluidity and continuity in the interview process (Creswell, 2013). In order to develop guiding questions, the researcher used the following steps as outlined by Sampson (2004) and Yin (2009) for developing interview questions for case-study research.

- Step one: A set of 14 questions was found in a qualitative research study regarding teacher perceptions of response to active shooter incidents (Embry-Martin, 2017).
- Step two: These questions were presented to a panel that included a high school teacher, an elementary school teacher, a school security manager, and the head of a private school. The panel advised to shorten the original set of questions by combining demographic questions. They also revised the wording in the last two questions.

- Step three: Two pilot interviews were conducted. One with a fifth-grade teacher from a private school, and another with a sixth-grade teacher from a private school. After the pilot interviews, questions were reordered so that questions were placed together by categories. The categories included, demographics, planning methods, drills and procedures, teacher perceptions of response, and recommendations from teachers for improving safety.

Data Collection

This explanatory mixed-methods study, to better understand teacher perceptions of their ability to respond to an active shooter crisis, relied on data collected from teachers enrolled in graduate-level education courses at a large university in the southeastern United States. The AAPRS was sent as an electronic link to approximately 1,200 possible participants enrolled in graduate courses for teacher education and educational leadership courses in a large southeastern university during the fall and spring semesters of 2019 and 2020. The researcher sent an email request to the university's program coordinator for graduate education degree programs. The request asked for contact information for professors teaching graduate-level education courses in educational leadership, teaching and learning, and curriculum development where the majority of students enrolled consisted of working teachers. The researcher was informed by the program coordinator that there were no records that would contain the exact number of students in graduate courses offered through the university who were currently teaching. The survey was sent to 45 professors whose contact information was provided by the graduate affairs academic support program coordinator for the university.

Survey AAPRS

The coordinator provided contact information for the requested professors and also agreed to send the AAPRS link with a summary request for participation through an email database. The summary request posted by the program coordinator is provided in Appendix C. The database email list used by the program coordinator contained all students enrolled in graduate education and graduate educational leadership courses within the college. The estimated number of students in the list was approximately 1,200 but there was no way to know how many of those students were full-time teachers. The participant recruitment letter, found in Appendix C, was sent to the 45 professors whose contact information was provided by the program coordinator. This request solicited permission to use approximately 10-minutes of one class session during the fall of 2019 semester to recruit participants for the study. This email included a summary of the benefits of the study along with the Qualtrics electronic link to the AAPRS with a request for each professor to distribute the survey to their students after the presentation. Three of the 45 professors from the list agreed to the presentation component for recruitment of participants. The researcher conducted 3 presentations to 55 possible participants. These presentations provided detail about the importance of the study, a description of efforts to protect the identity of participants, and a disclaimer that participation was voluntary. During each presentation, the researcher informed students that participating, or refusing to participate, would not impact their grade in the course. The remaining 42 professors agreed to post the description of the study along with the electronic link to their students through their class email list or through their online Canvas web-course system.

Interviews

The final item in the AAPRS requested contact information for those interested in participating in a voluntary interview. The survey yielded 48 participants who provided consent and contact information for the interview. The researcher selected interviewees in an effort to create a maximum variance sample, which is a sample that represents the widest possible range of participants in terms of their demographics and experiences to provide a broad range of information in an effort to improve transferability of the findings (Bloomberg & Volpe, 2012; Merriam, 1998). Interviews were conducted until a point of saturation was reached in the data collection. Saturation, defined by Glasser and Strauss (1967), refers to the point where the information collected begins to repeat itself and no new information is provided. Volunteers for the interview were contacted individually to establish a method (phone or in person) and time for the semi-structured interview. Four interviews were conducted face-to-face and five of the interviews were conducted over the phone. The interviews were audio recorded while the researcher took notes. Detailed notes were recorded during the interviews for non-verbal cues, such as long pauses or laughter, to enhance the thick descriptions of each case. Erlandson, Harris, Skipper, and Allen (1993) promote the use of rich, thick descriptions as a method to ensure trustworthiness in a qualitative study. The audio recordings of each interview were transcribed verbatim by the researcher and then sent to the participants for review to ensure the accuracy of the information provided. This served as a method of member checking, which is recommended to establish trustworthiness and promote reliability for the findings (Bloomberg & Volpe, 2012). The purpose of the interviews was to provide more detail for understanding teacher perceptions beyond what was provided in the AAPRS Survey (Timmons & Cairns,

2011). The interview transcripts were stored in a password protected file on the researcher's computer. Identifying elements such as name, school name, and district name, were removed from the transcripts for confidentiality and each participant was provided a pseudonym.

Data Analysis

The goal of this study was to identify, analyze, and understand perceptions of teachers regarding their ability to respond to active shooter scenarios. Since the study was mixed methods, the quantitative data and the qualitative data had to be analyzed using a combination of methods in order to address the research questions. Participant answers to the AAPRS survey instrument were entered into the Statistical Package for Social Sciences software system (SPSS) and analyzed using descriptive and correlational statistics. The data collected from the interviews was coded and analyzed to produce key findings that related to the research questions and provided rich descriptions from participants to further analyze perceptions.

Quantitative Data Analysis Methods

Research questions 1, 2, and 3 addressed teacher perceptions of crisis planning, drills and procedures, and ability to respond to an active shooter. These research questions were answered through descriptive statistics from the AAPRS instrument. Each of these components were represented in the survey with separate questions labeled as Q1, Q2, and Q3. Each question contained multiple statements for participants to rate on a on a 4-point Likert scale. The seven statements in Q1 related to the planning protocol for crisis management planning. The seven statements in Q2 related to drills and procedures for active shooter incidents. The four statements

in Q3 encapsulated teacher perceptions of their ability to respond. The Likert-scale assigned a value of 1 to the selection, strongly disagree. Disagree was marked by a score of 2, agree was represented by 3, and strongly agree represented a score of 4. Participants were given a fifth option to select, don't know, which registered a score of 0. In order to compute the various correlational tests required to address the research questions, an overall mean score for each of the three main sections (Q1, Q2, and Q3) was needed. The variable Plan Mean was calculated using scores for the seven statements in Q1, Drill/Proc Mean was calculated using mean scores for the seven statements in Q2, and the variable Response Mean was calculated using scores for the four statements in Q3.

Research questions 1, 2, and 3 were answered using descriptive statistics, frequencies, percentages, and mean scores from SPSS for participant responses to statements in Q1, Q2, and Q3 within the AAPRS. These sections sought to describe teacher perceptions of crisis management planning, drills and procedures for active assailant incidents, and teacher perceptions of their ability to respond to an active shooter crisis. Research question 4 required a Pearson *r* correlational analysis using SPSS to identify possible relationships between planning, identified by the variable Plan Mean, and participant perceptions of their ability to respond, identified as the variable Response Mean. Research question 5 required a Pearson *r* correlational analysis to identify possible relationships between practice and drill procedures (Drills/Proc Mean) and participant perceptions of their ability to respond (Response Mean). Research question 6 involved two parts. To answer the first part, an independent samples *t* test was used to identify relationships between the Response Mean variable and whether or not the school had security personnel on campus during the school day. The second portion of research question 6

was answered using a one-way-ANOVA, or analysis of variance, based on school grade configuration, and the Response Mean variable. Research question 7 also contained two parts. For the first part, an independent samples *t* test was used to identify relationships between Response Mean and gender. The second portion of research question 7 was answered using a one-way-ANOVA based on participant's years of teaching experience and the Response Mean variable. Table 6 outlines the analysis methods used for each research question.

Table 6

Research Questions and Data Analysis

Research Questions	Data Analysis Methods
1. How do teachers perceive their ability to respond effectively to active shooter scenarios?	Descriptive statistics from the AAPRS
2. What are the perceptions of teachers regarding their school's planning in preparation for active shooter scenarios?	Descriptive statistics from the AAPRS
3. What are the perceptions of regarding their school's drills and practice procedures for active shooter scenarios?	Descriptive statistics from the AAPRS
4. What relationships exist, if any, between perceptions of planning in preparation for active shooter scenarios and preparedness to respond effectively to an active shooter incident among teachers?	Pearson *r* for AAPRS section 1 and section 3 scores
5. What relationships exist, if any, between perceptions of procedures and drills, and perceptions of preparedness to respond effectively to an active shooter incident among teachers?	Pearson *r* for AAPRS section 2 and section 3 scores
6. What effect, if any, do school factors such as presence of security, and grade-configuration have on the perceptions of teachers in responding to active shooter scenarios?	Independent samples *t*-test for security personnel One-way ANOVA for school grade-configuration
7. What effect, if any, do individual demographic factors such as gender, and years of educational experience have on the perceptions of teachers in responding to active shooter scenarios?	Independent samples *t*-test for gender One-way ANOVA for years of experience

Qualitative Data Analysis Methods and Coding

The descriptive and correlational statistics were supplemented by descriptions from nine interviews to provide understanding using interview data coded based on multiple-case study qualitative research concepts. Saldaña (2013) defined coding as using "a word or phrase that symbolically assigns a summative, salient, essence-capturing, and or evocative attribute for a portion of language-based or visual data" (p.3). Main categories for coding were prefigured prior to the interviews based on the research questions and the literature, while new categories emerged based on the answers provided in the interviews. Crabtree and Miller (1992) describe coding and category development as a continuum from prefigured to emergent. This allows researchers to construct categories before analysis of data begins. Creswell (2009) warns that A priori coding restricts analysis and can allow for the intrusion of bias if the researcher is not responsive and open to allowing participant responses to guide the analysis of the data. Although this coding methodology was developed for grounded theory research, it can be applied to coding for case study analysis because these methods for developing categories are universal (Merriam, & Tisdell, 2016). Grounded theory allows for building coding schemes based on participant responses to interview questions and researcher notes. The main difference in this study is the lack of development of an overall theory as a result of the analysis, which is a requirement in grounded theory qualitative research (Fraenkel et al., 2011). Case study research seeks to provide description and detail as opposed to creating a theory (Merriam, & Tisdell, 2016).

The theoretical framework for this study was the theory of crisis management. The phases of a crisis can be juxtaposed with efforts to combat a crisis. If each phase of a crisis can

be identified and accounted for in a crisis management plan, then avoiding the crisis or limiting the possible impact of a crisis becomes possible (Gilpin & Murphy, 2008). Research in the areas of political science, psychology, criminal justice, and even communications only focuses on one or two aspects of the actual crisis (Dimitriu, 2013). Crisis management theory can be applied to all aspects of school shooting attacks dealing with prevention efforts and response planning before an event, response training and drills to limit the immediate damage during an attack, and recovery planning to assist with the aftermath of the attack on all stakeholders to bring the school and community to a new normal state (Dimitriu, 2013). The phrases used for coding the data were derived from the elements of crisis management as applied to the phases of a crisis. The four components of crisis management consist of prevention, protection, response, and recovery (Boin et al., 2016).

Crabtree and Miller (1992) describe coding and the development of categories on a continuum from priori, or prefigured, coding to emergent. This continuum allows for category development prior to data collection based on the literature and based on the research questions (Crabtree & Miller, 1992; Creswell, 2009). Emergent categories are derived explicitly from the participants or other data sources as the data is collected and analyzed (Crabree & Miller, 1992). Original categories were prefigured for this study, but based on participant answers to interview questions, new categories emerged. The A priori categories consisted of (a) crisis planning with a subcategory labeled security personnel, (b) drills and procedures, (c) perceptions of preparedness, and (d) safety perceptions. After analyzing the data and transcribing the interviews, new subcategories emerged. A subcategory for school safety measures was added to the crisis planning category. A new subcategory for training emerged based on descriptions of

training faculty, training students, and training recommendations during the interviews. The category for perceptions of preparedness was expanded to include personal perceptions of self-preparedness and perceptions of school preparedness. Appendix G contains the coding scheme that details categories and subcategories used in the coding process. A coding scheme is recommended for promoting trustworthiness and for outlining the process for category development (Bloomberg & Volpe, 2012).

Establishing Trustworthiness

Qualitative research studies must establish credibility, dependability, confirmability, and transferability in the data collection and analysis methods. (Bloomberg & Volpe, 2012; Lincoln & Guba, 1985). These elements substantiate the research findings by validating that the methods used in the study consistently and reliably produced findings that represented the actual experiences of participants (Bloomberg & Volpe, 2012; Creswell, 2013). Credibility, dependability, confirmability, and transferability are also components used to establish trustworthiness (Bloomberg & Volpe, 2012, Lincoln & Guba, 1998). The purpose of establishing trustworthiness is to mitigate bias in the research findings while maintaining components of validity and reliability (Lincoln & Guba, 1985). The terms validity and reliability are more commonly used in quantitative studies. Validity means that the findings and analysis closely represent the population in the research and in the study (Fraenkel et al., 2011). Reliability means the study, if repeated by another researcher, would yield similar results and findings (Fraenkel et al., 2011). Due to the differences between quantitative and qualitative methods, researchers have developed different terms and procedures for qualitative research to ensure that their findings

represent the population, are free from bias, and utilize methods that, if repeated, would reveal consistent results (Creswell, 2007; Lincoln & Guba, 1985).

Research theorists have collected and outlined many different useful methods to protect and ensure trustworthiness in qualitative studies (Creswell, 2007; Merriam & Tisdell, 2016; Volpe & Bloomberg, 2012). It is recommended to utilize a minimum of three of the outlined factors to ensure that a qualitative, or mixed-methods study such as this, contains equivalent protections for validity and reliability (Creswell, 2013). Efforts utilized by the researcher to develop trustworthiness consisted of clarifying research bias (Merriam, 1988), using a maximum variation sampling method (Patton, 2015), verbatim transcripts from a quality recording device (Creswell, 2013), member checking (Lincoln & Guba, 1985), peer review and intercoder agreement (Miles & Huberland, 1994), and use of rich thick descriptions (Schram, 2003).

Clarifying Research Bias

This is a method outlined by Merriam (1988) that requires the researcher to provide a self-portrait related to the study to help identify any bias. This self-portrait is provided in Appendix H. The researcher provides means and descriptive statistics from answers to the AAPRS as well as answers to interview questions. Full disclosure of researcher perceptions helps identify any possible bias (Merriam, 1998).

Maximum Variation Sampling and Saturation

Selecting a maximum variation sample for interviews is a method to promote trustworthiness and transferability by purposefully selecting a wide variety of participants to

allow readers to identify with one or more perspectives embodied by one or more of the participants (Merriam & Tisdell, 2016; Patton, 2015). Out of the 48 participants who agreed to the interview, participants were selected to provide a maximum variation sample. After nine interviews were conducted, saturation was indicated in the data as a repetition was identified in the responses (Glasser & Strauss, 1967).

Quality Recording Device and Verbatim Transcripts with Detailed Notes

Creswell (2013) recommends the researcher use a quality recording device for interviews, personal transcription of the interviews, and the use of detailed notes during the interviews. These elements ensure that the design is repeatable, that the information collected represents the actual perceptions and ideas of participants, while improving the researchers grasp of the intricate details within the data (Creswell, 2013; Schensul, 2008).

Member Checking

Lincoln and Guba (1985) state that it is important to make sure that the information from interview transcripts matches clearly with the ideas of the participants. To help prevent mistakes or misinterpretations in the transcribed data, the transcripts for this study were sent to the participants for review and editing. Once edited and reviewed, the transcripts were returned to the researcher for analysis.

Peer Review and Intercoder Agreement

This process helps mitigate bias and provides elements of reliability to qualitative research and mixed methods studies (Creswell, 2013). The process for intercoder agreement and

peer-review requires assistance from a peer/colleague during meetings throughout the process of coding and analysis to discuss, interpret, and delineate the categories and coding schemes (Miles & Huberman, 1994). For this study, the researcher met with a colleague after transcribing interviews to discuss the initial priori categories developed from research questions and the literature. As the researcher began to see emergent codes from participant answers to interview questions, a second consultation with the same colleague resulted in a discussion about emergent codes. The colleague and the researcher worked from the same sections of interview transcripts to code separately. The majority (88%) of coding and passage designations matched. Those that were discrepant, were discussed until a point of agreement was reached. The process for intercoder agreement was derived from similar processes described by Creswell (2013), and Miles (1994).

Thick, Rich Descriptions

The use of thick, rich descriptions promotes transferability of the findings for qualitative research (Erlandson et al., 1993; Schram, 2003). These descriptions should include context for participants and depth of detail in the explanation of results in order to support any claim that the findings are applicable on a scale beyond the participants in the study (Schram, 2003). This study includes thick, rich descriptions and context details for the interview participants as well as triangulation of data between the quantitative and qualitative components.

Summary

This chapter contained descriptions of the study in substantial detail to allow the steps of

the study to be repeated for future research. More information is needed regarding teacher perceptions of their ability to respond to active assailant crisis situations in schools. An explanation of the procedures to select participants, develop instruments, and analyze the data in accordance with research theory for this mixed methods study demonstrates the measures taken by the researcher to add to the available information on this important topic of safety for students. An explanation of efforts taken by the researcher to uphold the validity, reliability, and trustworthiness of the data collection and analysis methods was also provided. The value of the recommendations for practice and results of this study depend on the strength of the methods used to arrive at those conclusions. The next chapter discusses the results from the quantitative and qualitative components of the study.

CHAPTER FOUR: RESULTS AND IMPLICATIONS

This study analyzed perceptions of teachers regarding their ability to respond to an active shooter crisis. Data was collected using an explanatory mixed-methods design. Quantitative data was collected through the Active Assailant Prevention and Response Survey (AAPRS). A multiple case study approach using open-ended, semi-structured interviews with nine participants provided detailed descriptions of teacher perceptions to supplement data from the survey. The results and findings from the data are presented in this chapter starting with the results from the AAPRS relevant to each of the seven research questions. The findings from the multiple case study interviews are explained according to the explanatory research model design (Fraenkel et al., 2011; Merriam & Tisdell, 2016). The A priori and emergent categories developed in the process of coding the interviews provide the organizational structure to explain the qualitative findings from the nine interviews.

Survey (AAPRS) Results

There were 165 participants who attempted the AAPRS. This represents a 14% return rate accounting for approximately 1,200 registered students in the graduate programs in the field of education and educational leadership. The 1,200 students in the population contained a mixture of teachers, coaches, and school administrators. This study focused solely on teacher perceptions. There was no way to tell exactly how many of the 1,200 students were currently teaching at the time, but it is known that some of the 1,200 students represented school employees of all types, not just teachers. Thus, the actual return rate is likely higher than the 14% estimate. Fink (2009) suggests a 20% response rate for a population of 1,200 to promote

generalizability of findings.

The survey included demographic questions to ensure that participants fit the purposive sample of teachers enrolled in graduate-level education courses at a large university in the southeastern United States. The AAPRS survey contained three sections identified in the Qualtrics survey system as questions. The first question (Q1) asked participants to indicate the degree to which they agree or disagree with seven statements related to the planning process used to create the crisis management plan for active shooter scenarios in their school. The second question (Q2) asked participants to indicate the degree to which they agree or disagree with seven statements regarding the drills and procedures used in their school to prepare for, and respond to, an active shooter crisis. The third question (Q3) asked participants to indicate the degree to which they agree or disagree with four statements regarding their ability to respond to an active shooter. Each of the Likert scale response options in the AAPRS contained a score value for calculations. Participants could choose from: strongly disagree (1), disagree (2), agree (3), strongly agree (4), or don't know (no score). Scores lower than 3 indicated less confidence or negative perceptions, while a score of 3 or higher indicated higher levels of confidence and positive perceptions.

In order to compute the correlational analyses, the mean for each participant was calculated for responses to each statement within Q1 to create the variable, Plan Mean. The overall mean of responses to statements in Q2 was calculated to form the variable Drills/Proc Mean. The mean was also calculated for the four statements in Q3 to produce a Response Mean score for each participant. To identify teacher perceptions of their ability to respond to an active shooter, the key section of the AAPRS was Q3. This question involved four statements related to

a teacher's perceptions of their ability to respond in an active shooter crisis situation. The results are described in the sections below and organized to address each of the research questions. All of the calculations and descriptive data were analyzed using the Statistical Package for Social Sciences software system (SPSS).

The first three research questions were answered with descriptive statistics such as frequencies, percentages, and means. Research question 4 required a Pearson *r* correlational analysis using SPSS to identify possible relationships between planning, identified by the variable Plan Mean, and participant perceptions of their ability to respond, identified as the variable Response Mean. Research question 5 required a Pearson *r* correlational analysis to identify possible relationships between practice and drill procedures (Drills/Proc Mean) and participant perceptions of their ability to respond (Response Mean). Research question 6 involved two parts. To answer the first part, an independent samples *t* test was used to identify relationships between the Response Mean variable and whether or not the school had security personnel on campus during the school day. The second portion of research question 6 was answered using a one-way-ANOVA, or analysis of variance, based on school grade configuration and Response Mean. Research question 7 also contained two parts. For the first part, an independent samples *t* test was used to identify relationships between gender and Response Mean. The second portion of research question 7 was answered using a one-way-ANOVA based on participant's years of teaching experience and the Response Mean variable.

Testing the Research Questions

To better understand teacher perceptions of their ability to respond to an active shooter

crisis, seven research questions were posed. Results from the Active Assailant Prevention and Response Survey (AAPRS) are explained below using descriptive statistics and correlational analysis. Each research question is addressed separately for clarity.

Research Question One

How do teachers perceive their ability to respond to active shooter scenarios?

The AAPRS question 3 (Q3) asked participants to indicate the degree to which they agree or disagree with statements regarding their preparedness to respond during an active shooter crisis. For the first statement, Q3-1, "I am confident in my ability to respond appropriately in the event of an active shooter incident in my school," there were 103 valid responses. The majority of participants (80.6%) stated that they agreed or strongly agreed with the statement and 19.5% either disagreed or strongly disagreed. The mean score for this statement was $M = 3.03$. For the next statement, Q3-2, "I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident in my school," 73.6% agreed or strongly agreed, while 26.4% disagreed or strongly disagreed and the mean was $M = 3.00$. For Q3-3, "I am confident that I can control my classroom in the event of an active shooter incident," 81.9% agreed or strongly agreed, 18.1% disagreed or strongly disagreed, and the mean was $M = 3.14$, the highest of the four statements. The final item, Q3-4, states, "I am confident that I can protect my students in the event of an active shooter incident." For this item, 68.6% agreed or strongly agreed, 31.4% disagreed or strongly disagreed, and the mean was $M = 2.88$. This was the lowest score for Q3. Table 7 provides frequencies and descriptive statistics regarding teacher responses for each statement in Q3.

Table 7

Perceptions of Preparedness Descriptive Statistics

	Q3-1 Valid Percent	Q3-2 Valid Percent	Q3-3 Valid Percent	Q3-4 Valid Percent
Strongly Disagree	7.8	4.7	6.7	10.8
Disagree	11.7	21.7	11.4	20.6
Agree	50.5	42.5	42.9	38.2
Strongly Agree	30.1	31.1	39.0	30.4
Valid	103	106	105	102
Mean	3.03	3.00	3.14	2.88

Q3-1 I am confident in my ability to respond appropriately in the event of an active shooter incident in my school.

Q3-2 I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident in my school.

Q3-3 I am confident that I can control my classroom in the event of an active shooter incident.

Q3-4 I am confident that I can protect my students in the event of an active shooter incident.

Note: The overall Response Mean score was M = 3.01.

Participant answers to the statements in Q3 were averaged to form the variable, Response Mean. This variable indicates an overall perception of ability to respond to an active shooter scenario by considering four factors that relate to one's ability to respond. The intent of the Response Mean variable was to encapsulate responses for all four statements in Q3. The Response Mean was used in calculations for research questions 4, 5, 6 and 7. The majority of the Response Mean scores (63.1%) were at or above the threshold of $M = 3.00$. A total of 36.9% of the participants had Response Mean scores lower than $M = 2.75$, and 24.3% had Response Mean scores of $M = 2.50$ or lower. Most participants agreed or strongly agreed that they were confident in their ability to respond, that they had adequate training to respond effectively, that they were confident they could control their classrooms, and that they were confident they could protect

their students. More than 20% were less confident or had negative perceptions of their ability to respond in an active shooter crisis. In fact, 13.5% of the Response Mean scores were $M = 2.00$ or below. The overall mean for this subset was $M = 3.01$. Table 8 contains frequencies, and percentages for the Response Mean variable.

Table 8

Response Mean Frequency Table

Response Mean	Frequency	Valid Percent	Cumulative Percent
1.00	3	2.7	2.7
1.50	2	1.8	4.5
1.75	4	3.6	8.1
2.00	6	5.4	13.5
2.25	5	4.5	18.0
2.50	7	6.3	24.3
2.67	2	1.8	26.1
2.75	12	10.8	36.9
3.00	22	19.8	56.8
3.25	11	9.9	66.7
3.50	8	7.2	73.9
3.67	2	1.8	75.7
3.75	11	9.9	85.6
4.00	16	14.4	100.0
Total	111	100.0	

Research Question Two

What are the perceptions of teachers regarding their school's planning and preparation for active shooter scenarios?

AAPRS survey subsection Q1, asked participants to indicate the degree to which they agree or disagree with 7 statements concerning active shooter planning protocol. The first

statement, labeled as Q1-1, states, “My school has a crisis plan addressing procedures for handling active shooter incidents,” had a score of $M = 3.41$ and 88.7% of the participants agreed or strongly agreed. The second statement, Q1-2, “My school works cooperatively with local emergency personnel in developing a crisis plan for active shooter incidents,” had a mean of $M = 3.47$. Nearly 80% of participants agreed or strongly agreed, 10.3% did not know, and 10.3% disagreed or strongly disagreed. For Q1-3, “My school has a crisis team in place,” 11.2% disagreed or strongly disagreed and 27.6% of the participants either did not know if their school had a crisis team in place or disagreed with the statement. More than 72% agreed or strongly agreed and the mean for Q1-3 was $M = 3.38$. For item Q1-4, “I have a copy of my school’s active shooter response procedures,” 38% of the participants in this study either did not have a copy of their school’s crisis management plan for active shooter scenarios, or they did not know if they had a copy of the plan. More than 62% agreed or strongly agreed. The mean for Q1-4 was the lowest for the Q1 subset at $M = 2.84$.

The fifth statement, Q1-5, “My school’s planning procedures for active shooter incidents are effective,” had a mean of $M = 2.99$. Eighteen participants (15.5%) selected “don’t know” for this statement, 16.3% disagreed or strongly disagreed, while 68.2% either agreed or strongly agreed that the plans were effective. This equates to 31.8% of teachers in the sample who either felt their school’s active shooter response plans were ineffective or did not know if the plans were effective. The mean score was $M = 2.93$ for Q1-6, “I know where to access information about my school’s official procedures in case of an active shooter incident.” A majority of participants (68.9%) agreed or strongly agreed with the statement, 23.2% disagreed or strongly disagreed, and 7.8% reported that they did not know. This suggests that more than 30% of the

participants did not know how to access information about their school's active shooter crisis management plans. For Q1-7, "I believe it is important to routinely update active shooter incident procedures," the mean was the highest at $M = 3.67$. Overall, participants agreed they were aware of their school's crisis plans for active shooter incidents, and most agreed that the plans and procedures were effective. Table 9 contains descriptive statistics for responses to each statement in subset Q1.

Table 9

Perceptions of Planning Descriptive Statistics

	Q1-1 Valid Percent	Q1-2 Valid Percent	Q1-3 Valid Percent	Q1-4 Valid Percent	Q1-5 Valid Percent	Q1-6 Valid Percent	Q1-7 Valid Percent
Don't Know	1.7	10.3	16.4	7.8	15.5	7.8	7.8
Strongly Disagree	6.0	6.0	4.3	11.2	6.0	10.3	3.4
Disagree	3.4	4.3	6.9	19.0	10.3	12.9	0.9
Agree	28.4	20.7	25.0	20.7	46.6	26.7	18.1
Strongly Agree	60.3	58.6	47.4	41.4	21.6	42.2	69.8
Valid	116	116	116	116	116	116	116
Mean	3.41	3.47	3.38	2.84	2.99	2.93	3.67

Q1-1	My school has a crisis plan addressing procedures for handling active shooter incidents.
Q1-2	My school works cooperatively with local emergency personnel in developing a crisis plan for active shooter incidents.
Q1-3	My school has a crisis team in place.
Q1-4	I have a copy of my school's active shooter response procedures.
Q1-5	My school's planning procedures for active shooter incidents are effective.
Q1-6	I know where to access information about my school's official procedures in case of an active shooter incident.
Q1-7	I believe it is important to routinely update active shooter incident procedures.

Note: The overall Plan Mean score was M = 3.22

The scores for each participant for each statement in Q1 were averaged to form the variable, Plan Mean. The Plan Mean provided a measure of perceptions related to crisis

management planning protocol. The overall Plan Mean for all participants in this section was *M* = 3.22, with a standard deviation of .732. The majority of participants knew their school had a plan in place for active shooter scenarios. The majority of participant's schools worked with local emergency personnel to develop the plan. Most schools had a crisis team in place and the majority of participants had access to, or at least knew how to access, their school's crisis management plan. Most participants believed the crisis management plans for their school were effective and that it was important for these plans to be routinely updated.

Research Question Three

What are the perceptions of teachers regarding their school's drills and procedures for active shooter scenarios?

The AAPRS section identified as question 2 (Q2), asked participants to indicate the degree to which they agree or disagree with seven statements regarding procedures and drills for active shooter incidents at their school. For the first statement (Q2-1), "The possibility of a school shooting incident is taken seriously at my school," the mean was *M* = 3.44. The majority of participants (86.1%) agreed or strongly agreed with this statement, 11.3% disagreed or strongly disagreed, and 2.6% reported that they did not know. For the second statement (Q2-2), "My school provides instruction sessions about live active shooter incident preparedness to staff," 17.3% disagreed or strongly disagreed, 4.3% did not know, and 78.2% agreed or strongly agreed. The mean score for this statement was *M* = 3.30. The third statement (Q2-3), "My school provides classroom instruction about live active shooter incident preparedness to students," had the lowest mean for this subset at *M* = 2.65. Q2-3 recorded the highest percentage of

disagreement with 44.7% of participants selecting disagree or strongly disagree. Seven percent selected don't know, and 48.3% agreed or strongly agreed. Q2-4, "The classroom instruction portion of our active shooter incident preparedness is effective," had the second lowest mean score at M =2.72. More than 20% selected, don't know, for this statement, while 33.2% either disagreed or strongly disagreed. Less than half (43.9%) agreed or strongly agreed.

The statement for Q2-5, "My school provides drills for staff in order to practice active shooter incident preparedness," had a mean of M = 3.31. In addition, 81.8% of the participants either agreed or strongly agreed, 14.8% disagreed or strongly disagreed, and 3.5% selected don't know. For Q2-6, "My school provides drills for students in order to practice active shooter incident preparedness," 56.5% strongly agreed, 29.6% agreed, 6.1% disagreed, 6.1% strongly disagreed, and 1.7% did not know. The mean for Q2-6 was M = 3.39. The final statement in this subsection, Q2-7, "My school's active shooter incident drills are effective," had a mean of M = 3.00. Twenty percent selected don't know and 20% either disagreed or strongly disagreed. Sixty percent of the participants either agreed or strongly agreed that their school's active shooter incident drills were effective. Table 10 contains descriptive statistics for the Q2 subset of the AAPRS responses.

Participant responses to all of the statements in subset Q2 were averaged to form the variable Drills/Proc Mean. The overall Drills/Proc Mean was M = 3.12 with a standard deviation of .687. Most areas in this subset show that teachers are confident and knowledgeable in active shooter training, drills, and procedures in their schools. The results also show an area of concern regarding the training for students. Scores for items related to training for students and confidence in the effectiveness of the drills demonstrate a need for policy adjustments. More

uniform training tools and techniques to help students better understand their roles in active shooter incidents could improve teacher confidence in the overall effectiveness of active shooter crisis management drills and procedures.

Table 10

Perceptions of Drills and Procedures Descriptive Statistics

	Q2-1 Valid Percent	Q2-2 Valid Percent	Q2-3 Valid Percent	Q2-4 Valid Percent	Q2-5 Valid Percent	Q2-6 Valid Percent	Q2-7 Valid Percent
Don't Know	2.6	4.3	7.0	21.9	3.5	1.7	20.0
Strongly Disagree	7.0	4.3	11.4	10.5	7.8	6.1	5.2
Disagree	4.3	13.0	33.3	23.7	7.0	6.1	14.8
Agree	25.2	27.8	24.6	21.1	29.6	29.6	34.8
Strongly Agree	60.9	50.4	23.7	22.8	52.2	56.5	25.2
Valid	115	115	114	114	115	115	115
Mean	3.44	3.30	2.65	2.72	3.31	3.39	3.00

Q2-1	The possibility of a school shooting incident is taken seriously at my school.
Q2-2	My school provides instruction sessions about live active shooter incident preparedness to staff.
Q2-3	My school provides classroom instruction about live active shooter incident preparedness to students.
Q2-4	The classroom instruction portion of our active shooter incident preparedness is effective.
Q2-5	My school provides drills for staff in order to practice active shooter incident preparedness.
Q2-6	My school provides drills for students in order to practice active shooter incident preparedness.
Q2-7	My school's active shooter incident drills are effective.

Note: The overall Drill/Proc Mean score was M = 3.12

Research Question Four

What relationships exist, if any, between perceptions of planning and preparation for active shooter scenarios, and preparedness to respond to an active shooter incident among

teachers?

To analyze this question, the mean scores from the planning section (Q1), and the response section (Q2) of the AAPRS were compared. Question 1 (Q1) consisted of seven statements rated on a 4-point Likert Scale regarding crisis planning for active shooter incidents. An overall mean of $M = 3.22$ for these seven questions was calculated as the Plan Mean variable. The 4 statements in Q3 were combined in a similar fashion to provide an overall Response Mean of $M = 3.01$. Table 11 contains the means and standard deviations for the Plan Mean variable and the Response Mean variable.

Table 11

Planning and Response Descriptive Statistics

	Mean	Std. Deviation	N
Plan Mean	3.22	.703	116
Response Mean	3.01	.739	111

A Pearson *r* calculation for the Plan Mean variable and the Response Mean variable was calculated using the SPSS software. The results showed that $r\ (109) = .520$, $p < .001$. The critical *r* for this value is between .232 and .254 at the .01 level. This allows the researcher to be 99% confident that these scores are related and that their relationship is not due to mere sampling error. Understanding and confidence regarding crisis planning protocol directly relates to teacher perceptions of how they will respond in an active shooter crisis. Table 12 displays the SPSS output data for the Pearson *r* calculation.

Table 12

Pearson r for Planning and Response

		Plan Mean	Response Mean
Plan Mean	Pearson Correlation	1	.520**
	Sig. (2-tailed)		.000
	N	116	111
Response Mean	Pearson Correlation	.520**	1
	Sig. (2-tailed)	.000	
	N	111	111

**. Correlation is significant at the 0.01 level (2-tailed).

Research Question Five

What relationships exist, if any, between perceptions of procedures and drills, and perceptions of preparedness to respond to an active shooter incident among teachers?

To analyze this question, the drills and procedures section of the AAPRS (Q2) was compared with the preparedness to respond section (Q3). Q2 consisted of seven statements rated on a Likert scale regarding drills and procedures for active shooter incidents. An overall mean of $M = 3.12$ for these seven statements was calculated into the variable Drill/Proc Mean. The four statements in Q3 were combined in a similar fashion to provide a Response Mean score of $M = 3.01$. Table 13 Shows the descriptive data for these two variables.

Table 13

Drills/Procedures and Response Descriptive Statistics

	Mean	Std. Deviation	N
Drills/Proc Mean	3.12	.687	115
Response Mean	3.01	.739	111

A Pearson *r* for Drill/Proc Mean and Response Mean was calculated at $r\ (109) = .637$, p

< .001. The critical *r* for this value is between .232 and .254 at the .01 level. The Response Mean scores and the Drills/Proc Mean scores are correlated at the .01 level, and this relationship is not due to mere sampling error. Confidence in, and understanding of, drills and procedures directly impacts teacher perceptions of how they will respond during an active shooter crisis. Table 14 displays SPSS output for the Pearson *r* calculation for the Drills/Proc Mean and the Response Mean.

Table 14

Pearson r for Drill/Procedures and Response

		Drills/Proc Mean	Response Mean
Drills/Proc Mean	Pearson Correlation	1	.637**
	Sig. (2-tailed)		.000
	N	115	111
Response Mean	Pearson Correlation	.637**	1
	Sig. (2-tailed)	.000	
	N	111	111

**. Correlation is significant at the 0.01 level (2-tailed).

Scores for each of the statements in AAPRS Q3 were separated by participant responses to Q8, which asked how many times per year active shooter drills were conducted. Participants could choose, (a) 0 drills, (b) 1-2 drills, or (c) 3 or more drills. For Q3-1, "I am confident in my ability to respond appropriately in the event of an active shooter incident in my school," participant scores were as follows: 0 drills ($M = 2.71$), 1-2 drills ($M = 2.52$), and 3 or more drills ($M = 3.21$). For Q3-2, "I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident in my school," participant scores were as follows: 0 drills ($M = 3.28$), 1-2 drills ($M = 2.72$), and 3 or more drills ($M = 3.06$). For Q3-3, "I am confident that I can control my classroom in the event of an active shooter incident,"

participant scores were as follows: 0 drills (*M* = 3.00), 1-2 drills, (*M* = 2.86), and 3 or more drills (*M* = 3.24). For Q3-4, "I am confident that I can protect my students in the event of an active shooter incident." participant scores were as follows: 0 drills (*M* = 3.00) , 1-2 drills, (*M* = 2.81), and 3 or more drills (*M* = 2.94).

Table 15

Response and Number of Annual Drills

Drills Conducted Annually	Q3-1 Mean	Q3-2 Mean	Q3-3 Mean	Q3-4 Mean	Response Mean
0 Drills	2.71	3.28	3.00	3.00	2.80
1-2 Drills	2.52	2.72	2.86	2.81	2.72
3 or More Drills	3.21	3.06	3.24	2.94	3.14

Q3-1	I am confident in my ability to respond appropriately in the event of an active shooter incident in my school.
Q3-2	I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident in my school.
Q3-3	I am confident that I can control my classroom in the event of an active shooter incident.
Q3-4	I am confident that I can protect my students in the event of an active shooter incident.

For the Response Mean variable participant scores were as follows: 0 drills (*M* = 2.80), 1-2 drills (*M* = 2.72), and 3 or more drills (*M* = 3.14). Scores for participants in schools with 3 or more drills per year were higher than scores for participants whose schools conducted fewer drills. Another notable factor is that every participant who worked in a public school reported that their school conducted active shooter drills two or more times during the year. There were seven participants who reported that their school did not conduct drills during the year. Three of these were universities, three were private schools, and one was a charter school. These factors account for the values regarding the scores for 0 drills being skewed. Table 15 displays the

comparative response scores for each item in Q3 as well as the Response Mean for the number of annual drills reported by participants.

Research Question Six

What effect, if any, do school factors such as presence of security and grade-configuration have on the perceptions of teachers in responding to active shooter scenarios?

To identify if the presence of security personnel on campus during the school day impacts teacher perceptions of their ability to respond to an active shooter, an independent samples *t* test was calculated using SPSS. The sample contained 89 participants who reported the presence of security during the school day and 22 participants who worked at schools with no security personnel. The calculations had to account for this variation in sample size.

The resulting calculations from SPSS resulted in $t\ (109) = 0.090$, $p > .10$. There was no significant difference between the Response Mean scores for participants working in schools with security and those working in schools without. The critical value for a *t* test with 109 degrees of freedom is 1.6. The value of .090 falls well below this threshold. The critical value corresponds to *t* test scores that demonstrate significant differences in participant scores. Since the *t* score for this test was significantly lower than the critical value, any differences between the Response Mean for participants with security and those without security were likely attributed to sampling error; or the difference was too small to be considered significant. With a .016 difference in the means, no significant difference existed between Response Mean scores for the two groups. Table 16 shows the means and standard deviations of the Response Mean for each group. Table 17 shows the SPSS output for the *t* test calculation.

Table 16

Presence of Security and Response Descriptive Statistics

	Presence of Security	N	Mean	Std. Deviation
Response Mean	Yes	89	3.02	.729
	No	22	3.00	.794

Table 17

Presence of Security and Response t test results

	f	sig	*t*	df	Sig (2-tailed)	Mean difference
Response Mean	.002	.969	.090	109	.928	.016

School grade configuration was also a school demographic factor tested in reference to participant perceptions of their ability to respond to an active shooter incident. Due to the discrepancies in the grade configurations reported in the data, an adjustment was required to group the participant responses into three alternative grade configuration categories. In the survey, participants could select elementary school, middle school, high school, Kindergarten-8th grade, or other as their options. The selection of other, prompted an open response for participants to describe their school's grade configuration. For the purpose of calculations, the responses were regrouped into elementary school (pre-kindergarten through grade 5), secondary school (grades 6 through 12), and other (mostly kindergarten – grade 8, or kindergarten – grade 12). Regrouping was necessary to create more equity in the sample sizes for each school type since equal sample sizes is needed for an analysis of variance. The Response Mean was lowest for secondary schools (M = 2.82) and highest for schools with alternative grade configurations

(*M* = 3.11). Eighteen of these alternative configuration schools spanned early childhood education through 12th grade. The response mean for elementary school teachers was *M* = 3.06.

Table 18

School Grade Configuration and Response Mean Descriptive Statistics

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound
Elementary School	46	3.06	.6956	.1026	2.853	3.266
Secondary School	29	2.82	.7851	.1458	2.523	3.121
Other Configuration	36	3.11	.7469	.1245	2.854	3.359
Total	111	3.01	.7387	.0701	2.874	3.152

Differences were noted in the Response Mean scores for the various groups and the significance of these differences was tested using a one-way analysis of variance (ANOVA). The ANOVA results showed F (2, 108) = 1.360, p > .10. An actual probability of p = .261 for the ANOVA shows that the differences between the Response Mean were minimal and likely due to sampling error. School grade configuration had minimal impact on perceptions of ability to respond to an active shooter incident. Tables 18 and 19 show descriptive statistics and output from SPSS for the one-way-ANOVA.

Table 19

Grade Configuration and Response Mean ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.475	2	.737	1.360	.261
Within Groups	58.556	108	.542		
Total	60.031	110			

Research Question Seven

What effect, if any, do individual demographic factors such as gender and years of teaching experience have on the perceptions of teachers in responding to active shooter scenarios?

To identify if gender impacts teacher perceptions of their ability to respond to an active shooter, an independent samples *t* test was calculated using SPSS for the Response Mean variable. The sample contained 85 women and 24 men, so the calculations had to account for this variation in sample size. The Response Mean score for men was $M = 3.10$ and the Response Mean for women was $M = 2.99$. Table 20 shows the scores and standard deviations of the Response Mean separated by gender.

Table 20

Gender and Response Mean Descriptive Statistics

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	24	3.10	.649	.132
Female	85	2.99	.764	.083

Although the score for men was slightly higher, to test the significance of this relationship, an independent samples *t*-test was used. The resulting calculations from SPSS resulted in $t\ (107) = 0.657$, $p > .10$. There was no significant difference between the scores for men and women regarding perceptions of their ability to respond to an active shooter. The critical value for a *t* test with 107 degrees of freedom is 1.6. The value of .657 is well below this threshold. The critical value determines the depth of the relationship in a *t* test. Calculated *t* scores that fall below the critical value support the acceptance of the null hypothesis. In this case,

the researcher was able to accept the null hypotheses that no significant difference exists between the perceptions of men and women, in this study, regarding their ability to respond to an active shooter. Table 21 shows the SPSS output from the *t* test calculation.

Table 21

Gender and Response Mean t Test

	f	sig	*t*	df	Sig (2-tailed)	Mean difference
Response Mean	.146	.703	.657	107	.513	.112

To test the relationship between years of teaching experience and perceptions of ability to respond to an active shooter, a one-way ANOVA was conducted using SPSS software. Teaching experience was organized by frequencies for participants. The first level consisted of teachers with 1 to 3 years of experience. The Response Mean score for this group was $M = 2.88$. The second level consisted of teachers with 4 to 6 years of teaching experience. The Response Mean score for this group was $M = 2.94$. The third level consisted of teachers with 7 to 9 years of experience. The Response Mean score for this group was $M = 3.08$. The fourth level consisted of teachers with 10 or more years of teaching experience. The Response Mean score for this group was $M = 3.06$. Teachers with 1 to 6 years of teaching experience had Response Mean scores that were lower than 3.00, while teachers with seven or more years of experience had Response Mean scores higher than 3.00. Table 22 shows the descriptive data for participant teaching experience and Response Mean scores.

Although differences were noted in the Response Mean scores for the various groups, the significance of these differences was tested using a one-way ANOVA. The ANOVA results

showed F (3, 107) = .364, p > .10. An actual probability of p = .779 for the ANOVA shows that the differences between the Response Mean scores were minimal and that any differences were small and possibly not related to teaching experience. In other words, teaching experience had minimal impact on teacher perceptions of their ability to respond to an active shooter incident. Table 23 shows output from SPSS for the one-way-ANOVA.

Table 22

Teaching Experience and Response Descriptive Statistics

					95% Confidence Interval for Mean	
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
1 - 3 years	15	2.88	.870	.225	2.401	3.365
4 - 6 years	25	2.94	.759	.152	2.623	3.250
7 - 9 years	20	3.08	.757	.169	2.721	3.429
10+ years	51	3.06	.694	.097	2.868	3.259
Total	111	3.01	.739	.070	2.874	3.152

Table 23

ANOVA for Teaching Experience and Response Mean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.606	3	.202	.364	.779
Within Groups	59.425	107	.555		
Total	60.031	110			

Interview Results

The following sections provide rich, thick descriptions of results from the multiple case study interviews used in this study to analyze teacher perceptions of their ability to respond in an active shooter crisis. First, a description of the interview process is outlined. Next, biographies

for participants are presented to provide context. Finally, a description of the coding scheme is explained to clarify the organizational structure used to present the findings.

Interview Process

Each of the nine interviews provided detail to enhance what was ascertained from the AAPRS. The semi-structured interviews were conducted using a list of 12 open-ended questions that allowed participants to describe their perceptions in detail and provided the researcher with the freedom to ask follow-up questions. Creswell (2007) recommends the use of open-ended questions and semi-structured interviews to allow the researcher to adapt to the information provided and respond with fluidity to participant responses. Appendix D shows the interview questions used as a guide during the interviews. The first three questions were demographic in nature to provide context and help clarify data for research questions 6 and 7, which intended to identify whether demographic factors affect perceptions of ability to respond during an active assailant crisis. This information included teaching experience, gender, school population, school grade configuration, presence of security during the school day, and whether the school was public, private, or charter. Questions 4 through 12 elicited detail regarding teacher perceptions of the crisis management planning protocol, drill procedures for active shooter response, and their ability to respond in a crisis. The nine interview participants were selected from 48 individuals who volunteered by providing contact information in the AAPRS question 13. These nine were selected to provide a maximum variation sample. Four of the interviews were conducted face to face and five of the interviews were conducted over the phone. All interviews were recorded, transcribed by the researcher, and analyzed using the coding scheme. Biographical context

descriptions are provided below for each of the nine participants who were given pseudonyms to protect their confidentiality. Interviews were conducted until a point of saturation was reached and no new information was provided in the interviews.

Interview Participant Context Descriptions

The nine interview participants represented a range of school types, experience, and grade configurations to achieve a maximum variation sample. Case study research requires detailed description in order to provide context (Bloomberg & Volpe, 2012). This background information was derived from interview questions, and researcher notes during the interviews. In order to promote trustworthiness and protect the confidentiality of participants, each subject was provided a pseudonym and references to school name or district name were omitted from the report (Meriam & Tisdell, 2016).

Alice

At the time of the interview, Alice was working at a public elementary school with approximately 550 students. She had been at the school for 3 years but had 5 years of teaching experience. She was a self-contained teacher in a second-grade classroom. She pointed out that the school was a public, Title I school with a large percentage of students who were English language learners. In the state of Florida, Title I schools are identified by a Local Education Agency (LEA) as having a sufficient number of students in poverty to apply for subsistence funding and programs that help meet the needs of students to improve the achievement gap (Fldoe.org, 2007). She also reported that her classroom was made up of 21 students that she felt

the need to protect in the case of a crisis.

Mari

At the time of the interview, Mari was working as a self-contained, 1st grade teacher in a Title 1 public school in Central Florida, where she had been working for the past 6 years. She had taught in Puerto Rico for 6 years prior to moving to Florida, giving her a total of 12 years teaching experience. She described her school as a pre-kindergarten through fifth grade school with 779 students. Her class had a total of 19 students.

Bettie

At the time of the interview, Bettie was working in a private, pre-kindergarten through 6th grade school. She had worked at the school for 5 years, but she had over 17 years teaching experience. Before switching to the private sector, she worked for 12 years in a public middle school teaching 7th grade Language Arts. She said that her school had approximately 600 students and that the annual tuition was roughly $14,000.00 or more depending on the grade-level. She informed me that the fifth grade at her school was departmentalized, which meant that students traveled from class to class for each subject. At the time of the interview, she was responsible for four rotating classes each day and the size of the classes ranged from 12 students, to 18 students per group.

Shannon

Shannon had the most teaching experience of all the interview participants. She had been a teacher for 45 years and spent 18 of those years working as a fifth and sixth grade science

teacher in a departmentalized private school for pre-kindergarten through sixth grade students. Shannon's status was part time when the interview was conducted, and she worked Monday through Thursday with Friday off each week. She taught three groups of 6th graders each day in classes that contained 16, 18, and 20 students. Bettie and Shannon worked at the same school. This selection was purposeful in order to compare perceptions in the same setting by different teachers across different grade levels.

Jack

Jack was the only teacher who represented a public middle school model, which contained grades six through eight. He taught technology for seventh and eighth graders. He said that his class sizes ranged from 25, to as many as 43 students at a time in a computer lab. Jack had 25 years of teaching experience with the majority of his tenure working in an Embassy school in Beijing, China. At the time of the interview, he had spent the past 2 years working at a middle school in Central Florida with 1,260 students.

Newman

Newman had just started at his school when we conducted the interview. He had 17 years of teaching experience with students in grade 5 through grade 8 and had only worked in private schools during his tenure as a teacher. He had worked at a total of three different schools in his career. Newman's school covered pre-kindergarten through 12th grade with 1,296 students. Newman's campus where he worked consisted of about 450 students in grades seven and eight. Newman said that his campus had two full time security staff, and that there were regular patrols

conducted by separate security staff from the main campus that housed the lower school and the high school. According to his knowledge, the guards were not armed with guns. Not only had he coached several sports; he had also spent time working as the athletic director for two schools.

Mark

Before becoming a teacher, Mark was as a Ranger in the United States Army. He served in Iraq and experienced combat during his tour. At the time of the interview, he was working in a public school that served 1,600, 7th through 12th grade students in what he referred to as a junior-senior model school. He taught 9th and 10th grade students. He had 6 years of teaching experience with 5 years at the 7th-12th grade school. Mark primarily taught grades 9 and 10 and said that his school had five guidance counselors to serve the student population.

Bobby

At the time of the interview, Bobby had spent his 8-year teaching career at the same school. He showed a great affinity for his students and his fellow teachers, and he mentioned the importance of authenticity for teachers in their interactions with students and colleagues. He taught 10th, 11th, and 12th grade English 2 honors as well as advanced placement psychology. Bobby was also a certified mental health counselor. The traditional high school in which Bobby taught had approximately 2,200 students in grades 9 through 12.

Connie

With 10 years in education, Connie reported that she had worked with nearly every grade level from kindergarten through 12th grade. At the time of the interview, she was a behavioral

specialist at a public, Central Florida high school with more than 3,000 students. Her participation was allowed, even though she was not a classroom teacher, because she said that her daily job description required her to work directly with groups of students in a classroom setting. As part of the administrative team, she discussed the drills and active shooter protocol from a perspective that was not provided in the other interviews.

Coding Categories

The thematic coding methodology used in this study to analyze teacher perceptions was based on universal methods created initially for grounded theory qualitative research (Bloomberg & Volpe, 2012). Development of categories for coding was done on a continuum from priori, or preformed categories from the literature and research questions, to emergent categories derived from the data collected (Crabtree and Miller, 1992; Creswell, 2007). For this study, the literature, the data from the AAPRS, and the research questions led to the development of four prefigured categories used to analyze the data from interviews. The priori categories consisted of crisis planning, drills and procedures, perceptions of preparedness, and perceptions of safety. Emergent categories and subcategories were added based on participant answers to interview questions. For category 1, crisis planning, the following subcategories were added: (a) origins of crisis plan and teacher involvement, (b) security personnel, and (c) other safety features. For category 2, drills and procedures, subcategories for (a) drill and procedure descriptions, (b) training faculty, (c) training students, and (d) training recommendations emerged. The category for perceptions of preparedness included personal perceptions of self-preparedness and perceptions of school preparedness. Bloomberg & Volpe (2012) recommend providing a coding scheme as an

appendix to outline the categories and subcategories used in the coding process. Appendix G contains the coding scheme used in this study.

Category 1: Crisis Planning

The open-ended interview questions asked participants to identify aspects of their school's crisis management plan for active shooter incidents. Responses were consistent with the results from the AAPRS and this element of coding corresponded to research questions 2 and 4. Research question 2 sought to identify perceptions of teachers regarding their schools planning protocol for active shooter attacks and question 4 sought to identify and analyze relationships between perceptions of planning and perceptions of ability to respond among participants. The interview questions and follow-up questions that prompted responses related to planning protocol were as follows:

- Does your school have security personnel on campus during the school day?
- Are the security personnel armed?
- Describe how your school developed its planned response for active shooter scenarios?
- Were teachers involved in developing the crisis management plan? What are/were their roles?

Category 1a: Origins of crisis plan and teacher involvement.

The origins of the crisis management plans were consistent across the interviews. Each of the participants stated that the crisis plan was developed in a top-down approach from state mandates and school district policies, if working in a public school or from an administrative

group, if working in a private school. The level of involvement of teachers in the development of crisis management plans was nonexistent in public schools according to the participants and the involvement was limited in the private schools where Bettie, Shannon, and Newman worked. Bettie indicated that there were avenues that allowed teachers to provide input in the planning process. Every few years during school accreditation, a committee was formed to analyze and document the crisis management plan. Committee teachers were able to suggest updates and modifications in league with school security. Mark, who worked at a public seventh through 12th grade center, and Jack, who worked at a public middle school, both stated that teachers were able to provide input regarding crisis plans to their administrators. Jack also stated that he had the opportunity to be on the school's crisis management team if he so chose, but at the time of the interview he had elected not to participate.

The AAPRS survey indicated a large percentage of teachers (38%) who did not have access to crisis management plans for review if needed. Further review of the data from interviews demonstrates that teachers have little to no involvement in the development or adaptations of the crisis management plans in their schools. Having a sense that school leadership listens to and responds to teacher feedback and having a sense of involvement in the process of decision-making are factors that positively impact teacher self-efficacy (Tschannen-Moran, 1998). Perhaps, if planning input can positively affect teacher self-efficacy for improving student achievement, it can also positively impact teacher perceptions of their ability to respond to a crisis. Brown (2008) asserts: "It is better for a school to develop a personalized plan than to simply pay someone to do it. Plans need to be a group effort. Staff members need and desire to be trained" (p. 60). All nine participants knew their school had a plan in place but none of them

had been involved in helping to develop the crisis management plan for active shooter incidents.

Category 1b: Security personnel.

Every participant interviewed had security on their campus during the school day. Having visible and reliable security makes teachers, faculty, staff, students, and parents feel safer at school (Brown, 2008, Rider, 2017). Alice and Mari, who both worked in public elementary schools had one security staff member on campus during the school day. Alice stated that her school had one security guard who was, "a retired police officer who is there at least 95% of the time." She also stated that she believed he was armed. Alice's elementary school had roughly 550 students with one security guard. Mari explained, "There is always one deputy present that is assigned to our school." Mari's school had roughly 779 students with one security guard on campus during the day who was an armed deputy from the county.

Bettie and Shannon worked at a private school that served 580 students in pre-kindergarten through 6th grade. Bettie stated, "Yes, we have a security guard. In fact, we have multiple security guards that overlap. One of them is a retired police officer. We have two but there are certain times of day when they overlap." When asked if the security guards were armed Bettie explained, "Yes, I think that they are armed. They don't openly carry a gun that I can see." Shannon said that one of the security guards was retired from a local police department, and the other was a retired corrections officer. The security staffing model described by Bettie and Shannon showed that the school had two retired officers on an overlapped schedule. One of the retired officers arrived at the school when it opened each morning to assist with morning arrival and remained on campus until 4:00 pm. The other security guard arrived at 9:00 am and stayed

on campus until 6:00 pm when the last students were picked up from afterschool activities.

Newman stated that his campus of 450 students had two security personnel on staff each day. He did not believe they were armed, and he did not know much about their background since he had just started working at a new school. Jack, who worked at a public middle school with 1,260 students, described the security for his school as follows:

> There is one full time resource officer all the time and sometimes there is a Half. A Half is an officer that is shared between two schools in our district. So, some days of the week there are two officers, some days there is just the one. By the way, both of those officers have their dogs. So, sometimes there is an officer and a dog, and sometimes there are two officers and two dogs. Yes, the officers are armed, they are police officers.

Jack also spoke with confidence about his school resource officer. "I trust our resource officer who is highly visible. I trust that if there was an active shooter, I believe that she would respond to it as quick as possible." The phrase, highly visible, is important. Brown (2008) found that the visibility and involvement of security on campus impacted teacher perceptions of safety in their schools.

Mark, who worked teaching 9th and 10th graders at a school serving 1,600 students in grades 7 through 12, said, "Our security guard is a guardian, where our SRO (school resource officer) is a county sheriff's deputy. Both individuals are armed." Terminology for school security varies from state to state and county to county. In the state of Florida, the term guardian refers to individuals who have been trained under the requirements of the Coach Aaron Feis portion of the Marjory Stoneman Douglas High School Public Safety Act (Fldoe.org). Guardians are described by the Florida Department of Education as volunteers from within a school or

external civilians that are selected and must undergo minimum training requirements of 144 hours in firearms, mental-health, tactics of active shooter prevention, as well as legal and diversity issues. One section of the Aaron Feis Guardian program allows for the selection of school staff to undergo this training and become guardians (Fldoe.org). The guardian referred to by Mark in his statement was not a teacher at the school because Mark worked in a district where district policies regarding the Coach Aaron Feis portion of the Marjory Stoneman Douglas Act prevented teachers from acting as school guardians. The issue of arming teachers has been met with some controversy (Jonson, 2018; Trump, 2019). Mark responded to a follow-up question about whether or not having a gun would make him feel more prepared or safer at school by stating the following:

> No. And the reason is that while it might address a security risk that most likely will never happen to me, the likelihood of something going wrong, administratively and through policy, of me having a weapon on campus whatever security I might have based on having something along with me that would add security if a horrible incident took place. The reality of it is, that the potential of liability of me losing my career based on something unrelated to that happening is much higher than me getting killed at the school.

Before becoming a teacher, Mark was a US Army Ranger. Even though Mark reported that he was comfortable using firearms, his concern for liability issues and possibly losing his job, outweighed the protective factors of being armed in the classroom. Shannon shared the sentiments of Mark when asked if she thought that arming teachers would make her feel safer. This question was not part of each interview for this research project, so only Shannon and Mark

provided input on the issue. Some states and schools have used similar programs for arming and training teachers and there are lawmakers who support this as a viable option for school safety (Morabia, 2018; Rajan & Branas, 2018). There is a divide regarding support for arming teachers. Rajan and Branas (2018) say that arming teachers costs too much, might negatively impact school climate, and that there is not enough research to support arming teachers as a deterrent for active shooter attacks. Morabia (2018), states that research regarding the use of firearms has been blocked by lawmakers and lobbyist making it difficult to find out if this policy would work or not. Lott (2019), after researching 20 US states that currently utilize this policy, says that schools where teachers are armed have not experienced any school shooting incidents, but schools that do not allow teachers to be armed have seen an increase in the number of school shootings.

Bobby and Connie both worked at public high schools in Central Florida. Bobby reported that his school had seven staff who were considered security and Connie reported that her school had five on campus during the school day. Bobby reported that his school had 2,200 students and Connie's school had over 3,000. Bobby described the security personnel on his campus by stating the following:

> We have four security officers that wear bright yellow shirts and are visibly present on campus. We also have three school resource officers. The three resource officers are police department officers, and they are armed. They have cop cars when they come to school, and they are legitimate police officers. The four security guards are hired through the district. They are county security. In total there are seven.

Connie, who worked as a behavior specialist at a high school with 3,500 students expanded her answer beyond the armed guards and the personnel specifically hired for security purposes to

include other members of the faculty and administrative team at the school. Connie stated:

> We have three who are security, and they are to monitor the campus and monitor the front gate. They are called security staff. We also have two SROs on campus at all times. There are also three deans currently, and we have four Assistant Principals. Anyone who has a radio can respond to security issues on campus. The SROs are armed. I know that our security staff are not armed and that they really only have the power to let everyone else know what is going on, but not really to interact as far as becoming hands-on. They can't do any of that. They really are just eyes for the campus and only 3 of them on campus is pretty lacking.

Including administrative staff in her answer to the question about security personnel was a unique feature presented by Connie. Extending some of the responsibilities for school safety beyond staff specifically hired as security personnel is a model that some schools are adopting (Kubena & Watts, 2019). This factor was addressed by Shannon and Bettie when they described the role of teachers in asking individuals that they saw on campus without proper identification to go to the office and check in immediately. Bettie described a similar sentiment during a training session at her school by a security specialist and consultant. "During the training, he told the entire staff that we were all part of the security team" (Bettie).

Category 1c: Other safety features.

Security gates, access codes for building entry, badge identification systems, phone and computer reporting applications, security cameras, limited and monitored entry points, and locked classroom doors were among the many safety features reported by participants when

asked about safety measures implemented in conjunction with their school's crisis management plan. Within the past decade, schools nationwide have implemented numerous safety features in response to active assailant attacks as well as in response to other types of violence in schools (Johnson, 2017; NCES, 2017). Several new safety features were added to Florida schools within the 2 or 3 years prior to this study. Many of the safety features implemented in Florida were part of the Marjory Stoneman Douglass High School Public Safety Act.

Each participant who worked in a public school reported that their classroom door was locked during the school day. Most had to be opened by a faculty badge or a key in order to enter from the outside. Bettie and Shannon, who worked in a private school, were not required to keep their doors locked, but Newman, who also worked at a private school, stated that his classroom door locked automatically and required a key to enter. Newman also pointed out that the buildings themselves could only be entered with an access badge. For Bettie and Shannon, the majority of the buildings in their school (not including their classrooms) could only be opened by a faculty access badge. Eighteen of the classrooms on the campus were usually unlocked during the school day out of the 42 total classrooms on the school's campus. Eight of the nine participants stated that their school had an external gate that was locked during the day and that their school had limited entry points for visitors who were required to check in at the front office and show identification before entering the school. Jack's school was the only school without a security gate, but he said that construction on a gate had begun and would be complete by the end of the 2020 school year.

Connie mentioned the use of security cameras on her campus. She was not happy with the lack of monitoring of the cameras and thought that there were not enough cameras on campus

to provide any useful measure of safety. No other participant mentioned the use of cameras as a safety feature in their school. There were two participants (Bobby and Jack) who mentioned iPhone and computer applications that were used in their schools for emergency purposes.

> Each teacher on the smart phone has an app. We have two apps. One app is to alert for the shooter or any other trouble spot. The other app is to check the status of the people and the students once you've run into an emergency situation. A teacher is to use that app if they saw anything that was wrong. They have this app to use to communicate to the emergency departments immediately. (Jack)

Although both participants felt that the applications were a useful tool, there were some issues with the technology. Bobby described a situation in which a teacher inadvertently triggered a school lockdown by accidentally pressing the panic button on the iPhone application. This incident sent the entire school into a lockdown unnecessarily.

The results of the AAPRS demonstrated a need to provide easier access to the details of crisis management plan for teachers. The element of protecting the plan to ensure that it is not accessed by parties who might use it to do harm to the school is also an important issue for consideration. The participants knew there was a plan in place, but the details of the plan were not as readily accessible for participants as indicated in the AAPRS. The safety features and updates to school crisis management plans are important for making schools safer and helping the school community feel safer (DeVos et al., 2018). Findings from the AAPRS suggested that participants felt that the crisis plans should be evaluated frequently. The findings also suggested that although the participants were knowledgeable about the main aspects of the plans, they did not have access to the plans and their knowledge regarding methods for routinely reviewing

those plans was limited. One safety feature supported by research is the creation and use of threat assessment teams (Vossekuil et al., 2004). None of the participants mentioned threat assessment or threat assessment teams during the interviews. Jack mentioned a crisis team that he could volunteer to be part of if he chose, but he did not provide any more detail about the functions of that crisis team.

Category 2: Drills and Procedures

The interview questions involved issues related to the drills and procedures in schools for active shooter scenarios. These questions were intended to address research questions 3 and 5. Research question 3 asked, "What are the perceptions of teachers regarding their school's drills and practice procedures for active shooter scenarios?" Research question 5 asked, "What relationships exist, if any, between perceptions of procedures and drills, and perceptions of preparedness to respond to an active shooter incident among teachers?" Each teacher knew the procedures and could explain them in depth. Several elements of the drills were similar, some factors related to the drills differed across school types and grade configurations. The training for students and faculty regarding the drills was also addressed. According to Graveline (2003), crisis management plans are ineffective unless the faculty and students are well-trained regarding the plan. Training is an essential component to learning the process for reacting to an active shooter (Perkins 2018). The following questions asked during the interviews provided content for this category.

- Describe the protocol for your school's response to an active shooter incident. (Who activates the plan? What are your individual roles? How do you know an incident is

over?

- Are lockdown drills conducted at your school? If so, how often? Describe the drills and how they are conducted?
- What types of training have you received from your school or district to help you learn how to respond during an active shooter incident? How are students trained?
- Are there areas of additional training that you feel would be beneficial in helping you feel safer and better prepared?

Category 2a: Active shooter drills and procedures.

The six participants who worked in public schools reported that they had more than three drills for active shooters each year. Some reported that they had an active shooter drill every month (Alice, Mari, Bobby, and Connie). Jack said his school conducted code red drills about every 2 months. Mark indicated that lockdown drills occurred more than three times per year. By the date of the interview, which was February, he stated that there had already been three code red drills. The three participants who worked in private schools stated that they conducted active shooter drills twice per year. Terminology for the active assailant school response either consisted of a color coded system (Alice, Mari, Jack, and Bobby), where code red indicated that there was an active assailant on campus, or the use of the term lockdown (Bettie, Shannon, Mark, Newman, and Connie). These terms were used during the event of a drill. Bobby explained the differences between a code red and a code yellow that was consistent with schools that used the color-coded emergency system.

Basically, we have a code red and a code yellow system when something happens. Code

> yellow means: some creeps are going on around campus, we're not sure what it is. You can keep teaching, but don't let kids go to the bathroom kind of a gist. Code red means there is an active shooter or a threat to campus. We all have a hard corner in our classroom that we are taught to go to and where it is safe for the kids. We all go there, turn off the lights, everybody's phones are off, nobody is posting on social media, and the school is essentially on lockdown until further instruction from our principal. (Bobby)

The lockdown terminology used in schools entails similar responses for teachers and students. There were four participants whose procedures were not part of a color-coded response system. These schools used the term lockdown for the response to an active shooter on campus, and the term shelter-in-place for the response to a dangerous or threatening situation in the area surrounding the school.

> There are specific terms. So, there are three different specific terms that mean do three different things. One is lockdown, which is…the idea is the proximity of imminent harm on campus. Let's say it's an active shooter or whatever the case may be, which is where you totally, your doors are locked, you get away from all entry points, you shut off the lights, you go hide in the corner and you wait until somebody comes and rescues you. Another level is shelter-in-place. Your doors are locked, the campus is locked, and there may be something that's within proximity of the community that the campus is close enough. So, as an example, I've robbed a bank, I'm driving through the neighborhood, I could drive into the school campus. So, they lock the gates, and the idea would be that you would just stay in place and no movement outside the classroom. Instruction can take place as usual, just don't leave the room. So, if you have to use the restroom or something

like that…That's not happening. (Mark)

Mark stated that he could not remember the third coded response or what it was for. Every participant stated that drills involved turning off the lights, making sure doors were locked, and covering windows. The students were required to get into a location away from any windows or doors with the intention of making it look from the outside like the classroom was empty. Jack explained the scenario in his classroom.

> We have a process. We have a procedure. As a matter of fact, we just practiced one yesterday. Here's how it goes. So, in my classroom, my room is full of computers, so the very first thing I would do if I were to hear that there was a code red, I would ask my students to turn off their monitors and that takes a second. I would say immediately go to what we would call a hard corner. Every classroom, every space in our school, has what we call a hard corner, and it's a misnomer because it is not a corner at all. It's just a spot where all the students would walk over to the wall, they would sit down on the wall. In my classroom the way it works is, they do not have their bookbags with them during the class period, but the bookbags are located at the hard corner. So, they walk over to the hard corner and pick up their bookbag, put it on top of their chest, and they sit down on the floor. They tuck themselves down with their book bag in front of them. While they are doing that, and they are doing that as quietly as possible. While they are doing that, I go and I take the blinds on the windows, I shut them. Then I go to my door where I have a black material that is dropped and then it is secured, it is fastened, so that nobody can see in or out of the window. The door is already locked so I don't have to lock it. Then I hit the light switches. All of this takes about 3 to 5 seconds total. The directions are this:

> when you get over to the wall you are not to move, and you are not to make any noise. You are to keep us protected by maintaining silence; and they have done this extremely well. (Jack)

Using the bookbag as a shield was only described by Jack. The term *hard-corner*, defined as the location for students to wait during a drill or active shooter incident, was used by Bobby, Jack, Mark, and Connie in their descriptions of response and drill protocol. Newman explained that in his classroom the *saf- corner*, as it was termed in his school, was labeled with a large, posted sign on the wall above the location. Newman said that this helped ease his mind because it eliminated the need of having to try to think of the best place in his room to hide and protect the students in a stressful situation such as an active shooter attack.

In eight of the participant's schools, the lockdown drills were conducted and identified prior to the event as a drill. The students and faculty knew the drill was going to occur, and in some schools, parents were also sent a calendar or email communication regarding the times and dates for code red or lockdown drills.

> One thing that has happened is that a school went into a drill and the parents and students didn't know about it, so the students started texting the parents and saying, hey we are in a lockdown…and then people go into panic mode. So, that's been prevented, and they learned from that. So now what happens is that the community is informed. (Jack)

Mark's school was the only one where the drills were conducted as live incident drills. Both Bettie and Connie stated that they thought it would be more purposeful and valuable to have live incident drills, but Mark, who worked at the only school in the sample that conducted drills as live incidents felt differently.

> So, every time we have a drill, I don't know if it is real or not. I am going to go and protect both myself and my kids by trying my best to get rid of whatever that problem is because that is what I was trained to do and I think that I would rather do that. Every time we have a drill, for about 3 days after, that brings back some stuff that doesn't need to be part, I think, of a teacher's life. I think that drills are good. I don't believe that it is necessary to keep it secret that it's a drill. You can go through the drill and go through the practice of teaching the kids to get into the proper position and hide without making it a live situation. (Mark)

Mark, who was a combat experience Army veteran, experienced levels of emotional discord after drills and did not feel it was properly thought through in the planning for drills how it might impact the emotions of students and faculty to be placed in a live drill situation. Mark's response, as the only school in the sample to host live scenario drills, contrasted with Bettie and Connie who stated that they thought the drills should be treated more like live scenarios.

> I think that you perform the way you practice. So, the more we practice realism, the more comfortable I would feel in a real situation. I think it comes down to how you practice it. We are in a difficult situation and I know that most high schools are. You have a lot of students who are seeing this stuff in social media every day. So, to really try to perform a true lockdown in practicing, we would probably have kids trying to run off the campus because that is reality. If you could get out, then you would want to get out. If we were to perform a lockdown drill that was unexpected, it would probably freak a lot of people out. They wouldn't perform the way that we've practiced. It is a challenge for sure, but I think that it is important for them to know what it is going to be like if it really happens,

because this is the world we live in now. (Connie)

Bettie, who taught fifth grade, showed concern for younger students and the fear that would be elicited by drills treated as live scenarios. This dilemma caused her some concern since she also thought that the drills would be more effective if they were more authentic in nature.

Three of the participants (Jack, Mari, and Bobby) mentioned an aspect of the response that consisted of taking the students off campus and evacuating the school if possible. These teachers described an external location outside of the school where teachers and students were supposed to gather if they were unable to protect themselves by going into a locked classroom. All three were very unsure and unclear on this portion of the crisis management plan. When Jack was asked how he would know whether to hide in a classroom or evacuate the campus, he said the following:

> How would I know for certain? I can see that I might need to review the procedures again, but I'm assuming that me as a teacher, I'm supposed to make a decision. I'm supposed to do one of two things. I could stay until the police…I could stay until I feel secure that the police are coming through. Or, if there is an opportunity. If I'm in such a situation where I'm not in a secure place, and if I'm with a group of students, I'd need to get them secured. So, I would try to find a place.

All teachers with locked doors said they were not supposed to let anyone in the door once the lockdown began. If students were outside or in transition during an attack, it was up to the teacher to keep their class of students together and find safety by evacuating the school. Jack also said the reporting app could be used to alert the school and authorities if a student was missing. None of the nine participants said that this portion of the response had been practiced as part of

the drills. Alice also showed great concern about the lack of training regarding what to do if her room was the location of the attack. “We really only have the plan basically trying to avoid someone knowing you’re in your classroom. There isn’t really a plan, like, if someone were to get inside.” Anther very important issue, particularly to Connie, was related to the vulnerability of the exceptional education students (ESE) with significant disabilities.

> Part of my responsibility is to work very closely with our ESE students who are self-contained. This is a very difficult population and in an active shooter situation they are very vulnerable because many of them don’t want to be sitting in a closet somewhere and they are probably going to be loud and crying. So, I fear that they are going to be the most vulnerable on the campus and many teachers are probably fearful of that. (Connie)

Category 2b: Training of faculty.

Each of the nine participants described the methods used for training faculty regarding the active shooter protocol. This initial training took place during a single school pre-planning meeting session at the start of the school year. All nine participants explained that these training sessions took place during a collective faculty assembly in a whole group setting. The information about what to do during a lockdown, or code red, was presented in a method described by Bobby as, “sit and get”. PowerPoint presentations, videos, posters on walls in classrooms, informational emails with reminders of the procedures, and discussions among faculty through mentor teachers were the primary methods used to train teachers in the steps for lockdown and all other crisis procedures. In some schools the training was conducted by the school’s security staff or by the school’s designated deputy (Bettie, Shannon, Newman, Mari). A

few participants stated that they were required to watch a video outlining the steps teachers must take during all types of crises including an active shooter incident (Bettie, Shannon, Mark, Alice). Connie explained the training in her school, "It is usually a PowerPoint presentation that our assistant principal would go through with us. It all takes about 5 to 10 minutes. If there are any questions it might take a little longer." She also said that email reminders were sent periodically, usually right before a scheduled drill, and that classrooms had posters on the walls with the steps to take during a crisis. Mark said that his school also used posters and printed cards but that only about 75% of the classrooms had the posters.

Bettie, Shannon, and Bobby stated that a safety training consisted of a presentation and videos. Mari and Bobby describe explicit training programs utilized in their schools. Mari explained that the procedure taught in the videos used a method called run, hide, fight.

> The first things is that you have to hide…No, the first thing is that you have to run, but if you cannot run, then you have to hide, and if there is no other way that something like if there is imminent danger, then you have to fight. It is like: run as far away as you can, or you have to hide if you cannot run out of the building, and if there is no other way because someone is actually in the place where you are, then you have to fight with everything and with anything that you have. (Mari)

Bobby also described the run, hide, fight system in his school but said that the school had recently transition to a system he referred to as ALERT. He did not remember exactly what the acronym stood for and he also said that it was basically the same as the run, hide, fight model. Upon further examination, Bobby's school district had recently converted to a model called the ALICE model. The steps in this system consist of the following:

- Alert
- Lockdown
- Inform
- Counter
- Evacuate

Bobby's misunderstanding likely originated from the first element within the ALICE system, alert, which is prominent at the top of the posters displayed in classrooms where this method is used. ALICE, like the run, hide, fight model presents a multi-option response approach to an active assailant attack as opposed to the single-option model of turning off lights and hiding students from view behind a locked classroom door (Jagodzinski, 2019; Jonson, 2017). There are mixed opinions regarding these options for response models (Frazzano, & Snyder, 2014; Jonson, Moon, & Hendry, 2018). The multi-option models promote a differentiation of strategies in response to active shooters such as: evacuating if possible, hiding if necessary, barricading doors with objects in the classroom, and using classroom items as weapons to fight off an attacker if necessary (Kubena & Watts, 2019; Page, 2017). The argument against multi-option response methods is that they do not apply as well to students in elementary and pre-school, and that these methods may in some cases put children and adults in harm's way (Frazzano, & Snyder, 2014, Trump, 2019).

One main concern regarding the training, drills, and procedures was that there were no drills or training that described what to do if the attacker gets into the classroom. Alice voiced this concern regarding the drills and procedures in her school:

I think that there should be a plan for if someone does get in your room. Like someone

you are supposed to call or an action you are supposed to do. Because, like I said, we only practice being out of sight, we don't practice what to do if someone gets in our room.

Alice did say that faculty had watched a video in the past, but it was hard to apply the lessons in the video to her students in her situation.

> A few years ago, we watched some videos that were supposed to train us, um, but those videos were from a college campus. So, if the person got in the room in those videos it showed to like spread out and have kids in all different areas gathering items to attack the shooter but that is not what they tell us to do for our lockdown. They want everyone on like the one wall where you can't see from the doorway. (Alice)

Bettie described a training session at her school that involved teaching and practicing physical confrontation with an active assailant. This type of training session was unique among the nine teachers interviewed.

> Yes, there was a physical component where they, on two different occasions, there was sort of walking through this idea of unarming someone if they were coming through your door. So, the first time they actually had everybody line up and you were supposed to do it. Then, the second time, there were a couple of different volunteers to come up and you basically took the stance of somebody who was behind a door when someone came in and they were armed. They had some type of weapon, and you went through what you would do in order to try to force the gun out of their hand. So, a position that would work in order to do that. I think just walking through that was helpful because, you can talk about it as much as you want to, or watch as many videos as you can, but until your body

> gets into a particular position, you don't know. Now, whether I would be able to do those things or reenact that in a real situation, I have no idea; but I do know that it did make me feel somewhat more confident or prepared than not getting up and doing it at all. (Bettie)

Connie, in her interview, stated, "I would feel safer if I knew that the teachers had more training specifically from the Sheriff's Department." Connie also describe a training that she had received while working at a previous school.

> We got special training from the Sheriff's Department who came out and taught us specifically about our different roles. I didn't understand why teachers were not also sitting in on that training. Even if they were not assigned a role, they would be given the chance to be exposed to the realism, pointing out who all the people are and what they will all be doing. I believe that the Sheriff's department or police department should be coming in spending more time talking to teachers and staff about what that really looks like. Not just locking the door and turning your smart board off, but what you might hear, what you might smell, what you might be thinking…There's not enough of that.

Category 2c: Training of students.

Each of the nine participants said that training for students was not officially conducted or designed by the school as part of the crisis management plan. The onus for training students fell on the teachers, who discussed and reviewed the procedures for students during the first few weeks of school, usually just prior to conducting a drill. Connie said that students were directed to read the code of conduct which contained information about the lockdown procedures, and that students, "go through the same PowerPoint, or something similar. Then, the teachers use that

flyer that explains what to do when you hear the intercom announce the various types of drills or emergency protocol codes." Bobby said that the students at his school created a video to demonstrate the response for an active shooter or code red. He said that the video was shown to students during the first week of school and that time was allotted during the first week for teachers to explain the emergency procedures for all crisis situations using videos and a similar PowerPoint presentation to what was shown to teachers during pre-planning training. Jack said: "We train the kids. On the very first week of school we go through our expectations and one of the expectations is to show them how to handle a code red. Then the teacher explains the code red." Shannon explained the process for training students in her school:

> The students are trained by the teachers in the classes. Usually the day of the drill or at the start of the school year. That is really all they get. Each teacher would go over it in their own rooms, but all kids would not necessarily have the same training or understand the same things depending on the grade and the class they are in at the time.

Mari explained the training for students in her school, and since the students were first graders, she felt there were important emotional factors to consider.

> All the training for students is done in the classrooms. At the beginning of the year, yes, some of them cry because they think there is a stranger at the school and I just let them know we are just practicing. We want to make sure that everyone knows what to do in case you hear the code red message. Basically, we talk about it at the beginning of the year, but we go over it again every time we have a drill for a couple of minutes.

Alice's biggest concern with training and drills dealt with the fact that her school offered no information about what to do if the assailant were to get inside of the classroom. She also stated

that students were trained by the teachers in their class with no assistance, materials, or content.

The only teacher who mentioned that materials were provided to assist in training students was Bobby. A second video was mandated by the county but the information in the training video was not focused on active shooter drills. Instead, it was a video about mental health for students. Bobby Described the video:

> There was this whole mental health training that we had to do. The state mandated we all had mental health training for 5 hours recently. It was all about prescription drug use, alcohol use, and overall mental health. It was mandated by the state and we all had to get those 5 hours' worth. We had to take 5 hours out of our instruction time. We had to go through the modules with the students. They had to watch it, they had to participate. We didn't have to do it as teachers, the students did. Because in the past, I think, the main school shooters have been students at the school who went to the school. There was nothing in the video about school shooters. It was all about overall mental health and how to take care of yourself. (Bobby)

Category 2d: Training Recommendations.

Each participant was asked what types of training would help them feel safer in schools and more prepared to respond to an active shooter crisis. Answers were specific to the individual and ranged widely in their content. Developing training methods and protocol for students and teachers to learn the steps and the procedures for responding to a crisis are important factors for policy makers and school leaders to consider (Brown, 2008; Rider, 2017). Listening to teacher recommendations made it clear that training needs to be more deliberate, personal, and specific

to each school and classroom. Conducting drills during class transitions, during lunch, or during arrival and dismissal was also recommended. The recommendations ranged from the type of training to the content but most of the participants recommended a training approach that was more personalized to the school and tailored to meet the needs of the individual teacher's classroom and location.

Alice's biggest concern was that she did not know what to do if an attacker entered her classroom. Alice felt that training in this area would help her feel more prepared. Mari had to think about her answer and after a brief pause stated, "Practicing at open places like the field or cafeteria when it is full. The situation is so complex, that is probably why we don't practice during those times. There is always something else that can be done." Bettie recommended more realistic drills, walk-through discussions with security to analyze each classroom with the teacher for possible ways to barricade the door or evacuate safely, and physical self-defense training to demonstrate ways to fight off an attacker.

> Even if it was our person who does security, who came into each one of our rooms and talked to us just about…What would you do? What would work? What can you move? Just to sort of make sure that you had an individual plan based on your room. That would be helpful.

Bettie also mentioned the idea of "going on autopilot" in a stressful situation and how that type of instinctive reaction only comes with practice. Shannon recommended more drills and more individualized training and practice. "You know how if you practice, you practice, you practice it's automatic? Well, it definitely would not be automatic if you ask me" (Shannon). Beyond a recommendation for more drills, Shannon also thought that individual or small group training

conducted by police officers and security personnel would be beneficial for teachers. In addition, Shannon suggested the development of "safety teams", which she described as groups of teachers in similar areas within a school who discuss ideas and practice together for safety drills. "You hear about all these things and it is very, very scary, and I feel like the more training, the more you have to do it to let it become automatic; I feel like that is what I need" (Shannon).

Jack felt comfortable with the training and with the procedures for active shooter crisis response. Jack was also complimentary of how his students took the drills seriously and followed directions. Jack had three main recommendations: training and equipment in each class to treat wounds, training to explain the evacuation procedures, and bulletproof protective windows.

> As far as maintaining someone if they've been shot, if they've been injured, I would say personally, that would terrify me if I would have to treat someone with gunshot injuries. If someone were to be shot and I would have to hold them and maintain them for the 20 to 30 minutes that it would take the police to clear the area to get into our class like I've read about in other situations, that would make me feel very uncomfortable. (Jack)

Mark, the former Army Ranger, discussed the emotional impact that conducting live drills caused, stating, "I don't believe that it is necessary to keep it secret that it's a drill. While I understand trying to make it as real as possible, I don't think that you need that in order to accomplish the goal of - teach people where to go and be quiet." Mark also recommended "ongoing, open-dialogue for practicing and revising lockdown procedures and increased mental health counseling for students on campus." This would demand an increase in mental health personnel, particularly in secondary schools with large student populations.

When asked about recommendations for training, Bobby focused his response on the

culture and climate of the school. Research in this area is growing and support for school culture and climate that fosters student connectedness, consistent discipline practices, and situational awareness have shown promise in reducing school violence (Duplechain & Morris, 2014; Page, 2017, Redlener, 2006).

> When students feel they can talk to somebody at their school and when they feel trusted at their school, that is when a school won't see an incident. When a school comes off as being together as a staff and together as a team, that is when a school won't see an incident. When a school comes off as convoluted or messy or disorganized, I think that is when a school sees an incident. We are all there for our kids. I think that prevents school shootings more than anything else. Not safe doors, safe windows, or … those are physical barriers. You have to go from within to prevent a shooting from happening. That is what is in people's heads. - school culture prevents shootings- (Bobby)

Connie stated a need for more security personnel to monitor cameras and focus on protecting the school. Training for teachers conducted by local law enforcement that includes walk-throughs in classrooms and a more realistic crisis scenario for drills were other items described by Connie when asked about areas of additional training that might improve perceptions of preparedness. "I would feel safer if I knew that the teachers had more training specifically from the Orange County Sheriff's Department" (Connie). In a follow-up question, Connie described a program at a school in which she worked called Safety Emergency Response Team training. Administrators and leaders in the school were assigned specific roles for crisis response management and the training was conducted by the local Sheriff's Department.

In my role at my previous school I was able to be part of the SERT team, which is the

> Safety Emergency Response Team (Connie was unsure about the acronym and the name of the program). They get specific training, and they get assigned specific roles. For example, one role assigned is for a person to be the one to talk to the media, another role is to check that the perimeter is clear…Everyone had an assigned role. The Sheriff's Department came out and taught us specifically about our different roles. I didn't understand why teachers were not also in that training. Even if they were not assigned a role, they would be exposed to the realism, pointing out who all the people are and what they will all be doing. I feel like teachers are kind of told, ok, you are just going to stay in your classroom and keep your kids safe. What happens if your classroom becomes the one that is being infiltrated by an active shooter? (Connie)

An attempt to find information about Safety Emergency Response Teams led to the discovery of School Crisis Response Teams (SCRT). The development of these teams was spearheaded by Brock, Sandovol, and Lewis in California in the 1990's to combat school violence and crises in schools (Brock, Sandoval, & Lewis, 2001). The function of the team was to have designated responsibility spread among individuals in the team for important segments of the necessary response to a crisis (Eklund, Meyer, & Bosworth, 2018). The team also has community affiliations with local law enforcement, hospitals, and mental health care providers with designated liaisons from the team whose responsibility it is to communicate with community partners during a crisis. The outline for the SCRT also calls for specified individuals in the school to be the only designated contact for the media in the event of a crisis to help control the dissemination of information to prevent misinformation and panic (Brock et al., 2001).

Category 3: Perceptions of Preparedness

The major focus of this study was teacher perceptions of their ability to respond to an active shooter and protect their students during a crisis. Teachers were asked about these perceptions and the answers varied. The interview questions that prompted responses related to perceptions of preparedness were as follows:

- What are your thoughts and feelings regarding your school's current level of preparedness to respond to an active shooter incident?
- How prepared do you feel personally to respond to an active shooter incident in your school?

A response matrix was developed to analyze participant perceptions of their ability to respond to an active shooter scenario in their school. The participant responses to the AAPRS were analyzed in comparison to the information provided in the interviews. Shannon and Alice recorded the lowest Response Mean score at $M = 1.75$. Bettie, Mark and Jack were slightly confident with Response Mean scores of $M = 2.75$. Connie's Response mean was $M = 3.00$. Mari and Newman each had a Response Mean of $M = 3.25$. Bobby recorded the highest Response Mean at $M = 3.75$. A response matrix that displays the categorization of interview statements and each participant's Response Mean score from the AAPRS is provided in Table 24.

The coding category related to perceptions of preparedness was developed to better understand teacher perceptions of their ability to respond to an active shooter crisis. This portion of the interview corresponded to research question 1, "How do teachers enrolled in graduate-level education courses perceive their ability to respond to active shooter scenarios?" In an attempt to quantify the responses to the questions regarding perceptions of preparedness, the

researcher developed the following four statement categories: confident, confident with reservations, neutral (about as prepared as I/we can be), and not confident. After transcribing responses and coding the data, the researcher returned to the AAPRS and was able to compare the Response Mean scores from the survey to the individual statements from the interviews to further analyze the perceptions of the nine participants interviewed.

Table 24

Perceptions of Ability to Respond Interview Matrix

Participant	Response Mean	Categorization of Response Statements
Shannon	1.75	Not Confident
Alice	1.75	Not Confident / Neutral
Bettie	2.75	Confident with Reservations
Mark	2.75	Not Confident / Neutral
Jack	2.75	Confident
Connie	3.00	Confident with Reservations
Mari	3.25	Confident with Reservations
Newman	3.25	Confident with Reservations
Bobby	3.75	Confident

Category 3a: Perceptions of ability to respond to an active shooter.

Alice responded to the question about her thoughts regarding her school's ability to respond to an active shooter this way:

> My kids are pretty well trained, they know how to be out of sight, and be really quiet (short pause). I would say like a 5 out of 10, because I feel prepared if we can just hide quietly. (Long Pause) I guess what we are doing is good, but we don't really have a plan for if the person gets into our room.

Alice's responses were categorized as not confident but also fit into the neutral category since she used the phrase, "like a 5 out of 10". Mari seemed only slightly more confident in her initial

response. “I have to say, that even though we have the resources and we’ve been practicing, I think that we are not prepared.” She also referenced the amount of practice and the drills a second time in her response but was fearful of what to do during lunch, or outside activities if an attack were to take place during those situations. “(sigh and pause) …We have practiced and practiced. We have the drills, we have a deputy, we have everything…But I have to say, that nothing can prepare you for an unexpected situation like that.” Mari’s final statement equated to a rating of confident with reservations.

> I feel like I am as prepared as I can be with the resources that we have. Can we do it better? Yes. I’m prepared, as I told you because we have been practicing for a situation like that, but you never know how you will react. So, we do know what to do if we are in the building, but not if we are out of the building. (Mari)

Bettie was hesitant and seemed unsettled by the questions regarding preparedness. “I feel that they’ve done their best as far as what typically happens to prepare people for these kinds of situations, but you just never feel prepared for that kind of thing.” Bettie also discussed a need for more specified drills that would include different scenarios as well as a more personalized approach that would help identify best practices for each individual teacher in relationship to their classrooms. “There are a lot of blanket things that we all do that somewhat get you prepared on the surface for things, but I think there is another level of preparedness that we could do that would be more specific.” Bettie’s responses and reactions led to categorization as confident with reservations.

Shannon blatantly stated that she did not feel confident. Shannon did not think that the training was adequate or that drills were conducted often enough. Shannon also referenced the

layout of her classroom pointing out the numerous windows, the lack of window coverings, and the fact that the campus was so open as reasons for her statement. As a result, Shannon was rated as not confident.

> Um, no I don't feel prepared to…I really don't. I don't feel adequate to protect my kids. I mean…the mother in me would take over, but to try to prevent a shooting, to try to prevent any more of the shooting, or to prevent any intruder, I don't feel like I would really know what to do. (Shannon)

Newman was rated as confident with reservation. He mentioned that he felt comfortable but being new to the school meant that he was adjusting to some of the procedures. "I'm pretty confident. I am new and haven't quite figured it all out, but the training was helpful, I like the fact that the safe corner is labeled, and I feel like the students know what to do" (Newman). Jack was rated as confident in his ability to respond. His biggest fears were the low-level windows in his classroom, and the lack of medical training for the possibility of having to treat a gunshot wound.

> I feel confident. There are two parts of it. As far as going through the drill and as far as keeping people in our classroom, I feel extremely prepared. I feel confident that we are going to handle it as best we possibly could, given the training that we have all been given. What the circumstances give us at that time, I think the damage would be minimal. (Jack)

Portions of Mark's response to the questions in this segment of the interview were similar to those of Shannon. When asked how prepared he felt his school was to respond to an active shooter, he stated, "Horribly! Horribly. When bad things happen, there is no level of preparation

that is going to take place to address all given scenarios." Mark expanded on his answer in such a way that led to a rating of neutral, or about as prepared as possible.

> The school has done what it can in order to reduce the amount of people who get hurt. The reality of it is, I don't think you are going to be able to teach teachers tactical situations to reduce problems. I don't think that as a profession that's why most teachers get into it, is to become tactically aware of active shooters. So, at best you are going to have people hiding in a corner. (Mark)

Bobby was the most confident of the nine participants. He felt that he was physically fit enough, trained well enough in the drills, and that his level of care for his students would allow him to make the best decisions possible during a crisis to protect them from harm.

> I'd be fine. If something were to happen like that, I would get into fight or flight mode and I would probably run circles around him and just knock him upside the head. My school is prepared. Most schools in my county are prepared. No school is 100% prepared but there is at least a baseline-plan in action and 90%, or more, of our teachers do it. It is not something that I feel uncomfortable about. (Bobby)

Connie also presented a confident response but felt that more personnel and more training was needed. Connie expressed concern for the self-contained students in the ESE department of her school. "I know what I am supposed to do. I know what I am required to do, but I can tell you the first time we went on a lockdown and it was not a drill, it was terrifying."

Category 4: Perceptions of Safety

Participants were asked what makes them feel safe and what makes them feel unsafe in their schools. The answers covered a breadth of areas related to active shooter prevention and response. The interview question that prompted responses related to perceptions of safety was as follows:

- What about your school makes you feel safe?
- What about your school makes you feel unsafe?

The coding category related to perceptions of safety was a prefigured category based on the interview questions and the available literature in an effort to address research questions 1, 2 and 3. It was believed that a teacher's feelings of safety within a school might be impacted by perceptions of the crisis plan, the drills and procedures implemented, as well as their perceived ability to respond to an active shooter attack. Moreover, some participant responses to this question related to how school and personal demographic factors might impact perceptions of ability to respond. These demographic issues were part of research questions 6 and 7.

Category 4a: Factors that improve safety perceptions.

Each of the participants described physical safety features implemented at theirs schools that made them feel safe such as gates, cameras, limited entry points, locked classroom door, locked building doors, and visitor identification technology. When pressed to provide more detail, however, other human systems elements were described such as leadership, school culture, visible security personnel, mental health care, and open communication.

I feel like our school is enclosed much better than it used to be. In other words, we have

> gates around everything. You have to have codes to get in. We have security walking the campus and they are very aware of what's going on in the campus. They don't just sit around in a desk and watch monitors; they actually physically walk around. I think that is huge, which is very much different and has only been in place in the last 2 years, 3 years tops. (Shannon)

Bobby and Mark pointed out aspects of mental health and how mental health care acted as a safety feature in their schools to make them feel safer regarding an active shooter attack.

> There is attention for students who display social emotional concerns, like risk factors. There is attention to those students. As an example, as a teacher, if we feel that there are behaviors or there is something that we have identified in a student, we can reach out to a guidance counselor and the guidance counselors are much more apt to pulling them in. (Mark)

Mark also stated that his school of 1,600 students had five guidance counselors and one school psychologist on campus available to consult students with signs of mental health issues. Bobby referenced a mental health training video that his students were required to watch, but he did not state whether this made him feel safer at his school.

Bobby, Bettie, and Shannon discussed elements of school culture and climate as safety features of their schools. Bettie said, "It is also a smaller school; everybody seems to know everyone too." This information was offered as Bettie was describing newly implemented badges and other safety systems for identifying school visitors. The family atmosphere and climate of her school helped to make her feel safer. When asked what made him feel safe, Jack described the way students and faculty at his school approached the drills. "I like the fact that we practice

and that everybody takes it seriously. I like that I feel the atmosphere when we do this is positive, it is not taken as a joke, it is not taken lightly." Bobby described the importance of school culture and climate as a safety feature to prevent school shootings.

> I think that is why my school may not see an incident; because only we can talk crap about our school, but when somebody tries to come from the outside, then we will all come together and be like: F-you, go away! I will say that about my school. The staff itself does want to protect the school. Especially the ones who are authentic, they are there for the right reasons. We are all there for our kids. I think that prevents school shootings more than anything else. Not safe doors, safe windows, or … those are physical barriers. You have to go from within to prevent a shooting from happening. That is what is in people's heads. (Bobby)

Mari, Jack, and Connie all mentioned aspects of school leadership that contributed to their perceptions of safety. Mari described an important change to the dismissal procedure instigated by a new principal at her school that made her feel safer.

> Right now, we have a new principal and he changed things that I was not comfortable with that other administration was allowing. They were allowing all the parents to get in the building. Usually during dismissal, the parents were allowed to get in the building to pick up their students. Now they are not allowed to get in the building, the students are to go and meet with them by the gates, which I think is better because at a certain point you had people walking around the school and you had no idea who they were. (Mari)

Jack described an incident where an unscheduled fire alarm went off. He said that immediately his students lined up to follow the fire alarm procedure, but he hesitated when he heard the voice

of his assistant principal on the intercom announcing that the alarm was false.

> In my classroom, I told my students to go to the hard corner. You stay in there and stay there until this is finished, and they did go to the hard corner and they waited for it. Finally, the principal came on, and with his calming voice of authority we knew that everything was ok. We then resumed to normal, but it was a little scary there for a little while because the other person whose voice we are not used to hearing came on. It was disconcerting to us because we didn't believe her, we didn't know if her message was coming from duress or not. (Jack)

The sound of the voice of the particular leader in this scenario affected Jack's reaction and feelings of safety. Connie also explained the impact of leadership on her safety perceptions.

> My administration makes me feel safe. I know they care and that they are doing the best they can with the resources that they have. I know they would be willing to do whatever they had to, to try to keep us all safe. (Connie)

Bobby's answer to what makes him feel safe and what makes him feel unsafe included an ambivalent description that illustrated the impact leadership can have on perceptions of safety among teachers. Initially when asked what makes him feel unsafe, he responded with the following statement:

> What makes me feel unsafe is lackadaisical leadership in some ways. There are some administrators who suck. There are also some phenomenal ones who take the brunt of the work and do incredible things for my school. My boss, for example, she takes on the work of two or three people because the rest are incompetent, and they would screw it up. My principal knows this. Leadership is the administration, and we don't really know how

> the leadership feels about the plans in place. There is no real sense that the administration is fully behind the plans. If that makes sense. (Bobby)

Category 4b: Factors that diminish safety perceptions.

Perceptions of elements that reduced feelings of safety ranged widely. Some related to school design such as classrooms with too many windows, or campuses that were open with lots of outdoor space. Lack of training, lack of personnel, and limited monitoring of gates and cameras made some participants feel unsafe. Factors relating to the area surrounding the school and the population of the school impacted teacher perceptions of safety. Another common issue participants pointed out that made them feel unsafe was the ambiguity and lack of training for if an attack were to occur during a transition, a special school event, or during lunch when students are not in class and readily able to quickly initiate the standard lockdown procedure. School disciplinary practices and a need for increased mental health care were also factors that diminished perceptions of safety among the teachers interviewed.

When asked what makes her feel unsafe, Alice referred to the lack of training for what to do if an assailant were to enter her classroom. She also discussed a lack of exits from her building if a scenario were to necessitate an evacuation.

> There aren't any emergency exits close by. We would have to go all the way down the stairs and out a side door if we were trying to get out of the building quickly and that's really far. So, there isn't really a plan for like an emergency exit. We are up on the second floor and there is only the front door, the back door, and then two side doors in the whole school building. (Alice)

Mari pointed to demographic and location factors related to her school that made her feel unsafe. These factors were also shown to impact teacher perceptions of safety in studies by Rider (2016) and Brown (2008). The amount of crime in a school's surrounding area and the demographic make-up of the school were mentioned by Mari as factors that made her feel unsafe, while Bobby said that the demographics and surrounding community for his school made him feel safe.

> Our population is 58% free and reduced meals, which means that we have plenty of families that are in transition or transitional and it doesn't make you feel that safe, because you have all types of people coming into the building and whatnot. I'm not judging but sometimes you don't feel safe because of the area where the school is. (Mari)

Mari was also concerned about, "places like the teacher center, the media center, the field, the cafeteria. Places where you don't have a lot of control and there are large groups of students."

Bettie said, "overall I feel relatively safe." The only thing she mentioned in this question that made her feel unsafe was the lack of coverings for her windows. Shannon, who worked at the same school as Bettie said she did not feel safe because of a lack of practice, the open design for the school with multiple buildings, and times when the school was open to parents and visitors for events and during carpool. Shannon was fearful of the codes on the gates being given accidentally to the wrong people as well. Mostly she pointed out the design of her classroom as the major factor that made her feel unsafe. "I don't feel like I can protect my children because of the makeup of my room. That is the first thing that concerns me." Her classroom had two doors and was located at ground level. The two doors had large windows with no blinds or coverings. Both of the classroom doors were exterior doors that led directly outside.

When asked what makes him feel unsafe, Jack stated, “My room and every classroom I can think of has windows, and those windows are accessible to someone who really wanted to get in.” Jack also said that he would not want to teach in a classroom without windows and suggested that schools use protective bullet-proof windows and coverings to prevent assailants from using windows to gain entry. He also suggested making sure that windows in ground level classrooms were high off the ground to prevent their usage as entry points for attackers. Jack was also concerned about the lack of training regarding the evacuation component of the crisis management plan and the ambiguity surrounding issues of where to take the students and how best to protect them. When asked what makes him feel unsafe, Newman stated, “nothing really, honestly. I mean I guess the only thing is that the first floor has large windows in each room.” He also mentioned the fact that, “teaching in a school without windows that looked like a prison is not ideal either.”

When asked what makes him feel unsafe, Mark described a scenario in which a student in his class would not stop talking during a lockdown drill. Even when instructed to be quiet, the student refused and continued to talk in a loud voice. Mark was concerned about this type of situation and what it might cause in an actual crisis. Mark went on to discuss disciplinary issues at his school and how the handling of some disciplinary issues makes him feel unsafe at school. “Students that are red-flagged with chronic discipline issues, in an effort to reduce bias and avoid kicking them out of school unjustly or unfairly, a lot of times the support that students actually need is not given.” To further illustrate this point, Mark provided the following example:

> If I have a student that from 8th grade through 10th grade has been a chronic disciplinary issue. Maybe a parent died, or the family is just absolutely off-the-train and they need a

> tremendous amount of help. When that student gets in his fourth fight of punching kids or assaults a teacher, they will most likely either be returned to the school or something like this and the support that students need is not given in an effort of trying to keep the kids at the same home-school.

When Mark was asked what would make him feel safer at school, he answered by stating, "when a kid needs it, or a guidance counselor recognizes it, ongoing mental health counseling, on school premises. Hands down." Providing mental health counseling assistance by increasing the number of mental health workers in schools while also utilizing consistent and culturally responsive disciplinary strategies were both recognized in the *Final Report of the Federal Commission on School Safety* (2018) as components needed to create safer schools.

When asked what makes him feel unsafe, Bobby described the location of his classroom, its proximity to the external school gate, and the fact that his classroom door was openly accessible from the outside instead of housed inside of a larger building. "Good if there is a fire, we just run outside and then we are free. If the shooter is at the other end of the school, we could all run out of my classroom." Bobby showed concern for if an attacker entered the fence area on the side of campus where his classroom was located. Another concern Bobby mentioned was the fact that students often were able to arrive and leave campus at their leisure or as part of their scheduled school programs. He mentioned that the gates were not always monitored by security and could be opened by students to allow other students to enter the school campus. "If a kid were to walk up on campus, they usually have to know someone at the gate to let them in. The kids don't really know any better. They shouldn't be letting them in, but they do anyway" (Bobby).

When asked what makes her feel unsafe, Connie described a lack of safety personnel assigned to a school of over 3,000 students. Connie recognized that security cameras were not consistently monitored and stated, "it is very difficult with only three security officers and two SROs who, quite honestly are sometimes filling in as substitutes for teachers and are used for other duties." A lack of training for teachers particularly in unforeseen situations that do not fit the specifications outlined in the drills were also areas that made Connie feel unsafe.

> What makes me feel unsafe is the lack of personnel and the lack of training that teachers have. I feel like teachers are kind of told, ok, you are just going to stay in your classroom and keep your kids safe. I would feel safer if I knew that the teachers had more training specifically from the Sheriff's department. (Connie)

Summary

This chapter explored the data collected and presented the results from the AAPRS as well as data from the nine interviews. Results were analyzed in an effort to better understand the perceptions of teachers regarding their ability to respond to an active shooter scenario. The majority of teachers who filled out the survey were confident in their ability to respond to an active shooter but were slightly less confident in their ability to protect students. The majority of participants reported confidence and knowledge of their school's crisis planning protocol and their school's drills and procedures for active shooter scenarios. Knowledge and confidence in the school's crisis management planning protocol showed a statistically significant correlation with the Response Mean variable. This indicates that access to and an understanding of the crisis management plan improves a teacher's perception of their ability to respond during a crisis. A

significant portion of the teachers surveyed reported that they did not have readily available access to the crisis management plans and descriptions.

Results from the AAPRS showed a correlation between the Drill/Proc Mean and the Response Mean. This indicates that frequency, confidence, and understanding of the drills and procedures increases a teacher's perception of their ability to respond to an active shooter crisis. Nearly all of the participants who worked in K-12 schools reported that their school had a minimum of one active shooter drill during the school year. Over 70% of the participants worked at schools where three or more active shooter drills were conducted annually. The frequency and amount of drills conducted has been shown to impact perceptions of ability to respond (Brown, 2008; Graveline, 2003; Rider; 2016). Participants working at schools with three or more active shooter drills per year recorded higher Response Mean scores than those working in schools with two or fewer drills per year. Training for faculty and students were areas of concern regarding the drills and procedures component of crisis management plans in schools. A need for more individualized training for faculty conducted by local police or school security, that accounts for the various designs of classrooms, were indicated as methods that would improve teacher perceptions of their ability to respond. It was also found that training for students regarding active shooter scenarios was conducted mostly by teachers with little to no resources or guidance from schools and districts. Teachers are regarded as the first line of defense to help protect students during an active shooter crisis and the training they receive is vital to ensure they are properly prepared for the task (Cowan et al., 2013; Duplechain & Morris, 2014; Jonson et al., 2018). Students and teachers who are trained to react and respond to active shooter scenarios are more likely to react quickly and competently during an actual attack (Brown, 2008; Frazzano &

Snyder, 2014; Petrovich, 2016). When asked if the active shooter drills were effective (Q2-7), 20% reported that they did not know and 20% disagreed. If only 60% of the teachers surveyed believed their school's active shooter drills are effective, this raises concerns about the drills and training conducted in schools.

Gender and the presence of security personnel on campus were shown to have little to no effect on teacher perceptions of their ability to respond to an active shooter. Teachers in secondary schools (grades 6 through 12) reported slightly lower confidence levels than teachers in elementary schools in their ability to respond to an active shooter. Participants with 1 to 3 years of teaching experience recorded lower Response Mean scores ($M = 2.88$) than those with 4 to 6 years of teaching experience ($M = 2.94$) and those with 7 to 9 years of experience ($M = 3.08$). These differences were notable but not shown to be statistically significant.

Findings from the nine interviews supported the data from the AAPRS and provided personal insights from teachers regarding the crisis management plans and procedures in their schools. Of the nine participants, three stated that they were not confident in their ability to respond, four were confident with reservation, and two stated that they were confident. The interviews revealed that crisis management plans in the nine schools were developed at the district level or by school administrative teams. Further review of the data from interviews demonstrated that participants had little to no involvement in the development of the crisis management plans in their schools. Having a sense that school leadership listens to and responds to teacher feedback, and including teachers in the process of decision-making are factors that positively impact teacher self-efficacy (Tschannen-Moran, 1998). Perhaps, if planning input can positively affect teacher self-efficacy for improving student achievement, it can also positively

impact teacher perceptions of their ability to respond to a crisis. Brown (2008) asserts: “It is better for a school to develop a personalized plan than to simply pay someone to do it. Plans need to be a group effort. Staff members need and desire to be trained” (p. 60).

A positive finding was that all interview participants reported that their school’s conducted active shooter drills two or more times per year, with the majority of the schools conducting more than three drills a year. Confidence in, and understanding of, drills and procedures directly impacts teacher perceptions of how they will respond during an active shooter crisis (Brown, 2008; Graveline, 2003; Jagodzinski, 2019; Rider 2016). Eight of the nine participants suggested that the drills be conducted in a more realistic way and during times where students are not in their regularly scheduled classes. A major concern was shown for the possibility that an attack might occur during lunch or during a school activity but the drills only prepare students and teachers for an attack that takes place while students and teachers are in their classes.

The interview findings showed significant improvements in safety and security systems over the past 5 years. Each participant mentioned the installation of gates, security cameras, and updated technology for visitor identification during the 5 years prior to the interviews. Three schools were provided phone applications for emergencies and one high school implemented mandatory mental health training for students. School design and layout were also a focus during the interviews regarding safety and concerns. Several participants showed concern regarding windows and accessibility of their individual classrooms. One participant suggested bulletproof plating for windows. Others showed concern for individual classrooms that had specified safety needs such as location near gates, multiple entry points, and multiple windows that they felt

made them more vulnerable to attack. Two of the teachers voiced divided feelings related to the aesthetics of schools and how implementing too many safety features could change the look and feel of a school environment. The training methods for teachers and students were also discussed in detail. Most schools utilize what one participant described as, “sit and get” where a presentation is delivered to the entire staff in an auditorium at the start of each year with little or no interaction or individualization (Bobby). Training for students was also an area of concern for teachers. They all mentioned that the individual teachers were responsible for teaching students the drill procedures and they were not provided with any materials. Participants described a lack of training for what to do if their classroom was infiltrated by an attacker. Three participants felt that more individualized training for teachers that focused on specific needs of the school and specific needs of each classroom would help them feel more confident. Another major issue was a discussion regarding whether drills should be conducted as live drills or as planned events where everyone was given advanced notice. Eight of the participants thought that unplanned drills during unspecified times would be more authentic. Mark, a former soldier, whose high school conducted live unplanned drills said that live, unplanned drills could lead to unnecessary emotional turmoil for teachers and students.

The next chapter presents a detailed discussion of the findings to analyze teacher perceptions of their ability to respond to active shooting incidents in relationship to the crisis management theoretical framework. Chapter 5 also contains implications for practice and recommendations for future research. A better understanding of teacher perceptions and the factors that impact those perceptions can help school leaders and policy makers develop ways to improve how teachers perceive their ability to respond during an active shooter crisis.

CHAPTER FIVE: SUMMARY, DISCUSSION, AND CONCLUSIONS

Teacher perceptions comprised the focus of this study. Teachers act as the first line of defense during an active assailant crisis (Jonson, 2017). Forty-three percent of school shootings end before the arrival of police and first responders, which according to Perkins (2018) means, "teachers are responsible for more than just teaching reading and writing" (p. 71). The previous chapter outlined the quantitative and qualitative results from the AAPRS and the nine interviews in this study. This final chapter begins with a summary of the study. The summary is followed by a detailed discussion that links the findings to the crisis management theoretical framework. Implications for practice and recommendations for future research are provided to promote factors that can improve teacher perceptions of their ability to respond to an active shooter crisis. The chapter ends with concluding statements regarding this study and its relevance to school safety.

Summary of the Study

An explanatory mixed methods study was used to identify and analyze teacher perceptions regarding their ability to respond to an active shooter crisis. Crisis management theory offered a useful theoretical framework for understanding the elements of an active shooter attack. This framework also provided context for explaining the impact of school protocol and crisis management planning on teacher perceptions. The target population consisted teachers enrolled in graduate-level education courses at a large university in the southeastern United States. The sample consisted of 165 participants who filled out the AAPRS survey. From the 165 participants, nine were selected to provide a maximum variation sample for the semi-structured

interviews. The use of multiple case study interviews helped provided rich detail regarding teacher perceptions of how they might respond during an active assailant crisis and helped delineate factors that impact those perceptions.

Problem and Purpose

A lack of research regarding teacher perceptions of active shooter response was the problem identified to guide this study (Embry-Martin, 2017; Graveline, 2003; Rider, 2016). The purpose of this study was to analyze teacher perceptions, and factors that may impact those perceptions, in order to understand how best to equip teachers to respond to an active shooter crisis. A deeper understanding of factors that impact teacher perceptions of their ability to respond to active assailant attacks is needed (Page, 2017; Rider, 2016). Information from this study can assist school policy makers as they implement research-based crisis management strategies to improve teacher perceptions of their ability to protect students. This research contends that improved teacher perceptions along with effective crisis management strategies can abate the fear of an active shooter crisis in school communities.

Theoretical Framework

Crisis management theory provided a useful framework for describing active shooter attacks and for understanding the methods implemented by schools to prevent, protect, respond, and recover from these crisis events (Boin et al., 2016; DeVos et al., 2018). The Self-efficacy theory provided research to support the notion that effective planning, drills, and procedures can impact perceptions of ability to respond to an active shooter incident (Brown, 2008; Embry-

Martin, 2017). “A capability is only as good as its execution. The self-assurance with which people approach and manage difficult tasks determines whether they make good or poor use of their capabilities. Insidious self-doubts can easily overrule the best of skills” (Bandura, 1997, p. 35). Pearson and Clair (1998), in their attempt to reframe crisis management, stated that, “those interested in the psychological view might consider how individual’s perceptions before, during, and after a crisis are mediated by organizational intervention” (p. 59). A portion of the theoretical focus of this study involved teacher perceptions of their school’s organizational interventions concerning active assailant crisis management plans in terms of prevention, protection, response, and recovery (Cowan et al., 2013). Crisis management theory provides a valuable lens to comparatively analyze different schools of thought and methodologies for training and preparing teachers and schools to respond to active assailant scenarios (Dumitriu, 2013). The application of crisis management theories to incidents of active shooters in schools can provide a theoretical basis for understanding the role of teachers and how best to prepare them to respond to active assailant attacks.

This study focused on understanding perceptions among teachers concerning their ability to respond to an active shooter incident. The study also included analysis of teacher perceptions of the planning and procedures in their schools for active shooter scenarios. Identifying relationships that may exist between demographic factors and teacher perceptions of their ability to protect students during an active shooter crisis was also part of this study. A deeper understanding of these factors may help improve school policy regarding school safety and crisis intervention by identifying ways to increase the confidence teachers have in their ability to keep students safe.

Research Questions

Seven Research questions were developed for this study. The questions are provided below, and they relate to perceptions teachers have of their ability to respond to an active shooter as well as factors that may influence those perceptions. The researcher sought to identify possible correlations between knowledge of planning and perceptions of ability to respond. The researcher also sought to identify relationships between drills and procedures regarding safety in schools, and the perceptions teachers have of their ability to respond. The final area of concern addressed whether demographic factors influence teacher perceptions. This study focused on the following demographic factors: school configuration, years of teaching experience, teacher gender, and whether or not the school had security personnel on campus.

RQ 1. How do teachers perceive their ability to respond to active shooter scenarios?

RQ 2. What are the perceptions of teachers regarding their school's planning and preparation for active shooter scenarios?

RQ 3. What are the perceptions of teachers regarding their school's drills and practice procedures for active shooter scenarios?

RQ 4. What relationships exist, if any, between perceptions of planning and preparation for active shooter scenarios, and preparedness to respond to an active shooter incident among teachers?

RQ 5. What relationships exist, if any, between perceptions of procedures and drills, and perceptions of preparedness to respond to an active shooter incident among teachers?

RQ 6. What effect, if any, do school factors such as presence of security, and grade-configuration have on the perceptions of teachers in responding to active shooter

scenarios?

RQ 7. What effect, if any, do individual demographic factors such as gender and years of educational experience have on the perceptions of teachers in responding to active shooter scenarios?

Methodology

The researcher used an explanatory mixed methods model to analyze teacher perceptions and to address the seven research questions. Mixed methods research combines qualitative data and quantitative data collection and analysis methods with the intent of providing richly detailed descriptions (Creswell, 2009). Access to participants was granted after contact with the graduate affairs coordinator. Contact information was provided for professors teaching graduate-level education and educational leadership courses. The researcher used this contact information to request assistance recruiting participants for this study. The graduate affairs coordinator also distributed the Active Assailant Prevention and Response (AAPRS) survey instrument to over 1,200 graduate students through the college's message board system. The AAPRS instrument was adapted from the Active Shooter Preparedness Training Survey for High School Teachers (ASPTS) created by Brown in a 2016 study of high school teacher perceptions of their ability to respond to an active shooter crisis. Three sections of the ASPTS were retained in their entirety to preserve and protect the Cronbach's alpha measures for reliability. The planning subsection with seven items had a Cronbach's alpha of .945. The Practice/Drills subsection with seven items had a Cronbach's alpha of .959. The Teacher Preparedness subsection had a Cronbach's alpha of .903. A request to use the ASPTS was granted by Brown. The letter of request and the consent to

use the survey are provided in Appendix E.

The first three research questions were answered with descriptive statistics such as frequencies, percentages, and means. Research question 4 required a Pearson *r* correlational analysis using SPSS to identify possible relationships between planning, identified by the variable Plan Mean, and participant perceptions of their ability to respond, identified as the variable Response Mean. Research question 5 required a Pearson *r* correlational analysis to identify possible relationships between practice and drill procedures (Drills/Proc Mean) and participant perceptions of their ability to respond (Response Mean). Research question 6 involved two parts. To answer the first part, an independent samples *t* test was used to identify relationships between the Response Mean variable and whether or not the school had security personnel on campus during the school day. The second portion of research question 6 was answered using a one-way-ANOVA, or analysis of variance, based on school grade configuration and Response Mean. Research question 7 also contained two parts. For the first part, an independent samples *t* test was used to identify relationships between Response Mean and gender. The second portion of research question 7 was answered using a one-way-ANOVA based on years of teaching experience and Response Mean.

The qualitative component of the study consisted of nine interviews in a multiple case study format. Participants selected for the interviews provided consent to participate in the final item of the AAPRS, which asked for their contact information. Nine interviews were conducted over the phone or in person using 12 open ended questions as a guide. The interviews were transcribed by the researcher and coded based on grounded theory coding methods as well as methods developed by Crabtree and Miller (1992) that describe a continuum of coding from

prefigured categories to emergent categories. The categories for coding began with perceptions of planning. Teachers were asked to explain the origins of the crisis management plans in their schools and asked what level of involvement was extended to teachers at their school in plan development. This category was expanded to include security staffing and other safety features as described by the participants such as: presence of security, gates, badges, cameras, and reporting tools like cell-phone applications. The second category pertained to descriptions of drills and procedures for active shooter incidents. This category also contained emergent subcategories that synthesized participant explanations of the training methods used in schools for students and staff related to active shooter response protocol. Category 3 was based on teacher perceptions of their ability to respond to an active shooter as well as their perceptions of their school's ability to respond. The final category outlined perceptions of safety as described by participants when asked about factors that made them feel safe and factors that made them feel unsafe. Appendix G contains the coding scheme.

Discussion of the Findings

The findings are discussed and summarized below according to the research questions. The focus of this study was teacher perceptions of their ability to respond during an active assailant crisis. The majority of the data from the AAPRS provided positive results, suggesting participants were mostly confident in their ability to respond to an active shooter crisis. However, there are still areas of concern that present opportunities to improve the planning, protocols, and procedures in ways that boost teacher confidence and make schools safer for families.

Research Question One

How do teachers perceive their ability to respond to active shooter scenarios?

The AAPRS revealed that 80% of the participants were confident in their ability to respond to an active shooter event. The results for subset three of the AAPRS demonstrated that the majority of the participants in the study were confident in their ability to respond, received adequate training, and that they believed they could control their class when faced with an active shooter assailant. When asked if they received adequate training to respond effectively to an active shooter, 25% disagreed ($M = 3.00$) and 31% of the participants disagreed when asked if they were confident in their ability to protect students during an active shooter attack. In 2008, Brown, conducted a study of 202 teachers in Alabama, Florida, Georgia, Mississippi, and Tennessee to better understand perceptions regarding crisis response. The results showed a mean of $M = 2.66$ on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree) suggesting that teachers did not feel adequately trained to respond to a crisis. Rider (2016), in a similar study about teacher perceptions of responding to an active shooter that involved over 400 high school teachers from Mississippi, found a score of $M = 2.70$ in her survey that asked teachers whether they received adequate training and had the professional knowledge to respond effectively in the event of an active shooter. The mean in the current study for the same question was $M = 3.00$. Though location, school configuration, and other factors may have influenced the differences in these scores, the differences are notable. A research-based approach to active shooter crisis management planning can positively impact teacher confidence in their ability to respond to these attacks (Brown, 2008; Perkins, 2018; Rider, 2016).

Though the results of the AAPRS demonstrated that the majority of teachers were

prepared and confident, more needs to be done to help increase teacher confidence in their ability to respond to an active shooter crisis. One out of 4 teachers in this study perceived their training and professional knowledge for how to respond to an active shooter as inadequate. Confidence is a key factor within the premise of self-efficacy (Tschannen-Moran et al., 1998). Born in 1976, the theory of self-efficacy is explained by Tshannen-Moran (1998) as "a cognitive process in which people construct beliefs about their capacity to perform at a given level of attainment" (p. 203). In 1986, Bandura, proposed that performance, task completion, and success were directly related to an individual's sense of self-efficacy. The current study did not include teachers who experienced an active shooter attack, so the results do not provide a complete model of how self-efficacy can impact a teacher's actual response during a crisis, but the findings show that the participants in this study were confident, which is positive for schools and families. The results also show a need for improvements in training and a need for implementing practices that can help teachers feel more confident in their ability to protect students.

The interviews provided insights into factors and conditions that impacted participant perceptions. School layout, classroom layout, lack of training for what to do if an attacker were to enter the classroom, and lack of training and supplies to provide medical care to wounded students were described during the interviews as areas that negatively impacted confidence. Installation of gates, enhancements in security systems, implementation of security screenings for visitors, school leadership, school climate, and visible security personnel on campus were factors that made interview participants feel safe.

Research Question Two

What are the perceptions of teachers regarding their school's planning and preparation for active shooter scenarios?

McNeil and Topping (2007) assert that if plans are not based on empirical evidence and founded on research-based best practices, "well-meaning intervention might actually worsen outcomes in the short or long run" (p. 65). Having a strategic plan is invaluable for schools when facing these rare but devastating active assailant attacks (Borum et al., 2009; Cowan et al., 2013; Kubena & Watts, 2018). Results from the AAPRS revealed that the majority of participant's held positive perceptions of the planning protocols at their schools. Most knew their school had a plan, many of these plans were developed in league with local law enforcement groups. Several participants reported that their school had a crisis team in place, and access to the crisis plan was readily available to a large percentage. Moreover, the highest score for Q1 of the AAPRS was for Q1-7, which asked if participants felt it was important to frequently update crisis plans for active shooter incidents ($M = 3.67$). The overall Plan/Proc Mean score was $M = 3.22$ and most of the items in the planning subsection of the AAPRS resulted in scores higher than $M = 3.00$, which was the indicator for agreement. This demonstrates that most participants' schools prioritized planning and that most of the teachers felt confident in the plans provided by their districts or their administrative teams.

The areas of concern related to teacher access to crisis management plans and perceptions regarding the effectiveness of the plans. Nearly 40% of the participants reported that they either did not have a copy of the school's crisis management plan for active shooters, or they did not know if they had a copy of the plan. When asked if they had access to their school's crisis

management plan for an active assailant crisis, 7.8% did not know, and 23.2% disagreed. Moreover, when asked if they agreed that their school's plans were effective, 15.5% said they did not know, and 16.3% disagreed. It is understandable that people may not know if a plan is effective if the plan has not been tested in action, but confidence in the effectiveness of the crisis management plan and ready access to the crisis management plan are integral components of keeping schools safe and building teacher confidence (Graveline, 2003; Madfis, 2016).

Interview participants revealed that there was little to no involvement for teachers in developing crisis management plans for their school. A few teachers acknowledged an ability to influence changes to portions of the plans, but this was only discussed in two of the nine interviews. Teachers need readily available access to crisis management plans. They should also be invited to participate in the discussions that develop and modify crisis management plans since teachers are the closest contact with students and the main people responsible for carrying out the plans during a crisis. Not having access to plans and not know if plans are effective is problematic and demonstrates an area of needed improvement. Crisis management plans should be readily available for review, open to discussion, and accessible so that teachers can reference the plans as needed (Brown, 2008; Dumitriu, 2013; Page, 2017; Rider, 2016).

Research Question three

What are the perceptions of teachers regarding their school's drills and practice procedures for active shooter scenarios?

Rider (2016), whose survey served as the model to create the AAPRS, found that 35.9% of participants worked at schools in which no active shooter drills were conducted. Participants

from the current study reported more annual active shooter drills. This finding fits with updated laws and statutes, nationally and in the state of Florida, that require more frequent lockdown drills in schools (FLDOE; Jonson et al., 2018; Trump, 2019). Very few participants said their schools did not conduct active shooter drills (6.3%). Each participant who worked at a Florida public school reported that they conducted a minimum of two lockdown drills per school year. In fact, more than 70% of the participants in this study reported that three or more active shooter drills were conducted each year. Conducting drills can be a valuable tool to help students and faculty respond more effectively during an active shooter incident.

Concerning results in this study were found in relationship to the effectiveness of the drills conducted as well as the training provided for students and staff in preparation for the drills. Q2 of the AAPRS contained seven statements regarding the drills and practice procedures in schools for participants to rate on a 4-point Likert scale. The lowest scores in this subsection were found for Q2-3 ($M = 2.65$), "my school provides classroom instruction about live active shooter incident preparedness for students," and Q2-4 ($M = 2.72$), "the classroom instruction portion of our active shooter incident preparedness is effective." Another area of concern was found regarding participant perceptions of the effectiveness of the drills. The overall mean score for this statement was M = 3.00, but 20% reported that they did not know if the drills were effective and 20% disagreed that the drills were effective. Once again, it is understandable that some participants might have reservations about rating the effectiveness of a drill procedure that has not been tested with an actual crisis situation, but to have 20% of the participants state that they do not perceive the drills as effective is concerning.

The nine interviews provided some details about training and drills. The majority of

participants suggested that live drills conducted during times when students were not in regularly scheduled classes would be more beneficial in helping schools prepare for an actual crisis situation. There was one participant, Mark, who was a former Army Ranger, that worked at a school in which drills were treated as live scenarios. Mark stated that this caused unneeded trauma and mental anguish for him. He also stated that he didn't think it was necessary to frighten the students and that the goal of practicing the act of hiding and protecting everyone from an active shooter could be conducted without it being treated as a live actual crisis attack. Training for teachers was also described in a similar way by nearly all participants. The active shooter drill training for teachers took place at the beginning of the year in a faculty meeting with the entire staff in an auditorium. Some schools stated that their security personnel conducted the training, while other stated that administrators at their school conducted the training. Bobby described the instructional method as, "sit and get", where information was disseminated via Power Point or discussion. Shannon and Bettie described a more interactive approach where a guest speaker was brought in and conducted physical drills to allow teachers practice disarming an attacker. The most common practice described by the nine interview participants in lockdown drills was to follow the following steps:

1. Turn off the lights in the classroom and cover any windows.
2. Students move to a safe area within the classroom where they are not visible from the outside.
3. Wait silently for an announcement or signal that indicates the end of the drill.

The phrase "run, hide, fight" was used by two participants (Mari & Bobby). There was also a participant who referred to an active assailant drill protocol termed the ALICE alert system

(Bobby). These practices represent a multi-option approach to active assailant attacks (Jonson et al., 2018; Trump, 2019). The perceptions described in the interviews also suggested that training should be more individualized not only to the school, but also to individual classroom needs. Shannon and Bettie both recommended that security personnel meet with teachers in their individual rooms to identify the best possible way to protect students in that room. Alice's biggest fear was that no training was provided for what to do if an attacker were to enter her classroom.

Training for students, as described in each of the nine interviews, was conducted by the teacher in the classroom with little or no resources provided. Teachers went over the procedures with the class prior to a drill and that was extent of the training. Bobby, explained that his classroom had a poster on the wall for the ALICE alert system, but he was the only interview participant that mentioned any materials provided for training students in what to do during an active shooter drill. The perceptions described through the AAPRS and the interviews of this study demonstrate a need for improvements in procedures for training students and teachers to prevent, prepare for, and respond to active shooter attacks.

Research Questions Four

What relationships exist, if any, between perceptions of planning and preparation for active shooter scenarios, and preparedness to respond to an active shooter incident among teachers?

A significant correlation was found between the Plan/Proc Mean and the Response Mean. This suggests that teachers who are knowledgeable about the crisis plans and confident in those

plans, perceive themselves as more confident and capable in their ability to respond during an actual crisis. This finding corroborates the findings of Rider (2016) and Brown (2008) which demonstrate the need for effective crisis management planning in schools to increase teacher perceptions of their ability to respond to an active shooter attack. The findings in the current study, particularly from the nine interviews, also suggest that plans and protective measures in schools are being implemented and adapting to better fit the needs of this type of crisis. One example was provided by three of the interview participants who explained that fire drill procedures in their schools were altered starting in 2017. Students and teachers in these schools were no longer to respond by immediately exiting the building with students. They were instead required to wait for a signal or announcement from leadership to indicate if the alarm was an actual drill or an actual fire. This change was prompted by incidents where attackers pulled the fire alarm in order to lure students out into the open for an attack. The results of this study indicated that participants' schools implemented strategic crisis plans to protect students, but the results also indicated areas of needed improvement in these plans.

Research Question Five

What relationships exist, if any, between perceptions of procedures and drills, and perceptions of preparedness to respond to an active shooter incident among teachers?

A significant correlation was found between the Drills/Proc Mean variable and the Response Mean variable. This indicates that knowledge of drills and confidence in the practices in place for crisis management have a direct impact on the confidence participants have in their ability to respond during an active shooter attack. It was also found that the number of drills

conducted during a school year positively influenced perceptions of ability to respond. The Response Mean was slightly higher for teachers working in schools with three or more drills per year than it was for teachers working in schools where drills were less frequent. This is consistent with findings from studies conducted by Brown (2008) and Rider (2016). Moreover, it fits with the concepts of self-efficacy that demonstrate how frequent and purposeful practice can lead to increased confidence and improved performance in a task (Bandura, 1977; Tschannen-Moran & Hoy, 1998). Interview participant, Shannon, agreed, "I feel like more training, the more you have to do it to let it become automatic, I feel like that is what I need." Interview participants all worked at schools where drills were conducted two or more times per year. Their ability to describe the drills and explain the protocols demonstrated the value of frequent practice.

Research Question Six

What effect, if any, do school factors such as presence of security, and grade-configuration have on the perceptions of teachers in responding to active shooter scenarios?

Active and visible security personnel on school campuses assist with student discipline, help foster a sense of safety, and protect students and school staff (Kubena & Watts, 2019). This important role has been part of schools in the United States since the 1950s and has increased as a result of high-profile active shooter attacks (Zullig, Ghani, Collins, & Matthews-Ewald, 2017). The majority of active assailant attacks on K-12 schools were carried out by high school students who attended the school they attacked (Bushman et al., 2016; DeVos et al., 2018). The majority of studies found regarding teacher perceptions of active assailant attacks and school safety focused on high school settings (Brown, 2008; Rider 2016; Wright, 2015). Research question six

was developed to analyze any possible impact the presence of security on campus and school grade-configuration might have on a teacher's perception of their ability to respond to an active assailant crisis.

The AAPRS data results presented a problem answering the first part of research question six about the presence of security staff. More than 80% of the participants reported that their school had security personnel on campus during the school day. Calculations revealed that no significant difference existed between perceptions of ability to respond, as measured by the Response Mean variable, and the presence of security indicated by participants in AAPRS question nine. Due to the discrepancy in the number of schools with and without security personnel, these results may not paint an accurate picture of the impact security personnel have on teacher perceptions of their ability to respond to an active shooter. The lack of correlation in this case may be accounted for by the semantics of the statements posed in the AAPRS, which were focused on personal factors related to the teacher's perceptions of their individual ability to respond in a crisis situation. A factor to consider is that an individual's perceived ability to respond might not be altered by the presence of security on campus, where other factors, such as perceptions of safety, have shown to be improved by the presence of security personnel (Cowan et al., 2013; Gregory et al., 2012).

In his interview, Jack, who worked as a middle school technology teacher said, "I trust our resource officer who is highly visible. I trust that if there was an active shooter, I believe that she would respond to it as quick as possible." This response is another indicator of how security personnel may impact teacher perceptions regarding a collective response, but not a teacher's personal ability to respond. Connie, who worked at a high school with over 3,500 students said

that she felt there were not enough security staff on her campus, she also said, “It is very difficult with only three security officers and two SROs who, quite honestly are sometimes filling in as substitutes for teachers we do not have a sub for. So, that takes away one of our security personnel.” These factors represent a need for more research regarding the presence of security personnel and the particular roles that security staff are required to play. The cost involved in hiring school security is another issue of contention in research (Addington, 2009; Zullig, et al., 2017). Connie also stressed her opinion that the school security personnel, or local law enforcement should be involved in the training of teachers and staff for active shooter crisis scenarios.

School grade-configuration was not shown in this study to have a significant relationship with teacher perceptions of their ability to respond. Response Mean scores for high school teachers in the study were slightly lower than those of elementary school teachers. This difference could be a reaction by teachers to reports that demonstrate more active shooter attacks carried out by students, or former students, of high schools whereas attacks on elementary schools have historically been carried out by adults and are less frequent (Bushman et al., 2016; Jagodzinski, 2019).

Research Question Seven

What effect, if any, do individual demographic factors such as gender and years of educational experience have on the perceptions of teachers in responding to active shooter scenarios?

Brown (2008) found that male teachers perceived themselves to be well trained to

manage a crisis at school, while female teachers did not perceive themselves as being well trained to manage a crisis. Gregory (2012) similarly found that in a study of Virginia teachers, male teachers felt safer and less susceptible to violent attack while at school than female teachers. The current study revealed no significant difference between the Response Mean variable for male and female teachers. Among the participants in this study, both men and women reported perceptions that showed they were mostly confident regarding their ability to respond to an active shooter crisis. This information is important because gender is an uncontrollable factor for school leadership and school crisis management plans. The National Center for Education Statistics (NCES.gov) reported that during the 2017-2018 school year, 24% of teachers were male and 76% of teachers were female. Gender differences were not significant in this study, and this is a positive finding for school leadership.

In previous studies, more years of teaching experience equated to more confidence in one's ability to respond to a crisis in a school (Brown, 2008; Graveline, 2003; Rider, 2016). None of these studies found this difference to be statistically significant, but it was a large enough difference to notice. The current study presented similar findings. Response Mean scores were highest for teachers with seven or more years of teaching experience, and teachers with three or fewer years of experience had the lowest Response Mean scores. These findings demonstrate that training and crisis management planning strategies have a more substantial impact on a teacher's perception of their ability to respond to a crisis than gender, presence of security, teaching experience, and grade configuration. These results are promising for schools and school leaders. Effective crisis management planning, proper training, frequent drills, and consistent adaptations of crisis management strategies are controllable methods that school

leaders and policy makers can implement to improve teacher confidence in their ability to respond to these scenarios.

Crisis Management Implications

The findings are discussed below in connection with crisis management theory concepts applied to active assailant attacks in K-12 school settings. The four crisis management components utilized in this discussion included preparation, protection, response, and recovery (Boin et al., 2013; Rider, 2016). Teachers have been identified as the first line of defense during active shooter attacks (Jonson, 2017; Rider, 2016). There are multiple cases of attacks where a teacher's response meant the difference between life, injury, or death for themselves and for students (Jonson, 2017). Teacher perceptions and recommendations are valuable tools (Graveline, 2003). Understanding how these perceptions are affected by active shooter planning, drills, protocol, training, and demographic factors may lead to useful methods for improving the ability of teachers to respond to an active shooter crisis.

Shrivistava (2013) defined crisis as a process, not an event, that expands and spreads in five stages.

1. Crisis begins with hidden, low-impact systems or human failures.
2. Major damage is caused in a crisis-triggering event.
3. The impacts of the crisis expand and diffuse to stakeholders.
4. Questions of blame and liability are raised.
5. A new normal, or equilibrium state, develops. (p. 8)

Results from the Active Assailant Prevention and Response Survey (AAPRS) and findings from

the interviews were synthesized into mitigating steps to address these crisis components by applying the four elements of crisis management theory to active assailant crisis scenarios. Figure 2 displays the crisis stages along with mitigating factors identified in this study and through the literature. The figure applies the four components of crisis management to the stages of an active shooter crisis in a school setting.

The four components overlap in how they apply mitigating factors to the stages of an active shooter crisis. Some elements, such as mental health care and open communication, apply to more than one of the crisis management components and can be used across multiple stages in mitigating the effects of an active shooter crisis. There is also some overlap in the use of the four components as they are applied to the five stages of a crisis. Prevention, though not fully explored as part of the current study, has similar components to protection. The response and recovery components also have overlapping strategic elements as identified in Figure 2. The figure is followed by a detailed explanation of the findings from the literature and findings from this study to explore factors that can improve how teachers perceive their ability to respond to an active shooter.

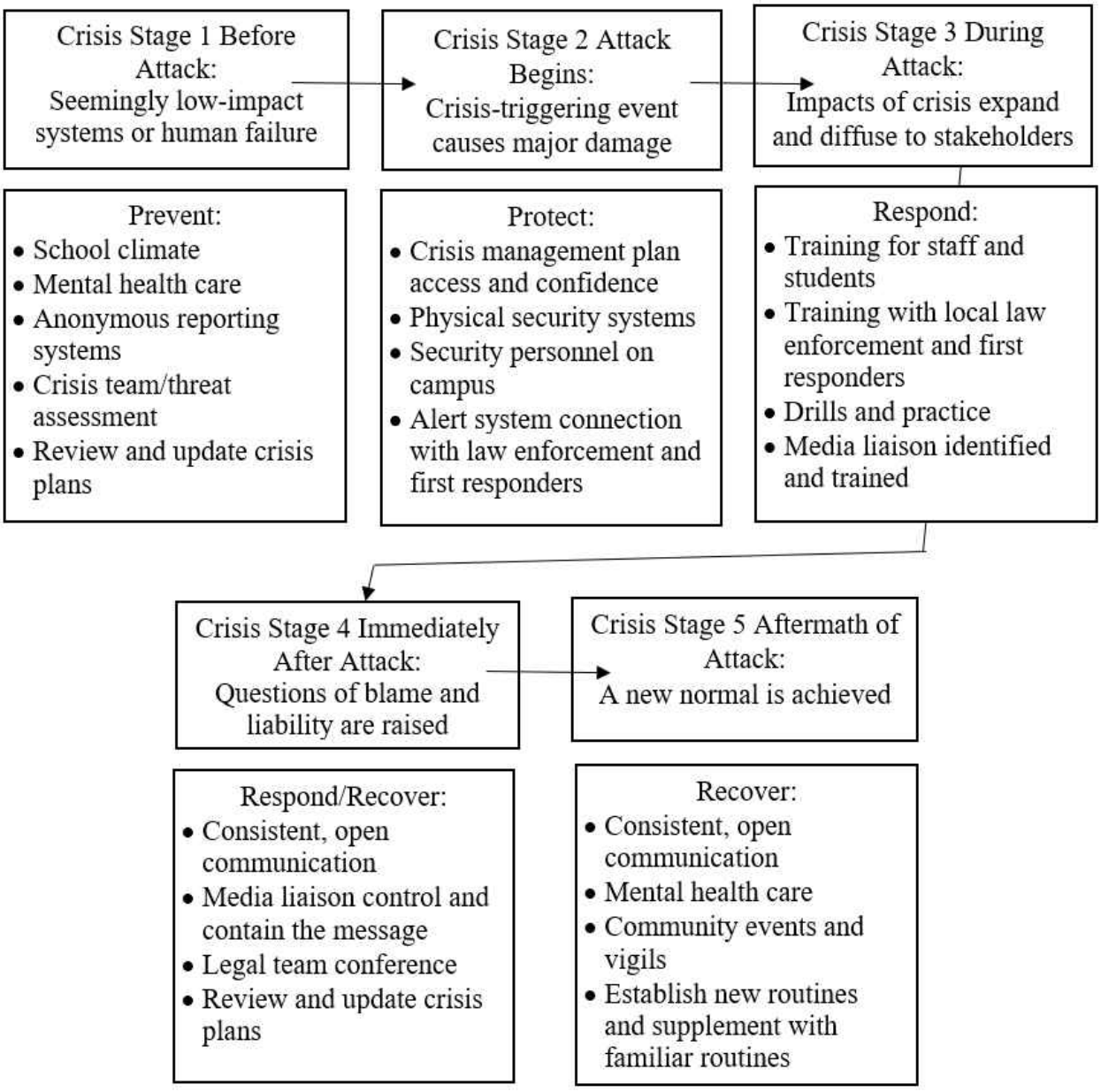


Figure 2: *Crisis Stages and Active Shooter Crisis Management*

Note: Synthesized from Shrivastava et al., 2013; Dumitriu, 2013; DeVos et al., 2018.

Prevent

Prevention of an active shooter crisis was analyzed based on the planning protocols and safety measures in place for participants' schools. Although the AAPRS survey did not directly

ask about issues of prevention, the data collected for planning protocol in Q1 and information collected from participants about their schools, such as presence of security on campus, provided information related to methods schools are using to prevent active shooter attacks. The nine interviews also provided insights regarding issues of prevention. Prevention is an integral component of crisis management theory and a critical element in making schools safer (Boin et al., 2013; Bonanno, & Levenson, 2014). Stopping these events from occurring should be a primary goal of crisis management plans (Page, 2017). There are many factors that can lead to a school shooting (Langman, 2009; Newman et al., 2004). The first step in a crisis is, "a seemingly low impact systems or human failure" (Shrivastava et al., 2013, p. 8). This section addresses the intricacies of preventing an active shooter crisis in conjunction with the findings from the current study. Prevention requires identifying possible failures in a school system to mitigate the possibility that those failures might lead to an active shooter crisis.

The seemingly low impact systems or human failures that have led to school attacks include failure to recognize and report portentous signs displayed by attackers, failure to identify mental health needs and provide assistance to attackers, failure to prevent potential attackers from obtaining the weapons used in an attack, and failure of school security systems to prevent attackers from entering the school armed (Bushman et al., 2016; Duplechain, & Morris, 2014; Katsiyannis et al., 2018; Langman, 2009; Newman et al., 2004). Crisis management strategies that focus on the following elements have shown promise in the prevention of active shooter attacks:

- school climate
- mental health care

- anonymous reporting systems
- threat assessment
- review and update crisis management plan (Chapman, 2018; Cowan et al., 2013; Page, 2017; Skiba & Sprague, 2008)

School Climate

School climate factors have been shown to reduce school violence and increase perceptions of safety for teachers and students (Cowell & McDonald, 2018; Daniels & Bradley, 2011; Morrison, 2003; Williams, Schneider, Wornell, Langhinrichsen-Rohling, 2018). Programs such as the Safe School Communities Model (Daniels & Bradley, 2011), authoritative school climate theory (Gregory & Cornell, 2009), and school connectedness (Blum, 2005; Blum & Libby, 2004) provide models to assist schools in developing a school climate that can help prevent violent acts such as an active shooter attack (Wilson, Gottfredson, & Najaka, 2001). According to Cowell (2018), "addressing safety also includes a comprehensive review of school climate, in particular primary prevention, that can include evaluation of antibullying programs, the availability of mental health resources, and assessment of weapon carrying in the school" (p. 254).

School climate factors that have been shown to prevent or reduce the possibility of an attack include training programs for students and faculty to recognize and report possible signs of an impending attack (Page, 2017). This climate element would only assist in preventing possible attacks that would be carried out by members of the immediate school community. This includes the vast majority of these incidents of mass violence in schools (Katsiyannis et al.,

2018). The use and development of profiles for active shooters proved ineffective, but warning signs and risk factors that indicate the possibility of an impending attack have been extensively outlined by researchers (Bushman et al., 2016; Duplechain, & Morris, 2014; Levin, & Madfis, 2009; Newman et al., 2004; Petrovich, 2016). Newman (2004) presented five, necessary but not sufficient, conditions for a rampage shooting which included: (a) marginality, (b) individual vulnerabilities, (c) cultural scripts, (d) under the radar, and (e) access to weapons. Duplechain and Morris (2014) asserted that behaviors and risk factors for school shooters include bullying, personal risk factors, family risk factors, societal risk factors, relationships and past traumas, and brain development. Levin and Madfis (2009) contend that issues of strain and stress lead to mass shootings. They identified a five stage model they referred to as cumulative strain, which starts with chronic strain, moves toward uncontrolled strain, followed by acute strain, leading to the planning stage, and culminating in a massacre at school (Levin & Madfis, 2009). Creating a school climate with situational awareness where students and teachers understand and seek to identify these behavioral factors early, is an avenue supported by research to prevent active assailant attacks (Page, 2017, Petrovich, 2016; Redlener, 2006).

Other important school climate factors shown to reduced violence include consistent and fair and consistent disciplinary practices (Gregory et al., 2012). In addition, school climate practices that help students feel connected to the school community have led to decreased school violence and improvements in academic achievement (Blum, 2005; DeVos et al., 2018; Wilson et al., 2001). In his interview, Bobby, who taught at a public high school, spoke specifically about how the climate of his school was a more valuable factor than any of the physical safety features in the prevention of an attack. “I think that prevents school shootings more than

anything else. Not safe doors or safe windows. Those are physical barriers. You have to go from within to prevent a shooting from happening. That is what is in people's heads." Bobby discussed how teachers in his school created authentic bonds with students through school programs that helped students and teachers experience a stronger connection with the school community. Research regarding the prevention of mass violent attacks supports the development of a school climate that builds resilience, discourages bullying, prevents strain, has consistent and fair discipline practices, and trains the school community to be situationally aware (Blum, 2005; Duplechain & Morris, 2014; MacNeil & Topping, 2007).

Mental Health Care

Langman (2009), in a study of 10 mass school shooters, found that the attackers fit the description for identification as being either psychotic, psychopathic, or severely traumatized. Newman (2004) and Bushman (2016) found that 85% of school shooting perpetrators in their studies were from dysfunctional homes, were suicidal or depressed, or suffered from a major mental illness. In the current study, mental health was described by Bobby and Mark in their interviews as important elements for preventing an attack. Bobby's high school implemented a required mental health training session for all students. Mark explained that his school of 1,600 students had five guidance counselors on staff daily with an additional school psychologist that worked with his school on a scheduled rotation of weekly visits. Mark also explained how his school had increased efforts to connect students in need with health care workers at school based on recommendations from teachers. Langman (2009) wrote, "a student threatening mass-murder is a student in crisis" (p. 399). Mental health care is crucial for schools in the prevention of active

shooter attacks. A 2019 NCES report showed that there are fewer than 390 school counselors per student in US schools even though the maximum recommended ratio by the American School Counseling Association is 250. Reducing the ratio of mental health care workers in schools and improving training to recognize early warning signs and mental health needs for everyone in the school community could be valuable, not only as a means of preventing active shooter attacks, but also as a means to provide the type of care all students need (Eklund, Meyer, Way, & Mclean, 2017; Petrovich, 2016).

Threat Assessment

The Threat Assessment model was developed by the United States Secret Service and the United States Department of Education in 2002 and has expanded since its inception (Chapman, 2018; Modzeleski & Randazzo, 2018; Mohandie, 2014; Vossekuil et al., 2004). The model involves a 7-step process and is mandatory for Florida Schools by Florida Statute 1006.07(7). Cornell and Sheras (2006) describe seven components of the threat assessment model for use in schools.

1. Evaluate the threat.
2. Decide whether the threat is transient or substantive.
3. Respond to transient threat.
4. Decide whether substantive threat is serious or very serious.
5. Respond to serious substantive threat.
6. Conduct safety evaluation.
7. Implement a written safety plan.

The threat assessment model depends on the school community's ability to recognize warning

signs and behavioral factors that might lead to violence (Mohandie, 2014). This model also requires a willingness to report these factors along with a strategic method for reporting these factors to the proper members of a threat assessment team (Modzeleski, & Randazzo, 2018). Anonymous reporting systems, helplines, and a climate of connectedness to the school community are integral components of success for the threat assessment model to work properly in schools (DeVos et al., 2018; Mohandie, 2014). The AAPRS responses revealed that 72% of the participants worked in schools that employed a crisis team. In his interview, Jack, referred to an opportunity for teachers to be involved in the crisis team at his school. Since no questions in the AAPRS or the interviews directly referenced the threat assessment model, more research is needed in this area to see how schools are implementing this program. In studies regarding averted school shootings, components of the threat assessment model were integral in preventing school attacks that were in their late planning stages (Agnich, 2015; Page, 2017).

Review and Update Crisis Plans

In the first section of the AAPRS, Q1-7 asked participants whether they agreed or disagreed with the following statement, "I believe it is important to routinely update active shooter incident procedures." This statement received the highest mean score of any statement in the AAPRS ($M = 3.67$) and 87.9% of the participants selected agree or strongly agree. Consistently updating procedures will help schools ensure that the procedures and systems in place are adapting to technological and research-based principles as they apply to this important issue of school safety. Laws and policy continue to shift, and it is important for school leaders to ensure that the policies in their schools adhere to state and local mandates for safety

requirements (Cornell, 2015; Rajan & Branas, 2018).

A controversial component of prevention relates to access to firearms. In the majority of active shooter attacks, the attackers obtained their weapons legally either through purchase or from friends and family members (Lankford et al., 2019). Increased gun control measures have been offered as a possible solution, but research also shows that the vast majority of gun owners do not commit mass murder (Böckler et al., 2013; Silver, Simons, & Craun, 2018). Access to guns and weapons was one of the five, necessary but not sufficient, elements of a rampage shooting presented by Newman (2004). One possible avenue for prevention, as it relates to acquisition of weapons, would be to educate parents on the importance of gun safety and promote the idea of situational awareness to all school community stakeholders (Duplechain & Morris, 2014; Redlener, 2006).

Protect

When asked if they were confident in their ability to protect students, 31.4% of the participants in this study disagreed. Transferring these results to a hypothetical school setting with 100 teachers suggests that 31 teachers would not feel confident protecting students during an attack. The Florida Department of Education (Fldoe.org) states that the maximum number of students in a class in pre-kindergarten through grade 3 is 18, in grades 4 through 8 it is 22, and in grades 9 through 12 it is 25. This means that more than 550 students could be sitting in classes where the teacher does not feel confident in their ability to protect them in the case of an active shooter attack. During her interview, Shannon said,

"I don't feel adequate to protect my kids. I mean…the mother in me would take over, but

to try to prevent a shooting, to try to prevent any more of the shooting, or to prevent any intruder. I don't feel like I would really know what to do."

Seven out of the nine interview participants stated that they were either not confident, or confident with reservations. More needs to be done to improve teacher confidence in their ability to respond during an active shooter crisis to protect students.

Figure 2 offers protection as the crisis management component to mitigate the second stage in an active shooter crisis. In Stage 2, a crisis triggering event includes the start of an attack when the assailant arrives on the school campus with a plan, with the intent to harm others, and with the weapons needed to inflict harm. Findings from this study and others demonstrate that knowledge and confidence in the crisis planning process, combined with frequent practice, can influence teacher perceptions of their ability to respond to an active assailant attack (Brown, 2008, Graveline, 2003; Rider, 2016; Sussman, Jin, & Mohanty, 2016). Confidence in one's ability to perform increases self-efficacy, which can improve performance under stressful conditions (Bandura, 2006; Embry-Martin, 2017; Tschannen-Moran & Hoy, 1998). Protective factors supported by this study as plausible methods to limit the damage inflicted on students and staff during an active assailant rampage attack include the following:

- Access to crisis management plans
- Confidence in crisis management plans
- physical security systems
- security personnel on campus
- alert system connection with law enforcement and first responders (Brown, 2008; DeVos et al., 2018; Jonson, 2017; Jonson et al., 2018; Kubena & Watts, 2019; Moraiba, 2018).

Crisis Management Plan Access and Confidence

Crises are defined by a need for quick and informed decision-making under great stress (Irvine, 1997; Mitroff et al., 2004). Results from this study demonstrated that the majority of participants knew their school had a strategic plan, they also reported confidence in the plans. There was a notable percentage (25%) of participants who were unsure of the effectiveness of their school's plan. There was also a notable percentage of participants (40%) who were unsure whether they had access to their school's plan if needed. These are concerning figures that can easily be reduced by providing access to plans for teachers and staff. There is concern over how these plans might be used if they were to be accessed by individuals planning an attack. Care must be taken to ensure that crisis plans are guarded against access by those who wish to do harm but easily accessed by teachers and staff who might want to reference the plans, or even make suggested improvements to those plans. This is a simple factor that could help improve teacher confidence in their ability to respond to an active shooter crisis.

Brown (2008) and Rider (2017) focused a portion of their study on perceptions teachers have of school leadership in terms of the school's plan and procedures for active shooter response. Teachers who had more confidence in their school administrators and teachers who had more confidence in their school's plan, also had more confidence in their own ability to respond to an active shooter (Brown, 2008; Rider, 2017). Confidence in leadership, access to crisis management plans, confidence in crisis management plans, and the ability to participate in the planning process are factors that improve the perceptions teachers have of their ability to respond to an active shooter crisis (Brown, 2008; Embry-Martin, 2017; Graveline, 2003; Rider, 2016).

Physical Security Systems

Protection is provided in the form of physical security systems such as gates, school access badges, limited entry points, and locked classroom doors (Böckler et al., 2013). Physical security systems also incorporate the design and layout of school campuses as well as protective features that can be installed such as bulletproof windows, metal detectors, and security cameras (Addington, 2009; Harding et al., 2002; O'Neill et al., 2016). During the interviews, all nine participants reported that their school had a gate or fence, and four of the participants stated that their schools updated and installed new gates within the last five years at their school. Six of the participants worked in public schools, and each of those teachers stated that their classroom doors were locked during the school day. Two interview participants described phone applications used to alert the school and local emergency personnel to an emergency. When asked what made them feel safe at school, most of the participants described physical security systems such as gates, security cameras, as well as access and identification badges for staff and visitors.

When asked what made them feel unsafe, these same physical security elements were discussed. School campus layout was an issue for Alice, Bettie, Bobby, Jack, and Shannon. Alice voiced concern about entry and exit points, stating that the building where her classroom was located only had one entry point and one exit point, which would make it difficult to exit if an intruder were to enter the building. Bettie had a similar fear since her classroom was on the second floor. Bobby was worried about his classroom's location near a gate entry point that was not always monitored. He also stated that students were able to open the gates for other students. Jack and Bettie voiced concern about windows and the possibility that an attacker could use the

windows into the room as an access point to inflict harm. Jack stated that when he worked in an embassy school in China, that the United States government installed bulletproof protective coating on the exterior windows of the school and classroom. He said if schools were able to implement this practice, it would make him feel safer. Jack, and other participants, also stated that they did not want their school to look like a windowless prison either.

A balance of physical security components that complement the aesthetics of a school were important features in the interview discussions. Hirschfield (2008) referred to the increased implementation of physical security features and security personnel as the criminalization of schools. This construct also pointed to the disciplinary practices, such as zero-tolerance, that increasingly led to controversy over how schools handle the balance between education and protection (Hirschfield, & Celinska, 2011). Zero-tolerance discipline policies sought to increase safety by allowing schools to expel students for violent acts, threats, or bringing weapons to school (Morton, 2013). State and national budgets for American schools that were historically focused on curriculum and education are now being stretched to incorporate safety features and security (Addington, 2007; Hirschfield, 2008; Madfis, 2016). A balance is needed considering the rarity of active assailant attacks, but safety is a true concern that impacts a school's ability to educate students (Blanchfield & Ladd, 2013). Creating safe schools that retain the aesthetics of a nurturing environment for students is a complex but critical endeavor.

Security Personnel on Campus

Security personnel on school campuses have been presented as a deterrent and as an on-site response to protect students (Glen, 2019). Addington (2007) and Madfis (2016) say security

is expensive and that it lacks empirical research to support its effectiveness in preventing a rampage attack and in limiting the loss of life caused during an attack. After the attack on Columbine high school in Colorado, several security measures were instituted in schools across the country such as metal detectors, security gates, security cameras, and security guards (Addington, 2007). Madfis (2016) pointed to a construct called moral panic as the cause of implementing these new security features even though none of them had significant research to substantiate their effectiveness. Zullig (2017) supports the use of security personnel and provides a model used in Arizona schools that demonstrates the value of security personnel on campus as a way to reduce all types of violence and crime in schools without criminalizing the school. This model calls for collaboration and connection with local law enforcement for training and selection of security individuals that best fit the needs of the school (Zullig et al., 2017). Zullig also uncovered research that shows how active and visible security on campus has reduced student fights, gun carrying, rape, and other violent crimes in schools (Jennings, Khey, Maskaly, & Donner, 2011; Theriot, 2009).

The AAPRS results demonstrated that schools are taking violent threats to campus seriously. More than 80% of the participants reported that their school had security personnel on campus during the school day and each of the nine interview participants stated that their school had security on campus during the school day. The interviews revealed some discrepancy in terminology for school security. Some schools had school resource officers (SRO), who were assigned to the school by local law enforcement agencies. They were actual police officers. Other schools, such as the high school where Connie worked, had additional security staff who were unarmed and whose role, as explained by Connie, consisted of monitoring the school and

alerting law enforcement if a danger presented itself. Mark used the term guardian in his description of security personnel and stated that his school had two SROs and one guardian. He also stated that both were armed with guns. The private school teachers stated that their security staff was made up of retired law enforcement hired either through an external security company or directly through school administration.

More research is needed to determine the best way to utilize security on campus. Connie expressed that the safety training in the schools should be directed by law enforcement and by the security staff at the school. Bettie and Shannon agreed, and even suggested more individualized training where school security works with teachers in their classrooms to brainstorm the best actions to take during a crisis. Resources officers in schools who educate students regarding the law, show an active role by building relationships with students, work with schools to train staff, assist in the development of crisis management protocol is supported by the limited research in this highly important issue of school safety (Addingtson, 2009: Glen, 2019; Vossekuil et al., 2004; Zullig et al., 2017). Politicians have supported the practice of arming teachers and school staff with weapons and training to provide assistance during the response to an active assailant crisis (DeVos et al., 2018; Lott, 2019; Moraiba, 2018; Rajan & Branas, 2018). The policy of arming teachers is a debated topic where proponents point to it as an effective deterrent for school attacks, while opponents point to financing and possible liability as reasons for leaving security in the hands of security personnel (Lott, 2019; Moraiba, 2018; Rajan & Brana, 2018). Securing schools is a necessary and complicated endeavor that would benefit from more research to better identify the roles that security personnel should play in order to provide the safest environment for students and staff.

Alert System Connection with Local Law Enforcement and First Responders

Most active assailant attacks end before first responders and law enforcement arrive (Jagodzinski, 2019). The sooner these local agencies are alerted to a crisis, the faster they will be able to report to the location and protect students and staff. Reducing loss of life is a priority so, having first responders and police on the scene as soon as possible through alert systems that notify them immediately can help save lives (Kubena & Watts, 2019). Two interview participants in this study described a cellphone application used to initiate the lockdown protocol. This application was connected to local first responding agencies to reduce the time it takes to contact these groups in a crisis. During a crisis, it may not be possible for individuals within the school to find a phone and call the authorities. Developing methods to link the school's alarm systems directly to local law enforcement and first responders is a useful tool for protecting schools against an active shooter crisis (Jacob, 2018).

Respond

Response constitutes actions and steps taken during a crisis event to limit the possible damage caused to life, property, and reputation (Gilpin & Murphy, 2008). This study focused on how planning, drills, and demographics impact teacher perceptions of their ability to respond to an attack. Although none of the participants experienced an active shooter attack, findings from this study provided valuable information for understanding crisis response to a rampage shooting. Response consists of protocols that bridge crisis stages 3 and 4. In an active shooter crisis, stage 3 would include the events during the attack until the attack stops. Stage 4 consists of events that happen in the immediate aftermath of an attack, and the initial reactions from the

school community, stakeholders, and anyone who learns about the attack. As news about the event spreads, difficult questions are posed, and initial perceptions of the crisis are developed (Gilpin & Murphy, 2008).

This study focused on teacher perceptions of how they and their schools might respond to an active assailant. It is suggested by research in the concept of self-efficacy, that an individual's perceptions of their ability often correspond to their reactions, especially in instances where training and procedures are in place for the specified action (Tschannen-Moran et al., 1998). Gilpin and Murphy (2008) outlined the important practices of crisis management plans by stating, "strategies and practices for crisis management consist of ongoing communication with stakeholders, using communities of practice, environmental scanning, scenario planning focused on processes, developing teamwork skills through simulations, and ongoing practice and drills" (p. 137). The results of this study, combined with the available literature, were used to compile the following mitigating factors as they relate to active shooter response:

- training for staff and students
- training with local law enforcement and first responders
- drills and practice
- media liaison and legal team designation (Brown, 2008; DeVos et al., 2018; Jonson, 2017; Jonson et al., 2018; Kubena & Watts, 2019; Newman et al., 2004).

Training for Staff and Students

When asked if their school provided instruction sessions for staff, 78% of the participants in this study agreed. However, when asked if their school provided classroom instruction for

students about live active shooter incident preparedness, 48% agreed and 44% disagreed. In an interview, Connie, a behavior specialist at a high school with 3,500 students, stated, "personally, I think we need to increase the amount of staff that are prepared to deal with a crisis, and I don't think that teachers have enough training." When describing how students were trained to respond to an active shooter event, each of the interview participants said that the students were told the procedures by one of their teachers at the start of the year, or just prior to the first lockdown drill, and that no materials were provided for this training. Interview results and responses to the AAPRS revealed a need for more effective training for teachers and students. Divergent methods and materials were used to train students and staff as described in the nine interviews. There were differences in who conducted the training, in materials used for the training sessions, and in the expectations for students and teachers. It has already been established that crisis management plans and protocols should be individualized to the needs of the school (DeVos et al., 2018; Duplechain & Morris, 2015; Madfis, 2016). Having strategic training methods, research-based guidance, and teaching materials provided by districts, school leadership, and security personnel could help ensure that teachers and students are more confident regarding what is expected of them during an active shooter crisis (Dumitriu, 2013; MacNeil & Topping, 2007).

Interview participants suggested individualized training that accounts for specific features of individual classrooms based on the configuration and layout of the school as a way to improve teacher confidence in their ability to respond to an active shooter incident. Teacher training conducted by security personnel in conjunction with local law enforcement and first responders were additional suggestions from interview participants to improve teacher confidence in their ability to respond. Another training method, described by Connie and Bettie, was to have

security personnel analyze school layout and individual classrooms with teachers and school leaders to develop a tailored approach to safety, individualized to fit the needs of the school. Personalized training with specific feedback and directions on what to do if the attacker enters the classroom along with first aid training and medical supplies were other safety elements presented in the interviews. Teachers and students need to know their options and have a plan that is more specific to their school, their classroom, and their needs in order to feel safer and more prepared for an active shooter crisis.

The interviews in this study demonstrated a range in training practices for schools. In one school an administrator conducted the training. In other schools, security staff conducted the training. Other schools had training conducted by local law enforcement. One school received training from a security consultant that worked with multiple schools in the state of Florida. So much variety in who delivers the training for staff can be problematic when the expectation to keep students safe and respond effectively to an active shooter is such an important factor in school safety. The one consistent factor in the description of the training practices for all schools was the use of whole group instruction in a large faculty meeting at the start of each year. Bobby described the training simply as, “sit and get”.

In her interview, Alice’s main concern was that she had no training or discussion on what to do if an attacker infiltrated her classroom. She felt that some type of training in this area was needed to help her feel more secure. Bettie and Shannon described a training session at their school where teachers physically practiced methods of unarming an assailant. Bettie felt that this type of training was helpful and reassuring, but Shannon would have preferred this type of training to take place in a small group setting, as opposed to a full faculty seminar.

Active shooter attacks are rare and deadly incidents (Bushman et al., 2016; Jagodzinski, 2019). The primary focus of school is to educate students (Addington, 2009). Budgets for education are already stretched to cover staff salaries, curriculum materials, and all the necessities of providing a quality education (Duplechain & Morris; 2014; Madfis, 2016). Security and safety have increasingly become a more vital and demanding part of running a school, and adding more safety training and safety features cuts into the time teachers have to teach and it cuts into the budget schools are allotted to fund education (Addington, 2009). There must be a way to restructure the safety training and protocols currently provided for staff and students in a way that does not break the bank or infringe upon teaching time.

Training with Local Law Enforcement and First Responders

Training that incorporates local law enforcement and first responders was recommended by the Federal Commission on School Safety led by Secretary of Education, Betsy DeVos (2018). In the AAPRS Q1-2, which states "My school works cooperatively with local emergency personnel in developing a crisis plan for active shooter incidents," nearly 80% of participants agreed or strongly agreed, and the mean score was $M = 3.47$. This is a positive finding that demonstrates how schools are working with local agencies to improve the crisis response effort to keep students safe. The current study was not designed to explore this topic. Research that defines the roles of local emergency response and local police agencies and outlines how these intra-organizational training programs should function, would be beneficial to schools.

Drills and Practice

This study found a significant correlation between the confidence and knowledge a teacher has regarding the drills and procedures in their school, and teacher perceptions of their ability to respond during an active shooter attack. Participant responses to AAPRS subsection Q2 regarding drills and procedures, combined with interview responses, demonstrate that participants in this study were confident in the ability of their school to provide protection in the event of an active shooter. The majority of participants were knowledgeable and confident regarding the procedures and drills according to the AAPRS responses, but the interview discussions revealed underlying issues with protocol for drills that, if improved upon, could help teachers feel more confident in their ability to protect students.

When asked in the AAPRS if their schools had drills and practice for active shooter incidents, over 80% agreed. However, when asked if the drills were effective, only 60% agreed. Twenty percent of the participants stated that they did not know if the drills were effective. This is a logical response in schools where drills have not been tested by an actual crisis event. Rampage shootings are rare, so the majority of schools have never tested the effectiveness of their drills. However, 20% of the participants disagreed when asked if their drills were effective, showing a lack of confidence in the drills and practice measures. Every interview participant was able to describe in detail the procedures of a lockdown, or code-red, drill at their school. The standard procedure of turning off the lights, covering windows, and finding a safe area in the classroom to sit and silently wait for an announcement to signify the end of the drill was described by each of the nine participants. This protocol represents what has been termed the traditional lockdown procedure. The goal is to hide and hope that the assailant is unable to enter

in order to inflict harm. A few schools described a multi-response option known as run, hide, fight. One interview participant, Bobby, described the ALICE alert system, which is also a type of multi-option response. The multi-options response options contain similar characteristics such as: (a) hiding according to the traditional lockdown, (b) placing barricades such as furniture items in front of the door to prevent entry, (c) evacuating the building if it is deemed safe to do so based on the location of the assailant, (d) using whatever weapons might be available to fight off an assailant as a final option if cornered and under attack (Frazzano & Snyder, 2014; Jonson, 2017; Jonson et al., 2018, Perkins, 2018; Trump, 2019).

Trump (2019) supports the traditional lockdown approach and expressed fear that the multi-option response would not work in some school settings especially with younger students. Multi-option responses require more training and communication and could potentially increase liability for teachers and schools by placing students in dangerous situations (Trump, 2019; Perkins, 2018). Jonson (2017) supports the multi-option response, especially for secondary schools and post-secondary schools where the students are older and better able to defend themselves if under attack. Jonson (2017) pointed to examples of how teachers used multi-option response methods and were able to save lives during the Virginia Tech attack in April of 2007 where 32 people were killed and 17 were wounded. Students who hid in a corner and attempted to run instead of defending themselves were killed, while students and teachers who barricaded doors and ran toward the attacker as a collective group were able to fend off the attacker as opposed to being shot (Jonson, 2017; Jonson et al., 2018).

There was a discrepancy in the interview discussion on whether drills should be conducted as live drills that simulate an actual attack without warning or notification, versus

scheduled practice drills with pre-notification for staff and students. Eight of the interview participants worked at schools that use the pre-notification method but suggested that it might make them feel more confident if drills were conducted in a more realistic way. Bobby described a change from this method of drill in his school. Initially drills were conducted with no prior notice to families and students, but this strategy changed when during a drill, students used their cellphones to contact parents and caused a panic at the school. After that incident, Bobby's school changed plans to make sure that everyone in the school community knew when drills would take pace, and students were instructed not to use cellphones unless give permission from a teacher. Mark, whose school did conduct drills without prior notification, stated that this caused unnecessary fear for students and staff. Mark, who was a combat veteran, said that conducting drills in this way could cause mental harm for students and staff who have experienced trauma and violence under stressful situations in the past.

One of Mari's most notable fears was her lack of preparation for what to do if an attack were to happen during lunch or other activities and events when students were not in their regular classrooms. A similar sentiment was shared by Connie who voiced concern for students with severe disabilities in self-contained classes that she felt were extremely vulnerable if an actual attack were to take place because they posed consistent challenges during drills. One major recent change in drill procedures, described by Jack, Bobby, and Connie related to fire drills. Given that incidents where active assailant attackers used the fire alarm to lure people out of the school building for an attack, some schools instituted a code or an announcement made prior to evacuation for a fire drill to ensure that the fire drill or alarm is not being used by an attacker as a way to inflict more harm.

Connie described the development and implementation of Crisis Response Teams (CRT) at a school in which she had previously worked. CRT promotes the assignment of specific roles during a crisis for administrators, teachers, staff, and security personnel that are part of the drills and procedures (Brock et al, 2001). Informing teachers of each assigned role and involving them in the discussion was something that Connie felt would improve perceptions of everyone's ability to respond to a crisis attack. Another feature of the CRT model involves the implementation of table-top discussions among the CRT members to develop models and plans for what to do during a multitude of scenarios when an attack might take place besides when students are in their regular classes (Brock et al., 2001). In an examination of the CRT model, it was found that designated roles and having a team in place, promoted more effective planning and more purposeful drills that helped teachers and students better understand their roles during a crisis (Eklund et al., 2018).

Protecting students during a crisis involves creating a school environment where teachers, parents, staff, and students feel safe and prepared to react in the event of a crisis (Borum et al., 2009; Brown, 2008; Cowan et al., 2013; Jagodzinski, 2019; Wright, 2015). The findings from this study have uncovered helpful information regarding teacher perceptions of the drills and procedures in their schools to protect students. Developing drill practices that involve discussions on a variety of situations when an attack might take place, having an assigned team with identified roles in the response to an active assailant attack, and adapting drills to fit the needs of each specific school and each specific teacher are recommendations based on the literature and the findings from this study.

Media Liaison and Legal Team

In the immediate aftermath of a crisis, which is part of stage 4 of the crisis model in figure 2, questions of blame and liability are raised (Shrivastava et al., 2013). As part of the crisis response team, schools should identify a single person or small group to be the point of contact for the media (Brock et al., 2001). Bettie, in her interview, explained a training experience conducted by a school security consultant where the faculty at her school were encouraged to identify a single person or a small group of people to be the only contact for the media. The consultant also insisted that everyone on staff be informed of who the media liaisons were so that all interactions with the media would funnel to the liaisons and no one else would speak to media or answer any questions. This practice, according to the CRT model, allows the school to control the message about the attack in a way that calms parents, reduces community fears, and answers stakeholder questions by providing detailed descriptions of events in a way that reassures the community (Eklund et al., 2018).

Recover

The final phase of crisis management is recovery (Dumitriu, 2013). This step involves a return to a homeostatic, normal state after a crisis has occurred (Mitroff, et al., 2004). The recovery elements in an active shooter attack consist of damage control, mental health counseling, consistent open communication, and efforts to assist the school community in an effort to return to a new normal (Boin et al., 2016). Recovery components are necessary mitigating factors in stage 4 and stage 5 of a crisis. Stage 4 is defined by Shrivastava (2013) as the stage in which questions of blame and liability are raised, and stage 5 consists of achieving a

new normal after an attack. Recovery efforts must begin as soon as the attack ends (Beland & Kim, 2016). None of the participants in this study were involved in the aftermath and recovery from an active attack so, the findings from this study are limited in their application to the recovery component of active shooter attacks. The limited findings from this study and information from the literature on this topic were used to compile the following components to help schools and their communities recover from a deadly school attack:

- review and update crisis management plans
- mental health care
- consistent open communication
- establish new routines and supplement with familiar routines (Brown, 2008; Cowan & Rossen. 2013; DeVos et al., 2018; Graveline, 2003; Eklund, Meyer, Way, & Mclean, 2017; Newman et al., 2004; Rasberry et al., 2020; Schonfeld & Demaria, 2020; Siemaszko, 2019).

The focus of this study was teacher perceptions of their ability to respond to an active shooter scenario. The recovery component was not explored in great depth but would be a valuable exploration for future research. The goal is to prevent and limit the damage from active shooter attacks in the hopes that this final stage in the process becomes unnecessary. However, having a plan in place for recovery may help teachers feel more confident in their ability to respond in accordance with the premises of self-efficacy theory (Bandura, 1993). Recovery from any devastating crisis is difficult. In the aftermath of an active shooter crisis, students may experience Post Traumatic Stress Disorder (PTSD), fear, severe depression, and other psychological reactions that lead to absenteeism, poor performance in school, suicidal thoughts,

and feelings of hopelessness (Rasberry, Sheremenko, Lesesne, Rose, Adkins, Barrios, Holland, Sims, O'Connor, Grasso, James, & Simon, 2020; Schonfeld, & Demaria, 2020).

Review and Update Crisis Plans

The aftermath of a crisis is a difficult and challenging time for the entire school community (Cowan & Rossen, 2013). An integral part of the healing should include the evaluation of the crisis management plan (Cowan et al., 2013; Department of Education, 2004). When asked if crisis management plans for active shooter incidents should be routinely evaluated and updated, participants agreed overwhelmingly ($M = 3.67$). This was the highest mean score for any question in the entire survey. After a crisis, it is important to evaluate the protocols and plan in order to make needed adjustments for future crisis events (Irvine, 1997). When asked what he would recommend in terms of training and planning process to improve his and his school's ability to respond to an active shooter, Mark, a high school teacher and Army veteran, recommended "ongoing, open dialogue of revising and updating the lockdown procedures." Notable result from the AAPRS were found in response to questions regarding the effectiveness of plans, training, and drills. Q1-5 asked participants if the planning and procedures at their school were effective. Sixteen percent disagreed, and 15.5% saith they did not know. Q2-4 asked if the instruction for students was effective; 31% disagreed and 21% said they did not know. Q2-7 asked if the drills were effective and 20% reported that they did not know, while 20% disagreed. The aftermath of an active shooter crisis would offer the optimal gauge of effectiveness for these elements of the crisis management plan. After the attack ends, a full-scale evaluation of the crisis response is needed (Mitroff et al., 2004).

Mental Health Care

In the aftermath of an active shooter attack school attendance declines, test scores in math and reading decrease, feelings of depression increase, and incidents of severe stress such as Post Traumatic Stress Disorder (PTSD) can plague students and staff (Beland & Kin, 2016; Rasberry et al., 2020). Cowan and Rossen (2013) stated, "Indeed, the mental health implications of crisis exposure have emerged as a critical and challenging facet of school safety and crisis response, expanding our focus to encompass both psychological and physical safety, as well as prevention and recovery" (p. 9). On Valentine's Day in 2018, 17 people were killed at Marjory Stoneman Douglas High School in Parkland, Florida and within a year of the attack, two students who survived the shooting committed suicide (Keller, 2019). Similar circumstances of suicide and depression were document in news reports following the 1999 attack at Columbine High School and the 2012 attack at Sandy Hook Elementary School (Kellar, 2019). Kai Koerber, a survivor of the Parkland shooting was so impacted by the event at his school, that he partnered with dignitaries, authors, and graduates from Berkeley University to create Global Dignity, a curriculum platform with lessons that teach mental health practices to students (Brice, 2019). Mental health care cannot be relegated only to crisis management preventative measures for active shooter attacks, it must also be a major component of strategic plans for recovery.

Consistent Open Communication

Communication to families, faculty, and the community are vital in a crisis (Dumitriu, 2013; MacNeil & Topping, 2007). Ensuring that the right message is being portrayed can be difficult in crisis situations without a strategic plan in place prior to a crisis that identifies a

media liaison for the school and directs all media conversations to that individual or group (Brock et al., 2001; Pearson & Claire, 1998). Schools must have strategic plans regarding communication to parents and stakeholders as a necessary function of operation (Lightfoot, 2004). This connection builds trust and is essential in times of crisis (Hoover-Dempsey & Walker, 2002). Victims of crisis attacks respond in a multitude of ways, and schools that work with the victims and families through constant, consistent, and open communication can help ease fears and mitigate elements of blame and liability (Newgass & Schonfeld, 2000). The current study did not involve communication methods with families, but future studies that focus on the recovery component of active shooter attacks would benefit from an evaluation of communication methods that might best fit the needs of families and schools during and after a crisis.

Establish a New Normal

Recognition, acceptance, and steps to move forward are complex in the aftermath of a crisis (Keller, 2019). The sentiments of empathy and authentic caring cannot be methodically placed into crisis management plans. It is these skills, however that are needed in the aftermath of a tragic crisis such as an active shooter attack (Beland & Kim, 2016). Schonfeld and Demaria (2020) contend that children at different age levels need different types of care in the aftermath of traumatic situations. They also discuss differences between active and passive coping strategies that must be applied on an individual level in response to the reactions of students and staff (Schonfeld & Demaria, 2020). It is recommended that schools rely on the help of experts such as pediatricians and mental health specialists when constructing plans for memorials and

commemorative ceremonies of the traumatic attack (Haravuori, Suomalainen, & Marttunen, 2016). The goal is to help students cope, avoid more trauma as a result of crisis related depression, and help the school community develop a strategic plan for returning to a sense of homeostasis and normalcy in the aftermath of an active shooter attack (Dumitriu, 2013; Schonfeld & Demaria, 2020). Although these types of attacks are rare, developing crisis management plans that contain strategic components focused on long-term recovery can help school leaders, teachers, and students be better prepared for a crisis.

Recommendations for Future Research

Since the target population and sample size were small, it is recommended to repeat this mixed methods study with a larger sample of teachers from multiple states. School safety protocol is both a function of state funding and planning, as well as a function of district interpretation of laws (Jagodzinski, 2019). Expanding the study to multiple states would provide greater generalizability of the findings. Utilizing the mixed methods, though it was time consuming, helped to clarify some of the more ambiguous data from the survey. Clarification through the interviews helped provide specific descriptions of factors that made teachers feel more prepared or less prepared. Including more interviews with other school staff besides teachers would help illuminate more detail regarding the planning phases of school crisis management protocol. A more detailed look at the relationship between school climate and safety in a research study that involves students, teachers, and administrators is also recommended. A study of this nature could help identify climate characteristics that help the entire school community identify and better understand their role in school safety. As in many

research studies, this study raised several questions that intrigued the researcher but were beyond the scope of time and resources allotted for this project. The following topics represent important items that would be useful and informative for future studies.

1. An in-depth analysis of teachers who survived an active shooter crisis scenario to analyze how their perceptions prior to the event relate to their experiences and reactions during the attack.
2. Expanding the sample of the current study to include multiple states and a larger sample size.
3. An analysis of various factors intended to prevent mass shooting attacks such as school climate, mental health care, and methods of identification for warning signals that an attack may take place.
4. A meta-analysis of school and district crisis management plans across several states to identify a more unified theory regarding what constitutes effective planning and protocol for crisis prevention and response.
5. An analysis of the recovery component from schools that have experienced attacks in an effort to identify best practices for implementing proactive strategies for recovery in the aftermath of a crisis.
6. A study comparing perceptions among administrators, teachers, and staff regarding the drills and practice protocols of schools that utilize multi-response options vs the traditional lockdown approach to an active shooter crisis.

Conclusions

This mixed methods, explanatory study was developed with the hope that the findings might lead to policy that can help parents, teachers, and students feel safer in schools. Children cannot learn as well in an environment plagued by fear, teachers cannot teach as well in an environment plagued by fear, and parents cannot feel safe if the teachers do not feel that they are adequately prepared to protect students in the event of an active shooter crisis attack (Blanchfield & Ladd, 2013). A balance between physical security systems, security personnel, and the concept of schools as facilities for student learning is needed considering the rarity of active assailant attacks, but safety is a true concern that impacts a school's ability to educate students (Harding et al., 2002). This concept applies to budgeting allocations as well as community perceptions of schools. Should a school look and operate like a warm and comfortable place for student learning and growth, or should it look like a heavily secured military bunker prepared for an attack that is statistically unlikely to happen? There must be a functional balance that provides the safety and security needed as well as the educational environment most conducive to student learning. Preparation is needed even if there are questions regarding the reality of whether the fears are accurate, or if they are enhanced in the aftermath of school attacks due to the media's interpretation and portrayal (Madfis, 2016).

This study found that the main factors that cannot fully be controlled or altered such as gender, years of teaching experience, school type, and school grade configuration, have little influence over a teacher's perceptions of their ability to respond to an active shooter. The factors that do show a correlational relationship to feelings of preparedness are planning and procedures, drills, training, and practice for faculty, staff, and students. These are elements that can be

controlled and continually improved to promote safety in schools. A complete and purposeful crisis management plan should work to prevent an attack, protect students from an attack, describe the protocols for how best to respond to an attack, and contain the necessary strategic interventions for helping students, staff, and communities recover from a devastating active assailant attack.

APPENDIX A: IRB APPROVAL LETTER

UNIVERSITY OF CENTRAL FLORIDA

Institutional Review Board
FWA00000351
IRB00001138
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

EXEMPTION DETERMINATION

September 23, 2019

Dear John Courson:

On 9/23/2019, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study, Category 2
Title:	ACTIVE ASSAILANT PREVENTION AND RESPONSE: AN ANALYSIS OF TEACHER PERCEPTIONS
Investigator:	John Courson
IRB ID:	STUDY00000915
Funding:	None
Grant ID:	None

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Racine Jacques, Ph.D.
Designated Reviewer

APPENDIX B: SURVEY INSTRUMENT (AAPRS)

- ○ Yes, I agree to participate (1)
- ○ No, I decline to participate (2)

Q15 I have never taught before?

- ○ True (1)
- ○ False (2)

Q1 Indicate the degree to which you agree or disagree with the statements below about active

shooter planning protocol at your school.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Don't know (0)
1. My school has a crisis plan addressing procedures for handling active shooter incidents. (1)	○	○	○	○	○
2. My school works cooperatively with local emergency personnel in developing a crisis plan for active shooter incidents. (2)	○	○	○	○	○
3. My school has a crisis team in place. (3)	○	○	○	○	○
4. I have a copy of my school's active shooter response procedures. (4)	○	○	○	○	○
5. My school's planning procedures for active shooter incidents are effective. (5)	○	○	○	○	○
6. I know where to access information about my school's official procedures in case of an active shooter incident (6)	○	○	○	○	○
7. I believe it is important to routinely update active shooter incident procedures. (7)	○	○	○	○	○

Q2 Indicate the degree to which you agree or disagree with each statement below regarding

practice/drills for active shooter incidents at your school.

	Strongly Agree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Don't Know (5)
8. The possibility of a school shooting incident is taken seriously at my school. (1)	○	○	○	○	○
9. My school provides instruction sessions about live active shooter incident preparedness to staff. (2)	○	○	○	○	○
10. My school provides classroom instruction about live active shooter incident preparedness to students. (3)	○	○	○	○	○
11. The classroom instruction portion of our active shooter incident preparedness is effective. (4)	○	○	○	○	○
12. My school provides drills for staff in order to practice active shooter incident preparedness. (5)	○	○	○	○	○
13. My school provides drills for students in order to practice active shooter incident preparedness. (6)	○	○	○	○	○
14. My school's active shooter incident drills are effective. (7)	○	○	○	○	○

Q3 Indicate the degree to which you agree or disagree with each statement below regarding your

preparedness to respond to an active shooter incident at your school.

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Don't Know (0)
15. I am confident in my ability to respond appropriately in the event of an active shooter incident in my school. (1)	○	○	○	○	○
16. I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident in my school (2)	○	○	○	○	○
17. I am confident that I can control my classroom in the event of an active shooter incident. (4)	○	○	○	○	○
18. I am confident that I can protect my students in the event of an active shooter incident. (5)	○	○	○	○	○

Q8 How many times do you practice active shooter incident drills in your school in a school year?

- ○ 0 (1)
- ○ 1 - 2 (2)
- ○ 3 or more (3)

Q9 Do you have a school resource officer/security guard on campus during the school day?

- ○ Yes (1)
- ○ No (2)

Q4 How long have you been teaching?

- 1 - 3 years (1)
- 4 - 6 (2)
- 7 - 9 (3)
- 10+ (4)

Q5 Which type of school do you teach in?

- Public School (1)
- Private School (2)
- Charter School (3)

Q6 Which of the following best describes your school?

- Elementary School (1)
- Middle School (2)
- High School (3)
- Kindergarten - Eighth Grade (K-8) (4)
- Other (5)

Q7 If you selected *other* above, please describe.

_____

Q10 Which best describes your gender

- Male (1)
- Female (2)
- Decline to answer (3)

Q12 Are you willing to participate in a short interview/focus group?

- ○ Yes (1)
- ○ No (2)

Q13 Thank you for agreeing to participate in a interview/focus group. Please provide your name and email address below.

- ○ Name (1) _____
- ○ Email Address (2) _____

APPENDIX C: PARTICIPANT RECRUITMENT LETTER

Hello Educator,

My name is John Courson. I am a doctoral candidate at the University of Central Florida in the Educational Leadership program. At the recommendation of committee member Dr. Gina Gresham, I am contacting professors of master's and doctoral level education courses to assist in the recruitment of teachers for participation in a study to analyze teacher perceptions of their ability to respond effectively to an active shooter.

The study is an explanatory mixed-methods model involving a survey which includes a request for voluntary participation in a follow-up interview. The survey will take about 10-minutes to complete and the interview will last approximately 15 to 20-minutes.

I am requesting permission to use approximately 10-minutes during one class session in the fall semester of 2019, or the spring semester of 2020, to recruit participants. Teachers seeking graduate-level degrees can provide valuable insights into the many factors that might help schools and teachers be better prepared if forced to respond to an active shooter.

This study will provide the following benefits to the field of education and school safety:

1. A better understanding of protocol in Central Florida schools regarding active shooter prevention and preparedness.
2. A better understanding of teacher perceptions regarding their ability to respond effectively to an active shooter incident.
3. A deeper understanding of factors that may impact the perceived self-efficacy of teachers to respond to an active shooter incident.
4. A valuable addition to a very limited amount of literature regarding teacher perceptions of self-efficacy regarding school safety issues.

A reply to this email confirming your agreement to help recruit participants through your current classes will be greatly appreciated. If you agree to assist, I will contact you to discuss how best to proceed. Below is an electronic link to the Qualtrics survey instrument, The Active Assailant Prevention and Response Survey (AAPRS), for distribution to your students either through the webcourse system or through your class email lists. Thank you for your time and consideration regarding this important matter of school safety.

Active Assailant Prevention and Response Survey

John Courson M.Ed.
Director of Student Life
Park Maitland School

Summary Recruitment Letter distributed by the graduate affairs program coordinator of a large university in the southeastern United States:

Hello Educators and Students,

My name is John Courson and I am a doctoral candidate at the University of Central Florida in the Educational Leadership program. The focus of my dissertation involves the important issue of school safety, particularly in reference to school shootings. I am seeking teachers as participants to complete the anonymous survey below. This study will provide valuable information about issues that impact teacher perceptions of their ability to respond to an active shooter incident. There is a request in the survey for a voluntary minute follow-up interview. The 12 questions in the interview provide a deeper understanding of teacher perceptions to supplement the data provided in the survey. Thank you for participating in this valuable study, not only to help increase school safety, but also to help a fellow student complete the difficult task of writing a dissertation.

Active Assailant Prevention and Response Survey

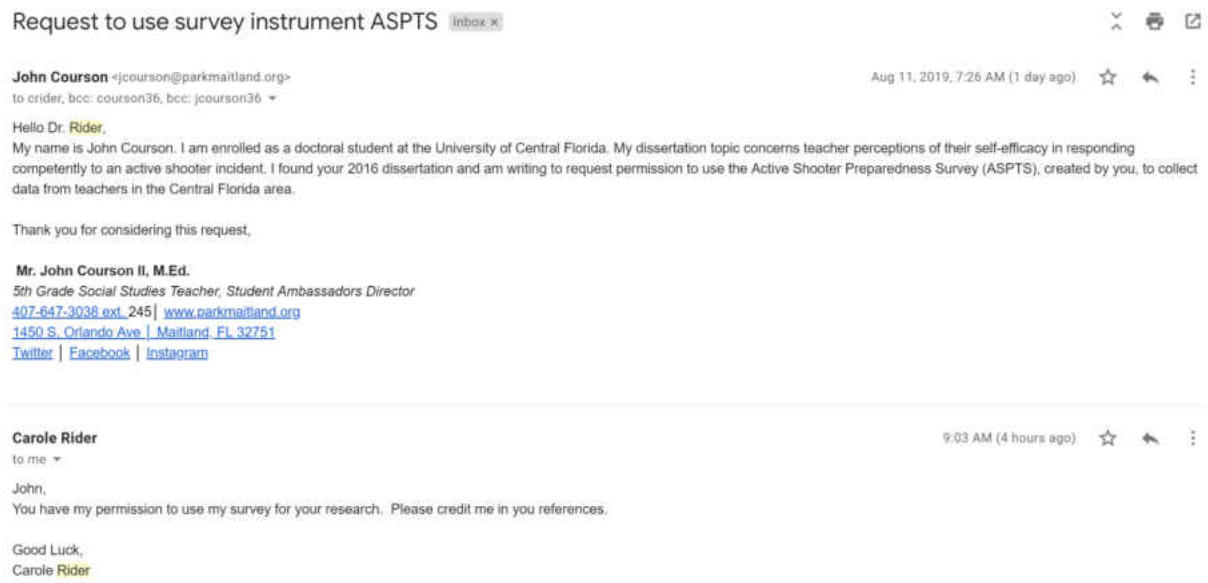
APPENDIX D: INTERVIEW QUESTIONS

Active Assailant Prevention and Response Interview Questions/guide

1. How many years teaching experience do you have? What grade and subject do you teach? What is your gender?
2. What is the grade-configuration of your school? How many students attend your school? Does your school have security personnel on campus during the school day? Is (are) the security personnel armed?
3. Describe how your school developed its planned response for active shooter scenarios? Were teachers involved in developing the crisis management plan? What are/were their roles?
4. What types of training have you received from your school or district to help you learn how to respond during an active shooter incident? Have there been changes in these plans since you have worked at your current school? How are students trained in the protocol?
5. Describe the protocol for your school's response to an active shooter incident. (Who activates the plan? What are your individual roles? How do you know an incident is over?)
6. Are lockdown drills conducted at your school? If so, how often? Describe the drills and how they are conducted?
7. What other measures are in place at your school to prevent or limit the damage that may be caused by an active shooter?
8. What are your thoughts and feelings regarding your school's current level of preparedness to respond to an active shooter incident?
9. How prepared do you feel personally to respond to an active shooter incident in your school?
10. Are there areas of additional training that you feel would be beneficial in helping you feel safer and better prepared?
11. What about your school makes you feel safe? What about your school makes you feel unsafe?
12. What would help you feel more confident in your ability to prevent and respond more effectively to an active shooter?

APPENDIX E: REQUEST AND CONSENT FOR USE OF SURVEY

Correspondence with Carole Frances Rider for Survey Instrument usage:



Request to use survey instrument ASPTS Inbox ×

John Courson <jcourson@parkmaitland.org> Aug 11, 2019, 7:26 AM (1 day ago)
to crider, bcc: courson36, bcc: jcourson36

Hello Dr. Rider,
My name is John Courson. I am enrolled as a doctoral student at the University of Central Florida. My dissertation topic concerns teacher perceptions of their self-efficacy in responding competently to an active shooter incident. I found your 2016 dissertation and am writing to request permission to use the Active Shooter Preparedness Survey (ASPTS), created by you, to collect data from teachers in the Central Florida area.

Thank you for considering this request,

Mr. John Courson II, M.Ed.
5th Grade Social Studies Teacher, Student Ambassadors Director
407-647-3038 ext. 245 | www.parkmaitland.org
1450 S. Orlando Ave. | Maitland, FL 32751
Twitter | Facebook | Instagram

Carole Rider 9:03 AM (4 hours ago)
to me

John,
You have my permission to use my survey for your research. Please credit me in you references.

Good Luck,
Carole Rider

APPENDIX F: INFORMED CONSENT LETTER

UNIVERSITY OF CENTRAL FLORIDA

EXPLANATION OF RESEARCH

Title of Project: Active Assailant Prevention and Response: An Analysis of Teacher Perceptions

Principal Investigator: John Courson II

Faculty Supervisor: Dr. Thomas Vitale

You are being invited to take part in a research study. Whether you take part is up to you.

Introduction

You are invited to participate in a study concerning teacher perceptions regarding planning and preparedness for active shooter scenarios in schools.

Participation

Participation in the study is voluntary and requires the completion of a survey instrument that will take approximately 10-minutes to complete. The survey is followed by a request for a voluntary, face-to-face interview. The interview contains 12 questions and will take 15/20 minutes to complete. These interviews will be set up according to your schedule and take place in a conference room at the University of Central Florida's education building. In order to participate, you must currently be employed as a teacher in a school that serves students ranging from pre-K through 12th grade.

Risks

The risks are minimal and may consist of some anxiety or fear in discussing active shooter scenarios in a school setting. Participants may also not feel comfortable expressing their personal perceptions regarding the planning and protocol at their school, or their confidence in their personal ability to respond in an active shooter scenario. You have the right to discontinue participation at any time. Your identity will be kept confidential and protected. Filling out the survey is anonymous, and the names of those who wish to participate in the interview will be protected and will not be used in the report.

Benefits

There are no immediate benefits provided to you as a participant, but the findings from the study seek to improve the safety of schools and may lead to improvements in planning and protocol for active shooter incidents.

Confidentiality

Filling out the survey is anonymous. For those who wish to take part in the interview, your identity and email address will be needed to set up the interview. This information will be removed from the survey results, used to contact you for the interview, and then deleted. The interview will be audio recorded using a digital recording device and then transcribed. If you do not wish to be recorded, then you will not be able to participate in the interview portion of the study, but you can still complete the survey. Once transcribed and checked for accuracy, the recording will be deleted and names in the transcript will be coded using a number system. Once each interviewee is matched with a number identification code, participant names will be deleted from the records. All transcripts, report components, and survey responses will be secured on the researcher's personal computer in an encrypted file, and password protected. All of the survey response data and interview transcript information will be kept for 5 years after the study and then deleted.

Voluntary Participation

Your participation in this study is voluntary. You are free to withdraw your consent and discontinue participation in this study at any time without prejudice or penalty. Your decision to participate or not participate in this study will in no way affect your relationship with UCF, including continued enrollment, grades, employment or your relationship with the individuals who may have an interest in this study.

You must be 18 years of age or older to take part in this research study.

Study contact for questions about the study or to report a problem: If you have questions about the study, contact me at jcourson36@knights.ucf.edu. Dr. Thomas Vitale is the representative chair for this study through the University of Central. He can be contacted at Thomas.Vitale@ucf.edu.

IRB contact about your rights in this study or to report a complaint: If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901, or email irb@ucf.edu.

Participant Signature	Printed Name	Date
_____	_____	_____
Researcher Signature	Printed Name	Date
_____	_____	_____

APPENDIX G: CODING SCHEME

Category 1: Crisis Planning (Prevention/ Protection) – Origins of the crisis plan, how the plan can be modified, and teacher involvement in planning.

a. Plan development and teacher involvement

b. Security Personnel

c. Other safety features

Category 2: Drills and Procedures (Protection/Response) – Descriptions of drills and explanation of procedures for an active shooter incident.

a. Description of drills and protocol

b. Training for faculty

c. Training for students

d. Training recommendations

Category 3: Perceptions of Preparedness (Prevention, Protection, Response) – Explanations of teacher perceptions and what might impact those perceptions.

a. Perceptions of ability to respond

Category 4: Perceptions of Safety (Prevention, Protection, Response) – Explanations of factors that influence perceptions of safety.

a. Factors that improve safety perceptions

b. Factors that diminish safety perceptions

APPENDIX H: RESEARCHER SELF-PORTRAIT

Researcher AAPRS Results With Mean Scores.

	Researcher Answer	
Q1-1	Agree	My school has a crisis plan addressing procedures for handling active shooter incidents.
Q1-2	Disagree	My school works cooperatively with local emergency personnel in developing a crisis plan for active shooter incidents.
Q1-3	Strongly Disagree	My school has a crisis team in place.
Q1-4	Agree	I have a copy of my school's active shooter response procedures.
Q1-5	Agree	My school's planning procedures for active shooter incidents are effective.
Q1-6	Agree	I know where to access information about my school's official procedures in case of an active shooter incident.
Q1-7	Strongly Agree	I believe it is important to routinely update active shooter incident procedures.

Researcher Plan Mean = 2.71

	Researcher Answer	
Q2-1	Agree	The possibility of a school shooting incident is taken seriously at my school.
Q2-2	Agree	My school provides instruction sessions about live active shooter incident preparedness to staff.
Q2-3	Disagree	My school provides classroom instruction about live active shooter incident preparedness to students.
Q2-4	Disagree	The classroom instruction portion of our active shooter incident preparedness is effective.
Q2-5	Strongly Agree	My school provides drills for staff in order to practice active shooter incident preparedness.
Q2-6	Strongly Agree	My school provides drills for students in order to practice active shooter incident preparedness.
Q2-7	Agree	My school's active shooter incident drills are effective.

Researcher Drill/Proc Mean = 3.14

	Researcher Answer	
Q3-1	Agree	I am confident in my ability to respond appropriately in the event of an active shooter incident in my school.
Q3-2	Strongly Agree	I have received adequate training and have the professional knowledge to respond effectively in the event of an active shooter incident in my school.
Q3-3	Agree	I am confident that I can control my classroom in the event of an active shooter incident.
Q3-4	Disagree	I am confident that I can protect my students in the event of an active shooter incident.

Researcher Response Mean = 3.00

Researcher Answers to Interview Questions

1. How many years teaching experience do you have? What grade and subject do you teach? What is your gender?
    a. 15 years total teaching experience, 12 years at my current school. I teach US History to 5th graders in a departmentalized Private school. I am a male.
2. What is the grade-configuration of your school? How many students attend your school? Does your school have security personnel on campus during the school day? Is (are) the security personnel armed?
    a. Pk-6th grade with 575 students, 2 security personnel on campus. Neither are allowed to be armed as of this year, but I think they might be armed in some fashion in a discreet way. One is a retired corrections officer from a prison, the other is a retired police officer from Winter Park PD.
3. Describe how your school developed its planned response for active shooter scenarios? Were teachers involved in developing the crisis management plan? What are/were their roles?
    a. The plan was devised by combined efforts and planning discussions from security personnel, the head of school, the previous owners of the school, and new protocol from our parent company, Spring Education Group. There is occasional input from teachers especially during years where the school is under Florida Council of Independent Schools review for accreditation. Usually teachers are able to provide some input on the plan as it pertains to their own classroom or situation if they feel the need. Leadership is responsive to teacher input.
4. What types of training have you received from your school or district to help you learn

how to respond during an active shooter incident? Have there been changes in these plans since you have worked at your current school? How are students trained in the protocol?

   a. Each year we have our beginning of the year faculty meeting. During this meeting there is a safety video shown that outlines the procedures for our lockdown drills. In the past we have also had a security consultant come to our meeting and conduct the training. Two years ago he had us role play scenarios where a gunman was trying to enter the room and we as teachers were attempting to disarm the assailant. I was chosen to be the assailant and nearly every other staff member was able to practice throwing me to the ground and taking my weapon. The trainer instructed us in the Run, Hide, Fight method of protection. The video briefly covered some characteristics of previous school shooters. We also, were all instructed that WE were an important part of the safety team at our school. We were told to question anyone on campus that we did not recognize or that did not have a badge/identification. Our school has gone through three different badge systems in my tenure. Initially it was just a sticker with a name written on it. Then, it was a printed-out photo ID from the front office. Last year, each parent was supplied a lanyard badge that could be used to enter the new gate that was installed in the visitor parking area and on the exterior road entrance on the opposite side of campus from the office. The teachers train the students in class usually at the beginning of the year or just prior to a drill that is announced. We tell the steps in the drill and talk about how and why taking it seriously is important.

5. Describe the protocol for your school's response to an active shooter incident. (Who activates the plan? What are your individual roles? How do you know an incident is over?)

   a. If an actual shooter were on campus, the first person to see the attacker would call the front office, head of school, or security personnel to alert everyone that an attack was taking place. The security team or the head of school would then announce a lockdown over the intercom. Teachers would instruct students to get away from windows and hide under desks in as quiet a manner as possible. The teacher would then lock the doors, cover windows, and turn off the lights. The security teach would work to contact the local police and monitor security cameras to locate the attacker. Once the incident was over, either the security manager or the head of school would announce over the intercom that the attack had ended. My role is to protect my students and any students who might be in the hallways near my room when the announcement is made about the attack.

6. Are lockdown drills conducted at your school? If so, how often? Describe the drills and how they are conducted?

   a. We conduct lockdown drills twice a year. They follow the same protocol as I explained before. The difference is that during a drill, the security manager walks

around making sure doors are locked and that students are hidden. He then talks to any teachers who might have questions or need help figuring out what to do during a lockdown. The security manager then announces over the intercom that the drill is over. When he makes the announcement to start the drill, he states that it is a drill so the kids and teachers do not panic.

7. What other measures are in place at your school to prevent or limit the damage that may be caused by an active shooter?

    a. We have a newly installed security gate that requires a code for entry. We also have a badge system for parents and guests. There are a few cameras on campus, but they are not monitored regularly and there aren't very many of them. Everyone on campus is good about asking people who are walking around campus to check in at the office if they do not have the proper badge or sticker. The school is a close-knit school where the faculty knows many of the parents. There are often parents on campus to help with events and the school has a very family type of atmosphere.

8. What are your thoughts and feelings regarding your school's current level of preparedness to respond to an active shooter incident?

    a. My school gets part of it right and parts of it wrong. The drills are mostly about hiding kids and locking doors in the hopes that the attacker doesn't enter your classroom. Some classrooms are more easily accessed than others and some rooms are set up in a way that is more protective in terms of just hiding and waiting. Other rooms have several entry points that are not very well built and are not easily concealed. The faculty and training provided is pretty good. We have an expert come from another school and we are trained in ways that I think are better than what I hear about from most other schools. There is the missing component of personalized practice and training that specifies what to do in different scenarios and in different areas of the school. For the most part, because we are an elementary (k4-6th grade) our likely attack would come from an angry parent, someone in the neighborhood who committed a crime, or maybe a disgruntled employee. Rarely have any of the school attacks been carried out by a student younger than 12 or 13. We have newly installed gates, badge systems, and capable security guards with connections to our local police

9. How prepared do you feel personally to respond to an active shooter incident in your school?

    a. I feel prepared. I have thought through scenarios, found a safe spot in my room and planned for/ trained to try to disarm an assailant trying to enter my classroom. I do wish that more training was provided, and more work was put into the prevention components like looking for signs of a possible threat, and developing mitigation teams if threats are detected. I also have read about "table exercises" where administrators and teachers spend some time talking through different

scenarios and coming up with ideas to limit damage in more specified situations other than having an unspecified drill where someone comes on the loudspeaker and says we are in lockdown.

10. Are there areas of additional training that you feel would be beneficial in helping you feel safer and better prepared?

    a. More specific training and walk through exercises with security personnel would be helpful. Possibly having a safety team with specific roles that everyone on campus knows all the roles of the individuals on the team. Better training for students, maybe a video of some type or a discussion that would help them to be prepared in a way that wouldn't necessarily frighten them.

11. What about your school makes you feel safe? What about your school makes you feel unsafe?

    a. My school is very family oriented and everyone knows everyone pretty well. Students, faculty, and parents I feel have someone to turn to if there is an issue and the school works well with parents to find solutions to problems. The school leadership has put in place new security features such as a big gate and a new parent badge system. We also have very qualified security personnel who are visible throughout the day. I don't feel unsafe at school. Our campus is open and there are some elements about my specific classroom that worry me, but I try not to worry about things that (a) I don't have much control over, like crazy people going on a rampage and (b) are extremely rare, like school shootings.

12. What would help you feel more confident in your ability to prevent and respond more effectively to an active shooter?

    a. More specified training, stronger doors leading to my classroom that can be covered, and … that's about it. The media coverage of these events also seems to make people, me included, more fearful especially right after an event takes place.

REFERENCES

Adame, T. (2015). A school shooting in Goddard, 30 years later. The Wichita Eagle. http://www.kansas.com/news/local/crime/a rticle8073096.html.

Addington, L. A. (2009). Cops and cameras: Public school security as a policy response to Columbine. *American Behavioral Scientist,* 52, 1426-1446. doi:10.1177/0002764209332556

American Institute of Research, (2019). National Center on Safe Supportive Learning Environments. Tools and resources, climate survey. Retrieved from: https://safesupportivelearning.ed.gov/sites/default/files/EDSCLS_Questionnaires_112017.pdf

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. Educational Psychologist, 28(2), 117-148. doi:10.1207/s15326985ep2802_3

Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-efficacy beliefs of adolescents*, *5*(1), 307-337.

Benbenishty, R., Astor, R., & Estrada, J. (2008). School violence assessment: A conceptual framework, instruments, and methods. Children & Schools, 30(2), 7181.

Blanchfield, K. E., & Ladd, P. (2013). *Leadership, violence, and school climate: Case studies in creating non-violent schools*. R&L Education.

Bloomberg, L. D., & Volpe, M., (2012). *Completing your qualitative dissertation: a road map from beginning to end.* Second Edition. Sage Publications.

Blum, R.W. (2005, April). A case for school connectedness. Educational Leadership, 62(7). 16-20.

Blum, R.W. & Libbey, H.P. (2004) School connectedness: Strengthening health and education outcomes for teenagers. Journal of School Health, 74(7). 229-299.

Böckler, N., Seeger, T., Sitzer, P., & Heitmeyer, W. (2013). *School shootings: International research, case studies, and concepts for prevention*. New York, NY: Springer. Retrieved from: https://link-springer-com.ezproxy.net.ucf.edu/content/pdf/10.1007%2F978-1-4614-5526-4.pdf

Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education: an introduction to theories and methods*. Pearson A & B. Retrieved from: https://search.ebscohost.com/login.aspx?direct=true&db=cat00846a&AN=ucfl.020373172&site=eds-live&scope=site

Boin, A., Stern, E., & Sundelius, B. (2016). *The politics of crisis management: Public leadership under pressure*. Cambridge University Press.

Borum, R., Cornell, D. G., Modzeleski, W., & Jimerson, S. R. (2009). What can be done about school shootings? A review of the evidence. *Educational Researcher, 39*(1), 27-37.

Brice, A., (2019). After Parkland shooting, student fights for mental health resources in schools. *Berkeley News.* University of California Berkeley. Retrieved from: https://news.berkeley.edu/2019/12/17/podcast-student-kai-koerber-on-gun-violence-and-mental-health/

Brock, S. E., Sandoval, J., & Lewis, S. (2001). *Preparing for crises in the schools: A manual for building school crisis response teams*. John Wiley & Sons Inc.

Brock, S. E., Lazarus Jr, P. J., & Jimerson, S. R. (2002). *Best Practices in School Crisis Prevention and Intervention*. National Association of School Psychologists, 4340 East West Highway, Suite 402, Bethesda, MD 20814.

Brown, L. L. (2008). *The role of teachers in school safety* (Order No. 3329730). Available from ProQuest Dissertations & Theses Global. (304465841). Retrieved from https://login.ezproxy.net.ucf.edu/login?url=https://search-proquest-com.ezproxy.net.ucf.edu/docview/304465841?accountid=10003

Bushman, B. J., Newman, K., Calvert, S., Downey, G., Dredze, M., Gottfredson, M., Webster, D. (2013, 1–2 February). Youth violence: What we need to know. Report of the Subcommittee on Youth Violence of the Advisory Committee to the Social, Behavioral and Economics Sciences directorate. Arlington, VA: National Science Foundation

Bushman, B. b., Calvert, S. L., Dredze, M., Jablonski, N. G., Morrill, C., Romer, D., & ... Webster, D. W. (2016). Youth Violence: What We Know and What We Need to Know. *American Psychologist*, *71*(1), 17-39. doi:10.1037/a0039687

Caplan G (1964) Principles of preventive psychiatry. New York: Basic Books.

Centers for Disease Control and Prevention (CDC). (2014). School associated violent death study. Retrieved from http://www.cdc.gov/ViolencePrevention/youthviolence/schoolviolence/SAVD.html

Chapman, S. H. (2018). *A retrospective study on rampage school shootings: Considerations for school-based threat assessment teams*. (2017-36662-217). Retrieved from https://login.ezproxy.net.ucf.edu/login?auth=shibb&url=https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2017-36662-

217&cpidlogin.asp?custid=current&site=ehost-live&scope=site

CNN-Library. (May 23, 2018). *Deadliest mass shootings in modern day history.* Retrieved from https://www.cnn.com/2013/09/16/us/20-deadliest-mass-shootings-in-u-s-history-fast-facts/index.html

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

Comfort, L. K. (1988). *Managing disaster: Strategies and policy perspectives*. Durham: Duke University Press.

Cornell, D. G., & Sheras, P. L. (2006). *Guidelines for responding to student threats of violence*. Boston, MA: Sopris West Educational Services.

Cowan, K. C., Vaillancourt, K., Rossen, E., & Pollitt, K. (2013). A framework for safe and successful schools [Brief]. Bethesda, MD: National Association of School Psychologists.

Cowell, J. M., & McDonald, C. C. (2018). School safety. *The Journal of School Nursing*, *34*(4), 254. https://doi-org.ezproxy.net.ucf.edu/10.1177/1059840518782215

Crabtree, B. F., & Miller, W. L. (1992). *Doing qualitative research.* Newbury Park, CA: Sage.

Creswell, J. W. (2007). Five qualitative approaches to inquiry. *Qualitative inquiry and research design: Choosing among five approaches*, *2*, 53-80.

Creswell, J. W. (2009). Research design: Qualitative, quantitative, and mixed methods approaches. Thousand Oaks, CA. Sage.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Third Edition. Sage publications.

Daly, M. (2014). The first modern school shooter feels responsible for the rest. *The Daily Beast*.

https://www.thedailybeast.com/the-first-modern-school-shooter-feels-responsible-for-the-rest.

Daniels, J. A., & Bradley, M. C. (2011). *Preventing lethal school violence*. Springer Science + Business Media. https://doi-org.ezproxy.net.ucf.edu/10.1007/978-1-4419-8107-3

David-Ferdon, C., & Simon, T. R. (2014). Preventing youth violence: Opportunities for action. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Department of Education, Washington, DC. (2004). *Practical information on crisis planning: A guide for schools and communities*. ERIC Clearinghouse.

DeVos, B., Azar, A.M., Nielsen, K.M., & Whitaker, M.; (December 18, 2018). *Final report of the Federal Commission on School Safety.* Retrieved from https://www2.ed.gov/documents/school-safety/school-safety-report.pdf

Dumitriu, C. (2013). Crisis management in school shooting situations: The school—A forgotten factor in the equation. In *School Shootings* (pp. 441-476). Springer, New York, NY.

Duplechain, R., & Morris, R. (2014). School violence: Reported school shootings and making schools safer. *Education*, *135*(2).

Dwyer, K. and Jimerson, S. (2002). Enabling prevention through planning. In S.E. Brock, P.J.Lazarus, and S.R. Jimerson (Eds.)., Best Practices in School Crisis Prevention and Intervention (//. 23-46). Bethesda, MD: National Association of School Psychologists.

Embry-Martin, T. D. (2017). *Perceptions in preparing for and responding to an active shooter incident: A qualitative study of K-12 teachers' self-efficacy* (D.B.A.). Available from ProQuest Dissertations & Theses Global. (1971899174). Retrieved

from https://login.ezproxy.net.ucf.edu/login?url=https://search-proquest-com.ezproxy.net.ucf.edu/docview/1971899174?accountid=10003

Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods.* Newbury Park, CA: Sage.

Eklund, K., Meyer, L., Way, S., & Mclean, D. (2017). School psychologists as mental health providers: The impact of staffing ratios and Medicaid on service provisions. *Psychology in the Schools*, *54*(3), 279-293.

Eklund, K., Meyer, L., & Bosworth, K. (2018). Examining the Role of School Resource Officers on School Safety and Crisis Response Teams. *Journal of School Violence*, *17*(2), 139–151.

Fink, A. (2009). *How to conduct surveys* (4th Edition), Thousand Oaks, CA: Sage Publications.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2011). *How to design and evaluate research in education*. New York: McGraw-Hill Humanities/Social Sciences/Languages.

Frazzano, T. L., & Snyder, G. M. (2014). Hybrid targeted violence: Challenging conventional" Active Shooter" response strategies. *Homeland Security Affairs*, *10*.

Geranios, N.K. (2017a). Victim told suspect in Washington school shooting: I knew you would 'shoot up the school.' Chicago Tribune. Retrieved from: http://www.chicagotribune.com/news/nationworld/ct-wa shington-school-shooting-20170914-story.html.

Geranios, N.K. (2017b). Barry Loukaitis. Moses Lake school shooter, breaks silence with apology. The Seattle Times. https://www.seattletimes.com/seattle-news/barry-loukaitis-moses-lake-school-shooter-apologizes-in-1st-remarks/.

Glaser, B. G., & Strauss. AL (1967). *The discovery of grounded theory: Strategies for qualitative research*.

Glaser, B. G., & Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.

Graveline, M. M. (2003). *Teacher self-efficacy at managing a school crisis* (Doctoral dissertation, University of Hartford).

Gregory, A., & Cornell, D. (2009). "Tolerating" adolescent needs: Moving beyond zero tolerance policies in high school. Theory into Practice, 48, 106–113. doi:10.1080/00405840902776327

Gregory, A., Cornell, D., & Fan, X. (2012). Teacher safety and authoritative school climate in high schools. *American Journal of Education, 118*(4), 401-425. Retrieved from https://login.ezproxy.net.ucf.edu/login?auth=shibb&url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ986705&site=ehost-live&scope=site; http://dx.doi.org/10.1086/666362

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, *37*(2), 479–507. https://doi-org.ezproxy.net.ucf.edu/10.2307/1163531

Harding, D. J., Fox, C., & Mehta, J. (2002). Studying rare events through qualitative case studies: Lessons from a study of rampage school shootings. Sociological Methods & Research, 31 (2), 174–217

Haravuori, H., Suomalainen, L., & Marttunen, M. (2016). Quality of life in adolescents and young adults after traumatic experience. *Psychiatria Fennica*.

Hirschfield, P. J. (2008). Preparing for prison? The criminalization of school discipline in the USA. *Theoretical Criminology, 12(1)*, 79–101. doi:10.1177/1362480607085795

Hirschfield, P. J., & Celinska, K. (2011). Beyond Fear: Sociological Perspectives on the Criminalization of School Discipline. *Sociology Compass*, *5*(1), 1.

Hoover-Dempsey, K. V., & Walker, J. M. (2002). Family-school communication. *Elementary School Journal*, *106*(2), 105-130.

Irvine, R. B. (1997). What's a crisis, anyway? *Communication World*, *14*(7), 36. Retrieved from https://search.ebscohost.com/login.aspx?direct=true&db=ufh&AN=9707091242&site=eds-live&scope=site

Jagodzinski, C. L. (2019). School safety upgrades and perceptions of safety protocols in prevention of school shootings. In *School Violence in International Contexts* (pp. 185-197). Springer, Cham.

Jennings, W. G., Khey, D. N., Maskaly, J., & Donner, C. M. (2011). Evaluating the relationship between law enforcement and school security measures and violent crime in schools. Journal of Police Crisis Negotiations, 11(2), 109–124. doi:10.1080/15332586.2011.581511

Jones, J. (2015). *Principals' perceptions and self-efficacy in relation to school security* University of Central Florida. Retrieved from http://digitalcollections.net.ucf.edu/cdm/ref/collection/ETD/id/6540

Jonson, C. L. (2017). Preventing school shootings: The effectiveness of safety measures. *Victims & Offenders, 12*(6), 956-973. doi:10.1080/15564886.2017.1307293

Jonson, C. L., Moon, M. M., & Hendry, J. A. (2018). One size does not fit all: Traditional

lockdown versus multioption responses to school shootings. *Journal of School Violence*, 1-13.

Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. British Journal of Applied Science & Technology, 7(4), 396.

Katsiyannis, A., Whitford, D. K., & Ennis, R. P. (2018). Historical examination of united states intentional mass school shootings in the 20th and 21st centuries: Implications for students, schools, and society. *Journal of Child and Family Studies,* doi:10.1007/s10826-018-1096-2

Keller, J., (2019). The psychological aftermath of surviving a school shooting. *Pacific Standard*. A Maven Channel. Retrieved from: https://psmag.com/education/the-psychological-aftermath-of-surviving-school-shootings

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610.

Kubena, J., & Watts, J. H. (2019). The evolution of securing the American K-12 educational environment with armed police officers. In *Police Science: Breakthroughs in Research and Practice* (pp. 493-508). IGI Global.

Langman, P. (2009). *Why kids kill: Inside the minds of school shooters*. Macmillan.

Langman, P. (2018). Different types of role model influence and fame seeking among mass killers and copycat offenders. *American behavioral scientist*, *62*(2), 210-228.

Lankford, A. (2016). Public mass shooters and firearms: a cross-national study of 171 countries. *Violence and Victims*, (2), 187. https://doi-org.ezproxy.net.ucf.edu/10.1891/0886-6708.VV-D-15-00093

Lankford, A., Adkins, K. G., Madfis, E., Addington, L. A., & Muschert, G. W. (2019). Are the Deadliest Mass Shootings Preventable? An assessment of leakage, information reported to law enforcement, and firearms acquisition prior to attacks in the United States. *Journal of Contemporary Criminal Justice*, *35*(3), 315.

Lawrence, R. (2007). School crime and juvenile justice (2nd ed.). New York: Oxford University Press.

Layden, D. R. (2010). Campus violence: lessons from the cases. *National Social Science Journal Volume 33# 2*, 106.

Levin, J., & Madfis, E. (2009). Mass murder at school and cumulative strain: A sequential model. *American Behavioral Scientist, 52,* 1227-1245. Doi: 10.1177/0002764209332543

Lightfoot, S. L. (2004). Building bridges from school to home. Instructor, 114(1), 24-73.

Lincoln, Y.S. and Guba, E.G. 1985. *Naturalistic inquiry*, Beverly Hills, CA: Sage.

Lott, J. R. (April 25, 2019). Schools that Allow Teachers to Carry Guns are Extremely Safe: Data on the Rate of Shootings and Accidents in Schools that allow Teachers to Carry Available at SSRN: https://ssrn.com/abstract=3377801

Lunenburg, F. C., & Irby, B. J. (2008). *Writing a successful thesis or dissertation: Tips and strategies for students in the social and behavioral sciences.* Corwin press

MacNeil, W., & Topping, K. (2007). Crisis management in schools: Evidence based prevention. *Journal of Educational Inquiry, 7(1),* 64-94

Madfis, E. (2016). It's better to overreact: School officials' fear and perceived risk of rampage attacks and the criminalization of American public schools. *Critical Criminology*, *24*(1), 39-55. Retrieved from: https://doi-org.ezproxy.net.ucf.edu/10.1007/s10612-015-9297-0

Mehdinezhad, V., & Mansouri, M. (2016). School principals' leadership behaviors and its relation with teachers' sense of self-efficacy. *International Journal of Instruction,* (2), 51. doi:10.12973/iji.2016.924

Merriam, S. B. (1988). *Case study research in education: A qualitative approach.* San Francisco: Jossey-Bass.

Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education.* Revised and Expanded from" Case Study Research in Education." Jossey-Bass Publishers.

Merriam, S. B. & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation.* Fourth Edition. Jossey-Bass Publishers.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: A sourcebook of new methods* (2nd edition). Thousand Oaks, CA: Sage.

Mitchell, R.A. (1996). 10 years later, Cokeville just says: Let us be. Deseret News. https://www.deseretnews.com/article/489528/10YEARS-LATER-COKEVILLE-JUST-SAYS-LET-US-BE.html.

Mitroff, I. I., Alpaslan, M. C., & Green, S. E. (2004). Crises as Ill-Structured Messes. *International Studies Review*, *6*(1), 165–182. https://doi.org/10.1111/j.1521-9488.2004.393_3.x

Modzeleski, W., & Randazzo, M. R. (2018). School threat assessment in the USA: Lessons learned from 15 years of teaching and using the federal model to prevent school shootings. *Contemporary School Psychology,* doi:10.1007/s40688-018-0188-8

Mohandie, K. (2014). Threat assessment in schools. *International handbook of threat assessment*, 126-147.

Morabia, A. (2018). Teachers in arms? A special section of American Journal of Public Health. Retrieved from: https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2018.304502

Morrison, B. E. (2003). Regulating safe school communities: Being responsive and restorative. *Journal of Educational Administration*.

Morton, R. (2013). Returning decision to school discipline decisions: An analysis of recent, anti-zero tolerance legislation. *Wash. UL Rev.*, *91*, 757.

National Center for Education Statistics, NCES, (2017). Back to School: Fast facts for the 2017 school year. Retrieved from: https://nces.ed.gov/fastfacts/display.asp?id=372

National Center for Education Statistics, NCES, (2019). Mental health in public schools , by school ethnic and racial composition. *Data Point, US Department of Education*. Retrieved from: https://nces.ed.gov/pubs2019/2019020.pdf

Newgass S & Schonfeld D J (2000) School crisis intervention, crisis prevention, and crisis response. In A R Roberts (ed) Crisis intervention handbook: assessment, treatment, and research, 2nd ed. Oxford: Oxford University Press, pp 209–28.

Newman, K. S., Fox, C., Harding, D. J., Mehta, J., & Roth, W. (2004). Rampage. *The social roots of school shootings. New York: Perseus*.

Page, J. (2017). *A qualitative investigation of completed and averted school shootings: Deciphering the characteristics that prevent school shootings*. (2017-01060-230). Retrieved from https://login.ezproxy.net.ucf.edu/login?auth=shibb&url=https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2017-01060-230&cpidlogin.asp?custid=current&site=ehost-live&scope=site

PDK Poll International. (2018). Teaching: Respect but dwindling appeal. The 50th annual PDK poll of the publics attitudes toward the public schools. ©Copyright 1969 - 2019 PDK Int. Retrieved from: http://pdkpoll.org/assets/downloads/pdkpoll50_2018.pdf

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of management review*, *23*(1), 59-76.

Pearson, C.M. (2002). A blueprint for crisis management. *Ivey Business Journal*, 66(3), 69-73.

Pearson Education. (2019). Timeline of worldwide school and mass shootings. Retrieved from https://www.infoplease.com/history/world/timeline-of-worldwide-school-and-mass-shootings

Perkins, J. C. (2018). Preparing Teachers for School Tragedy: Reading, Writing, and Lockdown. *Journal of Higher Education Theory & Practice*, *18*(1).

Petrovich, N. (2016). *Teacher's perceptions of warning signs to prevent mass school shootings.* (Doctoral dissertation, Adler School of Professional Psychology).

Rajan, S., & Branas, C. C. (2018). Arming schoolteachers: what do we know? Where do we go from here?. *American Journal of Public Health*. Retrieved from: https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2018.304464

Redlener, E. (2006). How to make school safer. *Time.* Retrieved from: https://time.com/time/nation/arti-cle/0,8599,1543803,00.html

Rider, C. F. (2016). *Teachers' perceptions of their ability to respond to an active shooter incident*. *Dissertation: Humanities and Social Sciences*. ProQuest Information & Learning. Retrieved from https://search-ebscohost-com.ezproxy.net.ucf.edu/login.aspx?direct=true&db=psyh&AN=2016-17334-

234&cpidlogin.asp%3fcustid%3dcurrent&site=ehost-live&scope=site

Riedman, D., & O'Neill, D. (2019). CHDS–K-12 school shooting database. *Center for Homeland Defense and Security, US Naval Postgraduate School, accessed January*, *30*.

Ruger, T., (March 25, 2019). Congress Set Aside $1 Billion After Parkland, Schools are Starting to Use it. CQ Roll Call, retrieved from: https://www.rollcall.com/news/congress/school-safety-parkland-congress-federal-grants

Saldaña, J. (2013). *The coding manual for qualitative researchers (2nd ed).* Thousand Oaks, CA: Sage.

Sampson, H. (2004). Navigating the waves: The usefulness of a pilot in qualitative research. *Qualitative Inquiry, 9,* 643-668

Sandelowski, M. (2011). "Casing" the research case study. Research in Nursing and Health, 24, 153-159.

Schensul, J. J. (2008). Methodology. In Lisa M. Given (Ed.). The SAGE Encyclopedia of Qualitative Research Methods. (pp. 517-522). Thousand Oaks, CA: SAGE Publications, Inc. doi:10.4135/9781412963909.n267

Scherz, J. (2006). *The truth about school violence: keeping healthy schools safe*. Rowman & Littlefield Pub Inc.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2011). *Perspectives on organizational climate and culture.* In S. Zedeck (Ed.), *APA handbooks in psychology®. APA handbook of industrial and organizational psychology, Vol. 1. Building and developing the organization* (p. 373–414). American Psychological Association. https://doi.org/10.1037/12169-012

Schram, T. H., (2003). *Conceptualizing qualitative inquiry.* Columbus, OH: Merrill Prentice Hall.

Secure Our Schools Act of 2001, 34 U.S.C. §§ 2701-2707 (2011).

Shrivastava, P. (1993). Crisis theory/practice: Towards a sustainable future. *Industrial & Environmental Crisis Quarterly*, *7*(1), 23-42.

Shrivastava, P., Mitroff, I., & Alpaslan, C. M. (2013). Imagining an Education in Crisis Management. *Journal of Management Education*, *37*(1), 6–20. https://doi-org.ezproxy.net.ucf.edu/10.1177/1052562912455418

Siemaszko, C., (2019). Charging ex security guard at Parkland could backfire. *NBCNews.* Retrieved from: https://www.nbcnews.com/news/us-news/charging-ex-parkland-security-officer-scot-peterson-child-neglect-could-n1014231

Silver, J., Simons, A., & Craun, S. (2018). A study of the pre-attack behaviors of active shooters in the United States between 2000 and 2013. Federal Bureau of Investigation. Retrieved from: https://www.fbi.gov/file-repository/pre-attack-behaviors-of-active-shooters-in-us-2000-2013.pdf/view

Simon, M. (2011). Assumptions, limitations, and delimitations. *Retrieved from*. http://www.dissertationrecipes.com/wp-content/uploads/2011/04/Assumptions-Limitations-Delimitations-and-Scope-of-the-Study.pdf.

Simons, H. (2009). Case study research in practice. Los Angeles, CA: Sage.

Skiba, R., & Sprague, J. (2008, September). Safety without suspensions. Educational Leadership, 38-43.

Somerville, S., (1989). Teen gets life in prison in shooting. *Daily Press News.* Retrieved from:

https://www.dailypress.com/news/dp-xpm-19891213-1989-12-13-8912130120-story.html

Sprague, J., Colvin, G., Irvin, L. (1995). The Oregon school safety survey. Eugene, OR: The Institute on Violence and Destructive Behavior. Retrieved from http://pages.uoregon.edu/eval/pdf/OSSS1X.pdf

Sprague, J., Smith, S., & Stieber, S. (2002). Principal perceptions of school safety. Journal of School Violence, 1(4), 51-64. doi:10.1300/J202v01n04_04.

STOP School Violence Act of 2018: Student, Teachers, and Officers Preventing School Violence Act 2018. U.S.C. 115, 2017-1018. Pub. L. 115-141, II Sec, D.(s), T. (V), enacted March 23, 2018.

Sussman, T. J., Jin, J., & Mohanty, A. (2016). Top-down and bottom-up factors in threat-related perception and attention in anxiety. *Biological Psychology*, *121*(Part B), 160–172. https://doi-org.ezproxy.net.ucf.edu/10.1016/j.biopsycho.2016.08.006

Swanson, E., Thompson, C., Fingerhut, H., (April 16, 2019). AP-NORC Poll: Most believe schools have become less safe. ApNews.com: retrieved from: https://www.apnews.com/39a6676a68ca4e81bc22253bb1e84eeb

The Omnibus Crime Control and Safe Streets Act of 1968. Pub. L. 90–351, 82 Stat. 197, enacted June 19, 1968, codified at 34 U.S.C. § 10101-10554.

Theriot, M. T. (2009). School resource officers and the criminalization of student behavior. Journal of Criminal Justice, 37(3), 280–287. doi:10.1016/j. jcrimjus.2009.04.008

Timmons, V., & Cairns, E. (2010). Case Study Research in Education. In Albert J. Mills, G. Durepos, & E. Wiebe (Eds.), Encyclopedia of Case Study Research. (pp. 100-103).

Thousand Oaks, CA: SAGE Publications, Inc. doi: http://dx.doi.org.proxy1.ncu.edu/10.4135/9781412957397.n36

Trump, K. S. (2019). In Support of Lockdown. *Best's Review*, *120*(4), 57–59. Retrieved from https://searchebscohostcom.ezproxy.net.ucf.edu/login.aspx?direct=true&db=bft&AN=135551289&site=eds-live&scope=site

Tschannen-Moran, M., Hoy, A., & Hoy, W. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*(2), 202. Retrieved from https://login.ezproxy.net.ucf.edu/login?auth=shibb&url=https://search-ebscohost-com.ezproxy.net.ucf.edu/login.aspx?direct=true&db=edsjsr&AN=edsjsr.1170754&site=eds-live&scope=site

Ujifusa, A. (2018). New Federal School Safety Grant Winners Include Board of Education for Parkland. *Education Week,* accessed March 20, 2019. Retrieved from: http://blogs.edweek.org/edweek/campaign-k-12/2018/10/school-safety-grant-winners-justice-department-stop-act-parkland.html

Vossekuil, B., Fein, R., Reddy, M., Borum, R., & Modzeleski, W. (2004). The final report and findings of the Safe School Initiative: Implications for the prevention of school attacks in the United States. Washington, DC: U.S. Department of Education.

Wallenfeldt, J. (2016). Texas tower shooting of 1966. *Encyclopedia Britannica.* Retrieved from: https://www.britannica.com/event/Texas-Tower-shooting-of-1966

Warnick, B. R., Johnson, B. A., & Rocha, S. (2010). TRAGEDY AND THE MEANING OF SCHOOL SHOOTINGS. *Educational Theory, 60*(3), 371-390. Retrieved from https://login.ezproxy.net.ucf.edu/login?url=https://search-proquest-

com.ezproxy.net.ucf.edu/docview/744663795?accountid=10003

Wildavsky, A. B. (1988). *Searching for safety* (Vol. 10). Transaction publishers.

Williams, S., Schneider, M., Wornell, C., Langhinrichsen-Rohling, J. (2018). Student's perceptions of school safety: It is not just about being bullied. *The Journal of School Nursing 2018, Vol. 34(4)* 319-330.

Wilson, D.B., Gottfredson, G.D., & Najaka, S.S. (2001). School-based prevention of problem behaviors: A meta-analysis. Journal of Quantitative Criminology, 17, 247-272.

Winton, R., (November 21, 2019). Santa Clarita shooting: Weapon used in Saugus High attack a 'ghost gun,' sheriff says". *Los Angeles Times*. Los Angeles Times. Retrieved from: https://www.latimes.com/california/story/2019-11-21/santa-clarita-shooting-45-caliber-gun-saugus-high-attack-a-ghost-gun-sheriff-says

Wright Jr, R. J. (2015). *Rural teacher's perceptions of safety on Texas high school campuses*. Lamar University-Beaumont.

Yin, R. K. (2009). *Case study research: Design and method* (4th Edition). Thousand Oaks, CA: Sage.

Zullig, K. J., Ghani, N., Collins, R., & Matthews-Ewald, M. R. (2017). Preliminary Development of the Student Perceptions of School Safety Officers Scale. *Journal of School Violence*, *16*(1), 104–118.