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Crisis Preparedness

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CRISIS PREPAREDNESS

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

PROGRAM IN CURRICULUM AND INSTRUCTION

BY

CHARLES V. MAIDA

CHICAGO, ILLINOIS

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Arriving at one goal is the starting point to another.

John Dewey
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ABSTRACT

School disaster planning is important because schools are places of frequent mass gathering. An estimated 53 million children in the United States attend public and private schools each day. As mass gathering places, schools are prone to mass injury in a natural disaster and unfortunately may serve as a terrorist target (Graham, 2007). Schools must prepare for the worst and hope for the best, because the worst disaster to occur is not preparing for disaster in the first place. Comprehensive crisis management plans must be in place, practiced, revisited, and altered to remain effective.

Community-based strategies have been successful in reducing crime and violence by utilizing a problem solving approach to intervention (U.S. Departments of Education & Justice, 1998). Research-based practices suggest that the most promising prevention and intervention strategies involve all participants in the community who contribute to a student’s education, such as administrators, teachers, family, students, support staff and community members (Quinn et al., 1998).

The purpose of this study was to determine the status of school crisis preparedness and to identify any collaboration related to preparing for crises in schools. An analysis was conducted to evaluate any collaboration noted between school administrators and other community resources that indicate specific ways that administrators may be preparing for crisis situations in their schools.
CHAPTER I
INTRODUCTION

School disaster planning is important because schools are places of frequent mass gathering. An estimated 53 million children in the United States attend public and private schools each day. As mass gathering places, schools are prone to mass injury in a natural disaster and unfortunately may serve as a terrorist target (Graham, 2007). Schools must prepare for the worst and hope for the best, because the worst disaster to occur is not preparing for disaster in the first place. Comprehensive crisis preparedness plans must be in place, practiced, revisited, and altered to remain effective.

Crisis preparedness is a necessary tool needed to reduce the adverse consequences of any crisis situation. Preparing for crisis can be a never ending endeavor due to the multitude and magnitude of any given situation. School administrators must remain vigilant and proactive in their attempts to keep the school environment safe for students, staff, and the community. Too often, we as a society remain reactive to dealing with crisis situations. One such example of a reactive approach to a school tragedy occurred in a Chicago private elementary school known as Our Lady of Angels.
Our Lady of Angels

On a cold and grey Chicago morning, another school day began as approximately 1600 children entered an elementary school on the west side of the city. The day started as many others had, but ended like no other. The consequences of the events, which took place at Our Lady of the Angels elementary school on December 1, 1958, affected not only a single community but the entire nation (Cunningham, 2008).

The school was a brick two-story structure built in 1910 but renovated numerous times over the years. The stairs had asphalt and rubber tiling on them, while the floors gleamed from the coats of petroleum-based wax. The walls were furnished with rubberized-plastic paint, which complimented the freshly varnished wood trim that stretched from the floor up to its massive twelve foot ceilings. The window sills were located three feet from the floor, while the second floor windows were a daunting twenty-five feet from the ground. There was only one fire escape located near one end of the north wing, no sprinklers, no smoke or heat detectors, and no alarm connecting the school to the fire department. There were only two fire alarm switches in the entire school and both were located in the same vicinity of the south wing. There were four fire extinguishers in the north wing that were mounted seven feet off the floor; they were out of reach for many adults and all the children.

In Our Lady of Angels Elementary School, a young boy returned to his classroom after taking trash to the basement for disposal and reported to the teacher that he had smelled an odor of smoke. The teacher investigated and was able to
confirm what the young man had told her. At approximately 2:20 PM on December 1, 1958, the teacher proceeded to another classroom on the first floor and informed that teacher of the odor of smoke present in the school's corridor.

The young man's teacher then proceeded to the principal's office to inform the Mother Superior about the odor of smoke. The school had a rule in place that only the Mother Superior could activate the fire alarm system. The teacher was informed that the Mother Superior was teaching a class elsewhere in the school. The teacher returned to her classroom and along with the second teacher, decided to evacuate their students from the building.

As they evacuated the building, one of the teachers pulled the manual station fire alarm to notify occupants within the school of the fire. The manual station that was located approximately seven feet high on the wall failed to activate. After relocating the children to the parish rectory, the teacher once again attempted to activate the manual alarm. On the second attempt the alarm activated. Eight minutes had passed since the smoke was first noticed.

By the time the fire alarm activated, flames reached the stairs and walls that were covered with combustible finishes, paints, and varnishes. The fire began to spread rapidly up the stairwell while being fed by the flammable coatings. By the time the students and their teachers in the second floor classrooms realized there was a fire, their sole escape route through the central corridor was impassable. For the 329 children and 6 nuns, who were teachers, the only remaining escape route was to jump from their second floor windows to the concrete and crushed rock 25 feet
below, or to pray for the fire department to arrive and rescue them before it was too late (Cunningham, 2008).

The fire department arrived at the scene within four minutes of being notified of the fire, but approximately an hour and a half after the smoke was first noticed. The firemen, with the assistance of citizens, began rescuing children from the second floor windows, but the conditions had become unbearable. Children were clawing and fighting their way to the windows. Many jumped, fell or were pushed out before firemen could get them. Many of the smaller children were unable to climb over the three-foot-high window sills and were pulled back by others trying to escape, trapping them behind frantic crowds at the windows. Helplessly, firemen watched in horror as classrooms, filled with frightened children, became engulfed in flames, instantly killing those who remained. When the rescue effort ended, the fire claimed the lives of 92 innocent children and 3 nuns. Our Lady of Angels School passed a fire department safety inspection only weeks before the fire, but the school did not have to comply with all fire safety guidelines due to a clause in the 1949 standards that existing schools were not required to include the safety devices that were mandatory in all newly constructed schools.

The Investigation

During an investigation after the fire, the National Fire Protection Association found the officials of the City of Chicago and Our Lady of Angels accountable for failing life safety obligations. The Catholic Church set up a panel to review each case and awarded monetary settlements to those who had lost children.
or loved ones in the fire. In this way, the Chicago Catholic Archdiocese avoided lawsuits and settlements that would have gone to families and survivors of the fire.

The investigators analyzing the cause of the fire identified numerous attributes that contributed to the catastrophe. The school did not have a sprinkler system. There were no smoke or heat detectors located in the school. The school had the number of exits required by the 1905 ordinance and not the 1949 ordinance. A fire escape door was found to be locked with a chain and padlock. Overcrowding was an issue because there were more students in each classroom than the 1949 ordinance allowed. The 1949 fire ordinance would have limited the student load from 329 to 232 due to the ordinance calling for 20 square feet per student. There were no fire alarm panic switches conveniently located and accessible near the school exit doors. There were stacked combustible materials stored within the stairwells used for fire evacuation. The four fire extinguishers located on each floor of the north wing of the school were located approximately seven feet above floor level. The school did not possess the necessary amount of fire extinguishers which were legal at no more than 75 feet apart. The school passed a recent fire inspection conducted two months prior to the fire. This inspection was based upon the 1905 ordinance which did not require automatic fire protection systems. Due to a grandfathering clause in the 1949 building codes ordinance, Our Lady of Angels was not required to update the facility from the 1905 building standards. The school was allowed to remain open, based on the 1905 building ordinance standards, thus creating a climate for tragedy.
In the only positive outcome of this tragedy, sweeping changes in school fire safety regulations were enacted nationwide. The City of Chicago adopted retroactive amendments to the building code otherwise known as the Municipal Building Code of Chicago. This case affected all city schools, both public and private, and of two or more stories that used wooden floors and joists. The fire alarm "street boxes" were to be located no more than 100 feet from the front of the school. The States General Assembly passed life safety codes, which included monthly fire drills (Cunningham, 2008).

Currently, climates for tragedy still exist within Chicago Public Schools. Although fire still poses a risk, the chance of such a tragedy has been greatly reduced due to the enhancement of building code requirements and the continual execution of fire drill simulations.

**Chicago Public Schools**

Under the Illinois Compiled statues, specifically statute 105 ILCS 128/10 entitled School Safety Drill Act, both public and private schools are required to perform at least three fire evacuation drills, one bus evacuation drill and one shelter-in-place drill during the school year. Although not required, schools are “strongly encouraged to conduct law enforcement drills to address and prepare students and school personnel for incidents, including and without limitation, reverse evacuations, lock-downs, shootings, bomb threats, or hazardous materials” (Illinois Compiled Statutes, 2008). In recent investigations in the Chicago Public School System revealed that approximately 90% of the schools conducted at least one lockdown
drill during the 2008 school year, up from half of the city's schools the previous year (Fergus, 2008).

Recently the Chicago Public School System has experienced a substantial increase in the number of students killed by violence. According to Chicago Public School data, nearly three dozen students have been killed by violence during the 2007 school year. As Senator, Barack Obama stated that violence statistics are higher than the number of Illinois servicemen who have died in Iraq in 2007 (Chicago Sun-Times, 2007).

In 2008, 17 students enrolled in CPS had died as a result of violence. That figure aligns with 2007's data stating that 27 students from CPS died as a result of violence. At the end of the first weekend of March 2008, eight CPS students were shot including three CPS students who were killed (Gutierrez, 2008). There were 36 CPS students killed during the 2008-2009 school year. During the 2007-2008 school year, there were 27 students killed; 31 during the 2006-2007 school year (Abernethy, 2009). Though most of the incidents did not take place on school grounds, they directly affect the school environment and the safety of students and staff.

**Crane Tech High School**

On March 8, 2008, at 3 PM, and shortly after the dismissal of students at Crane Tech High School on Chicago’s west side, yet another tragic event took place. On the front steps of the school a dispute evolved between students, resulting in one student being fatally shot, a second student being critically injured by being beaten with a golf club, and a third student being hospitalized with a health ailment.
Quinton Rodgers, 17, a student at Crane, said he walked out of school on Friday afternoon and saw dozens of people armed with golf clubs, bats, machetes and handguns. This was the result of a verbal altercation between students that took place earlier on the same day inside the school. Malon Edwards, a spokesman from the Chicago Public Schools stated, “It occurred in the area; it didn’t occur inside the school” (Chicago Tribune, 2008).

Crane, which has a student population of 1,400, is one of a number of schools that have been identified as a trouble spot for gang activity by police and school officials. Cheryl Bolden, chairman of Crane’s local school council, said the trouble stems from older gang members who come from a nearby housing complex. They stand outside after dismissal, harass students, and try to recruit them. Bolden stated, "A lot of that violence that they are talking about Crane is from the outside." Bolden has been on the school council for more than 10 years and has two children who attend the school. She claims “It’s grown men. It’s not children fighting children. It’s ridiculous. It makes the school look bad” (Ahmed, 2008).

“Crane [High School] has a camera system, which is being used by school administrators every day, but is an older system with limited capabilities,” said Andres Durbak, director of the Chicago Public Schools Office of School Safety and Security. He added that the shootings that have taken place occurred outside the school building. Chicago Public School security guards said their hands are tied when it comes to incidents occurring outside school grounds. Chicago Public School security guard Johnson stated “Our job is to protect the students on school grounds”
“Once they leave school grounds, it then becomes a Chicago Police matter,” said Michael Johnson, a security guard. “We would be putting our own lives in jeopardy if we leave school grounds and go down the street to break up a fight. All these shootings are taking place off school grounds, but the school is blamed for not protecting the student when it’s out of our reach,” Johnson said (Hutson, 2008).

All high schools use metal detectors to screen students upon their entry each school day. “A student would be hard pressed to get a weapon inside a school because security screens everyone who enters the building including the mailman,” Johnson said. Some schools have hand held-detectors, while others, like Crane, have walk-thru detectors like the ones commonly used at airports. The Chicago Public School administration relies on its 2,386-member security staff to keep students and staff safe. Durbak said the security staff includes 1,655 full-time employees and 660 off-duty Chicago police officers (Hutson, 2008).

Besides students, teachers are also at risk according to Marilyn Stewart, president of the Chicago Teachers Union, who also is a former teacher. Teachers are experiencing a lot of verbal abuse and being physically threatened by students. “But you don’t hear about it because teachers are often encouraged by the school to file an incident report and not a police report,” Stewart said. “Our children are crying for help and many students come to school with emotional and psychological problems stemming from home,” she added (Hutson, 2008).

The Chicago Police Department, in response to the recent increase in
violence pertaining to Chicago Public Schools, initiated the Student First Safe Passage Program. The program uses technology and manpower to improve the safety of students in and around the school, focusing on areas where crime is likely to occur. Every school day, the department hires 20 off duty officers and 2 sergeants for the purpose of patrolling designated schools and areas between the hours of 1 PM and 5 PM. Funds for the program are allocated through the efforts of several Senators and State Representatives. Currently there are 20 high schools in the program (Chicago Police Department, 2010).

Planning for Crisis

Under the No Child Left Behind Act (2001), school districts are required to have plans that outline how they are working to keep their schools safe. In a past press release (USDOE, 2003) from U.S. Homeland Security Secretary Tom Ridge and U.S. Secretary of Education Rod Paige emphasized the urgency for schools to be prepared for any emergency, including natural disasters, violence, and terrorism. Paige stressed that schools should not wait until the time of an actual crisis to figure out what to do. “At that moment, everyone involved, from top to bottom, should know the drill and know each other” (USDOE, 2003). Paige stressed that under No Child Left Behind (2001), school districts must provide evidence of how they plan to keep schools safe and drug free. Paige encouraged schools to utilize community resources such as police and fire departments, as well as health and other community agencies, to keep the learning environment safe. Under the new law, Paige emphasized that schools are required to report school safety statistics to the public.
Schools must establish safety plans that include appropriate discipline policies and codes of conduct, security procedures, prevention activities, and crisis management plans for violence and other traumatic events (USDOE, 2003).

**National Preparedness Study**

In 2004, a national preparedness study was conducted of 3,670 superintendents in public school districts. There were 2,137 usable surveys returned with a response rate of 58.2%. The objective of the study was to document the preparedness of public schools in the United States for the prevention of and response to a mass-casualty event (Graham, 2007).

In the survey, summary results indicated that most school superintendents (86.3%) reported having a response plan, but fewer than 57% had a plan for prevention. Ninety-six percent of superintendents had an evacuation plan, but approximately one third (30%) of those surveyed had never conducted a drill. Almost one quarter of superintendents (22.1%) indicated that they had no disaster plan provisions for children with special health care needs, while one quarter reported having no plans for post-disaster counseling. Almost half (42.8%) had never met with local ambulance officials to discuss emergency planning (Graham, 2007).

Several survey questions focused on planning for coordinated emergency response with local emergency agencies. Superintendents were asked whether any school officials had met with local law enforcement to discuss preparedness for a terrorist or mass-casualty event. Although a majority of superintendents (53.1%) reported having met with local law enforcement once or twice, more than one quarter
(27.1%) reported never having met with local law enforcement to discuss emergency planning. Most (78.3%) school districts have provided copies of floor plans to local emergency agencies. Superintendents were asked whether any school officials had met with local emergency medical agencies (emergency medical services) officials to discuss planning for the response to a terrorist or mass-casualty event. Almost half of the superintendents (42.8%) reported they had never met with local emergency medical service (EMS) officials to discuss response to a terrorist or mass casualty event at the school. A number (42.7%) of superintendents reported that they had met once or twice with local EMS officials, and 14.5% reported holding regularly scheduled meetings for disaster planning purposes (Graham, 2007).

Conclusions of the study (Graham, 2007) indicate important deficiencies in school emergency/disaster planning. First disaster/mass-casualty preparedness of schools should be improved through coordination of school officials, local medical and emergency officials. And second, to improve preparedness for disasters, good response planning requires broad involvement of several community groups. For example, pediatricians, local school officials, school nurses, school physicians, local public health officials, and local emergency officials should work together to improve the preparedness of schools for the unwelcome possibility of a mass-casualty event (Graham, 2007).

The literature suggests that appropriate and effective school responses to crisis needs further study. Though it may be impossible to plan for every crisis that may occur, schools must develop practical measures that make schools safer.
Schools must prepare for the worst and hope for the best, because the worst disaster to occur is not preparing for disaster in the first place.

**Statement of the Problem**

With violent crime on the rise (Wang, 2009), recent school-based attacks and schools being identified as “soft targets” for terrorists require that schools must reinforce efforts to secure the safety of their students and staff. Comprehensive crisis management plans must be in place, practiced, revisited, and altered to remain effective. Currently, there is a gap in the research about the status of crisis preparedness in schools that needs to be investigated. Thus, the researcher intends to learn about a) the state of crisis preparedness in schools to determine the management and planning for a range of crises; and b) the status of community collaboration in preparing for such crises.

**Research Methods**

A self-administered survey titled *School Crisis Preparedness Survey* was created to examine the various strategies and practices used by schools in response to anything that can constitute a crisis, including natural disasters, school violence, terrorism or any other incident that creates an emotionally stressful or traumatic event. The survey consisted of thirty-six questions that were based on recommended practices for crisis preparedness. The survey and cover letter were sent to principals in an Illinois school district for review. The principals analyzed the survey and letter for readability, format, question structure and clarity of the response scale.

A two-phase mail-out process was planned for the study. The first phase
included the cover letter (Appendix A), which defined the purpose of the study, the structure of the survey, and included language regarding confidentiality and anonymity for all participants. The letter directed participating members to visit the following website: https://www.surveymonkey.com/crisispreparedness and follow the onscreen directions to complete the survey (Appendix C). Additional information about the survey was available on the website. Due to the anonymity of the survey, there were no means by which to track responses to the survey. The second phase of the mailing included a follow-up letter (Appendix B) which was sent approximately three weeks after the initial letter.

The population for the study consisted of school administrators in schools located within the southwest region of a large metropolitan city. From this sample of 400 schools, of which 317 were public and 83 were private, 381 administrators were contacted. These consisted of 323 were elementary schools, 54 high schools and 4 were kindergarten through grade 12. Data for the study was collected during the 2009 - 2010 school year. The survey was directed to school administrators.

**Purpose of the Study**

The purpose of the study was to determine the status of school crisis preparedness and to identify any collaboration related to preparing for crises in Illinois schools. An analysis was conducted to evaluate any collaboration noted between school administrators and other community resources that indicate specific ways that administrators may be preparing for crisis situations in their schools. Several questions in the survey were specifically designed to identify any
collaboration between school administrators and first responders to a crisis situation, specifically police department personnel.

**Research Questions**

1. Does an administrator’s experience have an effect on crisis preparedness?

2. Is there any association between administrator experience and crisis preparedness?

3. Does a school's location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness?

4. Is there an association between an administrator’s experience and collaboration between first responders or other members of the community and school officials in regard to crisis preparedness?

5. Is there any association between a school's location, type or grade level configuration and collaboration among school officials and other members of the community in regard to crisis preparedness?

**Null Hypotheses**

H₀₁: There is no significant difference in crisis preparedness relative to administrator experience.

H₀₂: There is no association between crisis preparedness and administrator experience.

H₀₃: There is no significant difference in crisis preparedness relative to the school location, type of school or grade levels of school.
$H_04$: There is no association between crisis preparedness collaboration and administrator experience.

$H_05$: There is no association between crisis preparedness collaboration and the school’s location, type, or grade level configuration.

Chapter Two contains a review of the literature in regard to the history of school violence, strategies in response to school violence and suggested crisis preparedness approaches in regard to crisis preparedness. Chapter Three covers the methodology of this study. Chapter Four contains the results of the analyzed data for this study. Chapter Five includes a discussion on the results of the analyzed data.
CHAPTER II
LITERATURE REVIEW

History of School Violence

Violence in American Schools is not a new phenomenon, but actually dates back as early as the settlement of the first colonies during the Colonial Period, 1600 – 1780. Corporal punishment against children has received support for thousands of years from interpretation of legal and religious doctrines, including those beliefs based on Judeo-Christian and other religions (Hyman, 1996).

American school violence in the form of corporal punishment continued well into the Early National and Common School Era, 1780-1860 (Crews & Counts, 1997). Teachers tied students in chairs, flogged, and locked students in closets. Other methods of punishment included rapping student’s knuckles and striking students with leather straps. In 1837, Horace Mann, first secretary of the Massachusetts State Board of Education, reported he witnessed 328 separate floggings in five days (Crews & Counts, 1997). That same year, Mann noted that nearly 400 schools across Massachusetts had to be shut down because of disciplinary problems. In most institutions, keeping order took precedence over teaching. In the colleges, where the teenage students were bigger and less docile, violence was even worse. Princeton University witnessed six major riots between 1800 and 1830, including the burning
of the library in 1802 and a rash of campus explosions in 1823 that caused half of one class to be expelled (Greenberg, 2007).

Late in the Common School Era, parents began to question reports of violence and injustice in the classrooms (Crews & Counts, 1997). With heightened parental scrutiny, the use of severe corporal punishment against students declined. Cases of excessive flogging became less common, but teachers continued to use the rod.

The American Progressive Era, 1860 – 1960, was a time of massive social reforms. Women welcomed the right to vote and child labor laws were instilled to protect children. There was also an emphasis on promoting common language and customs among American immigrants. Early during this era, there were occasional reports of violence involving students against teachers (Crews & Counts, 1997). One such attack occurred on October 8, 1870 in the Town of Canton, Massachusetts. A young woman, Miss Barstow, employed as a teacher in a public school, was deliberately stoned to death by four boys she had told to shut up in the school building (Canton Historical Society, 2007).

School violence continued into the 20th century, during politically charged times, taking on many different forms. The Gary system also known as the Gary plan or platoon system was developed by Superintendent William A. Wirt of Gary, Indiana in 1907. The system introduced vocational training along with physical activity, and character growth to the classroom. In 1914, the City of New York hired Superintendent Wirt as a consultant to introduce the system in the New York
schools. The Gary system encountered resistance from students, parents, and labor leaders concerned that the plan simply trained children to work in factories (Volk, 2008). In 1917, when New York City introduced the Gary System, thousands of students and parents picketed and stoned Public School 171 on Madison Avenue. Similar riots erupted throughout the city, inciting numerous clashes with police. About 5000 students renewed their demonstration at night by marching through the streets, shouting their disapproval of the Gary System (Volk, 2008).

The Civil Rights Era, 1865-1970, also contributed to the complexity during this time. On May 18, 1896, the Supreme Court ruled separate-but-equal facilities constitutional on intrastate railroads. For some fifty years, the Plessy v. Ferguson decision upheld the principle of racial segregation. Across the country, laws mandated separate accommodations on buses, trains, and in hotels, theaters, and schools. By the 1930s, the practice of racial segregation was widespread and vigorously maintained. After hearing arguments by NAACP lawyer Thurgood Marshall, the Supreme Court overruled the Plessy v. Ferguson decision on May 17, 1954. In Brown v. the Board of Education, a unanimous Court adapted Justice Harlan’s position that segregation violated the Thirteenth and Fourteenth Amendments to the Constitution (Library of Congress, 2007).

Under a federal court order, the Little Rock School District prepared to admit nine African-American students to Central High School. On the evening of September 2, 1957, Arkansas Governor Orval Faubus announced in a televised speech, his intention to use the Arkansas National Guard Troops to “prevent
violence” and prohibit the nine students from entering the school. On September 4, the nine students attempted to enter the school, but were turned away by the troops. On September 20, Judge Davis ruled that Faubus had not used the Arkansas National Guard troops to preserve the law and ordered them removed. With the guards removed, the Little Rock police tried to maintain order as the nine students finally entered Central High School as rioting ensued. The police lost control of the crowd and the nine students had to be smuggled out the back of the school for their safety. Calling the rioting “disgraceful” President Eisenhower ordered units of the U.S. Army’s 101 Airborne Division into Little Rock and federalized the Arkansas National Guard. The federal troop presence remained throughout the school year at Central (U.S. Department of Interior, 2007).

The American Kaleidoscopic Era, 1960 to the present, displayed a surge in youth rebelliousness during the 1960’s, marked with extensive civil unrest and drug use. Crime grew overall while juvenile crime grew faster. Sociologists, social workers, and policy experts turned their attention to offenses ranging from vandalism to gang-related crime; from drug use to student-upon-student assaults. Schools implemented safety plans, bringing in adult hall monitors and setting up bodies for hearing student grievances. Urban schools hired professional security agents and later adopted surveillance cameras, metal detectors, locker searches, and other measures more commonly seen in prisons (Greenberg, 2007).

Congress reacted by initiating the 1975 Bayh Report to investigate the increase in school violence. The report is based on questionnaires about school
violence that were sent to every U.S. school district with an enrollment of 10,000
students or more. School crimes increased 42.5 percent between 1970 and 1973, and
the report concluded that crime presents a very serious threat to our schools and to
conducive learning environments (Kirby, 1976). School violence leveled off during
the 1980s, possibly due to the heightened awareness and strategies put into place
during the 1970s. In 1993 the National School Boards Association conducted a
survey of 2,000 urban, suburban, and rural school districts in the United States. The
study revealed that the majority of districts reported that school violence had
increased over the 5 years prior to the study. The study estimated that 135,000
American children carry guns to school each day and the use of weapons on school
grounds is becoming a particularly serious problem (Warner, Weist & Krulak, 1999).
In 1990, the Center to Prevent Handgun Violence reported that in the years 1986
through 1990, 71 people were murdered by guns in school, 201 were seriously
wounded, and 242 held hostage. Handguns were used in 75% of the incidents
involving firearms (Center to Prevent Handgun Violence, 1990).

Through technological advancements, inception of the internet, satellite and
cable television, horrific mass casualty events in American schools seemed never as
prevalent as displayed during the 1990s to the present day. It appeared an epidemic
had struck the American School System. Students acquired guns and homemade
bombs, while implementing sinister plans to slaughter teachers and classmates. Such
menacing incidents were displayed by immense media coverage, including those
which occurred in Paducah, Kentucky; Jonesboro, Arkansas; Littleton, Colorado;
Blacksburg, Virginia; and DeKalb, Illinois. While the news coverage of school shootings has increased, the National School Safety Center reports that students are twice as likely to be victims of serious violence away from school. In 2003, there were 12 such crimes per 1,000 students away from school and six crimes per 1,000 students at school (National School Safety Center, 2006).

**Current Trends in School Violence**

In the 2005-06 school year, an estimated 54.8 million students were enrolled in prekindergarten through grade 12 (Dinkes, 2007). There were a total of 2,111,706 students attending 3,899 schools within the State of Illinois. The average student/teacher ratio was 16.4 in both the elementary and high school settings (Hoffman, 2007). There are 408,601 students attending the 483 elementary schools and 116 high schools within the Chicago Public School System with a student/teacher ratio of 23 to 1 in elementary schools and 21 to 1 in the high schools (Chicago Public Schools, 2008).

From July 1, 2005, through June 30, 2006, there were 35 school-associated violent deaths in elementary and secondary schools in the United States (Indicators of School Crime and Safety, 2007). The National School Safety Center reported that during the 2006-07 school year there were 19 school related deaths. Sixteen deaths occurred by means of shooting; 2 by stabbing and 1 by beating/kicking. Of the 19 deaths, 3 occurred in elementary schools, 9 in high schools and 7 in alternative school settings. When locations of these incidents were examined it was determined that 10 occurred in a classroom or office setting; 3 in a hallway; 2 in a parking lot; 2
near the school; 1 on campus; and 1 on a bus (National School Safety Report, 2007).

The NSBA (1993) estimated that 135,000 American children carry guns to school each day. Most (63%) of these incidents involved high school students, followed by middle-school (24%) and elementary-school (12%) students. One percent of these incidents involved preschoolers (Krulak, Warner & Weist, 1999). The Department of Education (1999) reported that 3,930 students in public K-12 schools were expelled for bringing a firearm to school in school year 1997-98. This is down 31% from the previous year’s reported figure of 5,724 (U.S. Department of Education, 1999). The Center for Disease Control and Prevention (1996) conducted a national survey that found the carrying and use of weapons on school grounds is becoming a particularly serious problem. A nationwide school-based assessment of high school students, revealed that 1 of 5 students in Grades 9 through 12 carried a firearm, knife, or club at least one time during the months prior to the survey. Cutting instruments were the most commonly carried weapons (Krulak, Warner & Weist, 1999). For students (41%) involved in the use or possession of a weapon other than a firearm or explosive device at school, the most frequently used disciplinary action was an out-of-school suspension lasting 5 or more days (Dinkes, Guerino & Nolle, 2007).

The overall rate of violent incidents for all public schools was 31 incidents per 1,000 students. The rate of violent incidents was significantly higher in middle schools (52 incidents per 1,000 students) than in primary schools (25 incidents per 1,000 students) or high schools (26 incidents per 1,000 students) (Dinkes, Guerino &
While the rate of violent victimization continues to fall, other aspects of safety in schools have not shown short-term improvement. During 2005, 24% of students reported that there were gangs at their schools, a 3% increase from 2003 (National School Safety Center, 2006). Students in urban schools (36%) were more likely to report the presence of gangs at their school than suburban students (21%) and rural students (16%) (Indicators of School Crime and Safety, 2007). Over 37% of SRO respondents that were surveyed at the annual NASRO Conference stated that gang activity in their school/district had increased during the past year (National Association of School Resource Officers, 2004).

Nineteen percent of students in grades 9-12 in 2005 reported they had carried a weapon, and 6% reported they had carried a weapon on school property during the previous 30 days (Indicators of School Crime and Safety, 2007). Between 1993 and 2005, the percentage of students in grades 9 through 12 who reported carrying a weapon to school in the preceding 30 days declined from 12% to 6% (National School Safety Center, 2006). Higher percentages of students report knowing a student who brought a gun to school when students report gang presence (25%) than when gangs were not present (8%) (Howell, 2006).

In 2005, 10% of male students in grades 9 – 12 reported being threatened or injured with a weapon on school property in the past year, compared to 6% of female students. In the 2003-04 school year, a greater percentage of teachers in city schools (10%) reported being threatened with injury or physically attacked in 2003-04 than teachers in suburban (6%), town (5%), or rural (5%) schools. A greater percentage of
secondary school teachers (8%) reported being threatened with injury by a student than elementary school teachers (6%). However, a greater percentage of elementary school teachers (4%) reported being physically attacked than secondary school teachers (2%) (Indicators of School Crime and Safety, 2007). The Safe School Initiative (2002) identified 37 incidents involving 41 attackers armed with firearms. In over half of the incidents (54%), the attacker had selected at least one school administrator, faculty member, or staff member as a target. Students were chosen as targets in fewer than half of the incidents (41%) (Borum, Fein, Modzeleski, Reddy & Vossekuil, 2004).

In 2005, 36 percent of students in grades 9-12 reported they had been in a fight, and 14% said they had been in a fight on school property during the previous 12 months. Twenty-eight percent of students ages 12-18 reported being bullied at school during the previous 6 months. Of these students, 53% said that the bullying had happened once or twice during that period, 25% had experienced bullying once or twice a month, and 11% reported having been bullied almost daily. Of those students who reported bullying incidents that involved being pushed, shoved, tripped, or spit on, 24% reported that they had sustained an injury during the previous 6 months as a result (Indicators of School Crime and Safety, 2007). Middle schools (43%) were more likely to report that student bullying occurred at school daily or weekly than were high schools (22%) or primary schools (21%); there was no measurable difference between high schools and primary schools in percentage of schools reporting daily or weekly student bullying (Dinkes, Guerino & Nolle, 2007).
A 1998 national survey on school violence indicated that as many as 11% of male and female students, grades 7 – 12, believed their schools were unsafe. Menacker, Weldon, and Hurwitz (1990), surveyed students in three Chicago schools which revealed that more than 50% of middle-school students reported they felt unsafe at school, and about one third reported bringing weapons to school related to these safety concerns (Krulak, Warner, & Weist, 1999). The rate of school violence is higher in urban schools than in suburban or rural schools. This is likely a reflection of higher levels of violence that are observed in urban communities. Larger schools are likely to have higher rates of violence than smaller schools and overcrowded conditions in schools and classrooms can increase the levels of reported violence. Additionally, violence is more prevalent in middle schools than in either high schools or elementary schools. The relationship between school size and levels of aggression is likely related to the degree to which students feel they can identify with the school and its structure. Larger schools may seem impersonal; students may feel powerless to change or become involved in its management and may feel alienated from other students and teachers (Krulak, Warner, & Weist, 1999).

**Strategies in Response to School Violence**

Students need a safe environment in order to learn, and school officials have a strong obligation, both moral and legal, to provide students with a safe environment (Bailey & Ross, 2001). Early safety education efforts focused on educating students through the regular curriculum on safety concerns involving the mechanisms of injury and situations in which injuries occur (Turner, 1940). The
curriculum focused on general safety concerns and included playground safety, safety in the community, driver safety, fire safety, outdoor and recreational accident safety.

Safety concerns have changed considerably in recent years. Most prominent are concerns of the potential for violence. Trump (1998) identified schools’ top five safety concerns as “aggression and violent behavior, drugs, weapons, gangs, and stranger danger” (p.5).

Schools face a variety of emergencies, including the potential for violence, natural disasters, civil unrest, and terrorism. A crisis is “an event that is extraordinary and therefore cannot be predicted” (Peterson & Straub, 1992). Preparation for such emergencies can be an exhausting and never ending endeavor. Planning ahead for crisis is a key element to an effective response, and such planning should include the designation of a core response team, establishment of procedures, communication with community services, and proper training of staff to handle crisis situations (Dwyer & Osher, 2000a; Dwyer et al., 1998). The goal of crisis response planning is to prevent a situation from getting worse, restoring victim’s functioning, and decreasing any long-term effects (American Academy of Experts in Traumatic Stress, 1999).

Schools can rely on model plans, outside resources, develop their own plan, or use any combination to develop their plan. School personnel may be best suited to organize and implement an emergency response plan with reliance upon outside sources as needed, because of their familiarity with students’ needs (Brock et al.,
This approach is categorized as a school-based approach. Others suggest that a community-based approach, involving collaboration with outside resources, helps to maximize a school’s ability to handle a crisis situation (Dwyer & Osher, 2000a; Dwyer et al., 1998, Johnson, 2000a).

Community-based strategies have been successful in reducing crime and violence by utilizing a problem solving approach to intervention (U.S. Departments of Education & Justice, 1998). Research-based practices suggest that the most promising prevention and intervention strategies involve all participants in the community who contribute to a student’s education, such as administrators, teachers, family, students, support staff and community members (Quinn et al., 1998).

Trump (1998) has developed a community approach that emphasizes the need to complete a security assessment prior to developing or modifying any emergency response plan. The security assessment identifies problem areas that schools may be unaware of due to a lack of knowledge in security issues. Suggestions can then be made from the assessment findings concerning policy and procedures. Trump contends that community collaboration allows schools to receive technical assistance, support, training, education, and fosters communication between agencies.

All schools should prepare for certain crisis situations. Trump (1998) proposes that schools should prepare for both security-related incidents and non-criminal events, while addressing individual school and district level concerns. While other experts do not categorize specific crisis situations in the same manner as
Staff should be properly trained on a regular basis, usually annually, on how to use the plans (Johnson, 2000a; Stephens, 1998). Some experts suggest that testing procedures through mock crisis simulations help participants to realize their roles and ask questions regarding areas of uncertainty and identify issues that may have been overlooked by the planning team, which can be addressed during these drills (Schoenfeldt, 2000; Trump, 2000). Cross-training with community agencies that might be involved in the crisis should also occur (Johnson, 2000a).

Schools implement a variety of measures to enhance the safety of students and staff, ranging from codes of conduct to installed security devices. Security measures utilized by schools currently include metal detectors, locker checks, security cameras, security guards or police officers, adult supervision in hallways, badges or picture identification for students and staff, a code of conduct, secured entrance or exit doors during the school session, and a requirement that visitors sign in. Certain practices, such as locked or monitored doors or gates, are intended to limit or control access to the school campus, while others, such as metal detectors and security cameras are intended to monitor or restrict students’ and visitors’ behavior on campus.

In the 2005-06 school year, 85% of public schools controlled access to school buildings by locking or monitoring doors during schools hours, and 41% controlled access to school grounds with locked or monitored gates. Faculty and staff in 48% of public schools were required to wear badges or picture identification, and 43% used...
one or more security cameras to monitor the school. The percentage of schools using various security measures has changed over time. Between the 1999-2000 and 2005-2006 school years, the percentage of schools using one or more security cameras to monitor the school increased from 19% to 43%. The percentage of public schools providing telephones in most classrooms also increased, from 45% in 1999-2000 to 67% in 2005-2006 (Indicators of School Crime and Safety, 2007).

During 2005, nearly all students 12 to 18 years old encountered at least one security measure at school. The percentage of students who observed the use of security cameras at their schools increased from 39% in 2001 to 58% in 2005. At the same time, 90% of all students reported seeing school staff members or other adult supervisors in the hallway, and 68% of students reported the presence of security guards or assigned police officers at their school (National School Safety Center, 2006). Students were drilled in 40% of schools on a written plan describing procedures to be performed during a shooting, and 83% of schools drilled students on a written plan for natural disasters. Students were drilled in 33% of schools on a written plan for hostage situations, 55% of schools drilled students on a written plan for bomb threats or incidents, and 28% of schools drilled students on a written plan for chemical, biological, or radiological threats or incidents (Dinkes, Guerino & Nolle, 2007).

Although recent figures demonstrate an attempt to improve security within schools, a study on perceptions of school personnel about school safety found that school personnel were concerned that they were not prepared for a crisis, were not
well-informed about their schools crisis plans, and lacked access to resources and agency support systems in the event of a crisis (Jones et. al., 2002). In a 2004 national survey of 758 school resource officers, 51% indicated that their schools had inadequate crisis plans, and 66.5% stated the plans are not adequately exercised. The survey also revealed that 43.8% responded that school officials do not meet with outside agencies, including police and fire departments; there is no professional development training (55.2%); and only 34.8% responded that school bus drivers or transportation personnel received training related to security measures (Trump, 2005).

In 2007 during a hearing on “NCLB: Preventing Dropouts and Enhancing School Safety”, Kenneth Trump, president of National School Safety and Security Services, reported to Congress that school administrators are under-reporting incidents of school violence and crimes for political and image purposes. The “Persistently Dangerous Schools” component of the federal No Child Left Behind law requires states to create definitions of a “persistently dangerous school” so that parents may have the option of school choice. The result has been that to avoid a politically volatile relationship with local education agencies, states have created definitions so unattainable that they could not be met by most school districts, even if they wanted the label. The result has been well intended legislation that has been lost in the politics of implementation. Trump argues that there is a need for Congress to improve crime reporting in order to accurately identify the scope and severity of school crime and violence, without which we will never be able to improve the
safety in our schools (Trump, 2007).

Although most schools created or adopted crisis plans after the Columbine attack in April of 1999, many plans are sitting on shelves collecting dust. Gaps in emergency plans include a lack of training of school staff, a lack of exercising plans in cooperation with public safety partners, and content that does not pertain to the unique environment of the individual school. Although many schools have crisis plans, and some conduct practice drills, few have actually participated in simulations that test the plan in a crisis situation leading to real knowledge on how well the plan would work in an actual crisis (Trump, 2007).

Schools should conduct annual safety assessments that can result in the evaluation of vulnerability and readiness. Assessments should go beyond physical security measures to include reviews of policies and procedures, professional development training, emergency planning, crime prevention awareness, safety staffing, prevention and intervention programs, and associated safety components. Internal, self-assessments should be ongoing. Resources from outside local agencies (police, fire, emergency medical, emergency management, and other community resources) should be included while conducting these self-assessments (National Strategy Forum, 2004).

A threat assessment itself is not adequate and should be looked upon as one component in an overall strategy to reduce school violence. The threat assessment process by itself is unlikely to have a lasting effect on the problem of targeted school violence unless that process is implemented in the larger context of strategies to
ensure that schools offer their students safe and secure learning environments. The principal objective of school violence-reduction should be to create cultures and climates of safety, respect, and emotional support within educational institutions. An assessment of the school’s emotional climate should also be conducted (Fein, Pollack, & Vossekuil, 2004).

**School Climate**

Cultures and climates of safety support environments in which teachers and administrators pay attention to students’ social and emotional needs as well as their academic needs. Such environments emphasize “emotional intelligence” as well as educational or intellectual pursuits. Students experience a sense of emotionally “fitting in” and may be less likely to engage in or be victimized by harmful behavior (Fein, Pollack, & Vossekuil, 2004).

Connection through human relationships is the central component of a culture of safety and respect. This connection is the critical emotional glue among students, and between students and adults charged with meeting students’ educational, social, emotional, and safety needs (Fein, Pollack, & Vossekuil, 2004). One theory suggests that high levels of violence are found in schools in which students feel alienated. Alienation may be in the form of a lack of connectedness to or significant knowledge of other students, teachers, and the school’s structure and environment in general. Such alienation is more likely to occur in larger schools with large classrooms, split sessions, rapid increases in enrollment, and inadequate student-teacher ratio (Krulak, Warner, & Weist, 1999).
In a climate of safety, students have a positive connection to at least one adult in authority. Each student feels that there is an adult to whom he or she can share his or her concerns openly and without fear of shame or reprisal (Fein, Pollack, & Vossekuil, 2004). Children’s ability to participate meaningfully in the school community derives from their social/ emotional capacities. Children’s social/emotional development is grounded in their early interactions with significant others. Attachment theory (Bowlby, 1982; Bretherton, 1987) maintains that children internalize a set of beliefs about self, others, and the nature of relationships that sets the stage for future social behavior. The theory posits that children who have positive, secure, reciprocal interactions with significant adults explore the world readily, thus developing sophisticated coping repertoires and perceptions of personal agency (Baker, 1998).

The importance of social context of development is evident within cognitive psychology (Goodenow, 1992; Rogoff & Lave, 1984; Vygotsky, 1978). Within Vygotskian perspectives on learning, the responsiveness of social environment is critical for children’s acquisition of complex thinking skills. Learning and cognitive development are promoted by interaction with the social environment. From this perspective, learning and cognition, traditionally the “stuff” of school, are entirely dependent on the social context (Baker, 1998).

Violence-prone children develop different working models or personal schemas related to self and relationships (Greenburg, Speltz, & DeKlyen, 1993; Waters, Posada, Crowell, & Keng-ling, 1993). Because of their insecure attachment
histories, children have fewer skills to negotiate social relationships and contexts, and hold less competent views of the self (Bowlby, 1982). These child-based characteristics interact with inadequate parenting practices and the modeling of violence to produce the potential for conduct problems in children (O’Donnell et al., 1995).

Children bring their social development histories with them to school (Pianta & Steinberg, 1992). The social environment at school determines to what degree violence is exhibited in that setting (Baker, 1998).

**Terrorism and Schools**

Terrorist organizations, both domestic and international, have targeted schools due to their availability, vulnerability, and especially for the tremendous psychological impact. Terrorists target schools because they are relatively soft yet powerful targets. Historically, elementary schools and school buses are particularly vulnerable and targeted more frequently than other types of school related targets. Terrorists view schools as an extension of the government (Chicago Police Department, 2005). There is no single, universally accepted, definition of terrorism. The United States Code and the Federal Bureau of Investigation define terrorism as “…the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives (U.S. Department of Justice, 1997).

The Department of Homeland Security on March 12, 2002 announced a color-coded warning system known as the Homeland Security Advisory System to
alert citizens of the risk of terrorist attacks. The advisory system provides a comprehensive and effective means to disseminate information regarding the risks of terrorist acts to Federal, State, and local authorities and to the American people. The warning system has five levels of risk for terrorist attacks: green, indicating low risk for terrorist attacks; blue, indicating a “guarded” or higher risk; yellow, indicating an “elevated” or significant risk; orange, indicating a “high” risk; and red indicating “severe”, the highest level of threat. At each threat condition, Federal departments and agencies would implement a corresponding set of “Protective Measures” to further reduce vulnerability or increase response capability during a period of heightened alert (Department of Homeland Security, 2002). A similar advisory system has been developed by the American Red Cross and is recommended for use within a school setting (American Red Cross, 2002).

On September 3, 2004, the worst school related massacre in history took place at School Number One in the town of Beslan, North Ossetia-Alania. A chaotic gun battle broke out between hostage-takers and Russian security forces. Three hundred thirty-four civilians were killed; including 156 children and hundreds more were wounded (Finn & Glasser, 2004). Chechen terrorist Shamil Basayev took responsibility for the hostage taking (Dougherty, 2004).

Although terrorist attacks are commonplace in other parts of the world, more recent incidents occurring in the United States received much more publicity, such as those which occurred at the World Trade Center in 1993, the Federal Building in Oklahoma in 1995, and the attacks of 9-11 in 2001. Such terrifying attacks have been
taking place for decades. The deadliest school massacre in United States history took place on May 18, 1927 in Bath, Michigan, killing forty-two people, mostly children, and injuring sixty-one others.

In Bath during this era, elementary and secondary education in this rural area followed a standard pattern. There were numerous small, one-room schools scattered throughout the countryside. Different grade levels shared the same classroom and a teacher. There was an increasing belief that the children would receive a better education if the students attended one school. The school would encompass individual grades and the facility would be of a higher quality. Property taxes were raised to pay for the project and the district built a new school, which became known as the Bath Consolidated School.

Some property owners believed that the tax was unfair since they had no children attending the school and the old single room schools worked just fine. One such landowner, Andrew Kehoe, was particularly upset and believed the taxes were both illegal and unfair blaming the board president for his influence over the other board members. He viewed many of the town expenditures as wasteful and ill conceived. Kehoe campaigned endlessly for lower taxes and gained a reputation for his thriftiness which helped get him elected to the school board.

Kehoe was very intelligent, educated at Michigan State College and an electrical school in St. Louis. He was also a talented handyman and mechanically adept. The school board appointed him to perform maintenance in the Bath Consolidated School. Kehoe had free access to the building and his presence was
never questioned.

Kehoe utilized his expertise to systematically conceal and wire for detonation over 1,000 pounds of dynamite in the floors and rafters of the school. He also wired up his homestead with a series of fire bombs which consisted of gasoline and placed them throughout his farm. Kehoe then filled his pickup truck with all sorts of metal debris including old tools, nails and anything else that could make shrapnel during an explosion. He then placed a large cache of dynamite behind the front seat and laid a fully loaded rifle on the front seat.

On the morning of May 18, 1927, Kehoe put his well organized plan into motion by detonating the firebombs engulfing the farm in flames. He then entered his pickup truck and began driving to the school. While on his way to the school, the bomb concealed in the school wired to a clock detonated. Upon his arrival at the school, Kehoe observed Emory Huyck, School Board President, outside the school with other rescuers amidst the carnage and debris. Kehoe exited his truck and summoned Superintendent Huyck. Kehoe then pulled the rifle from the front seat of the truck, took aim at the dynamite in the truck and fired. Another powerful explosion erupted expelling shrapnel striking down everything in its path killing both Kehoe and Huyck among others (Gado, 2007).

Another individual who wreaked havoc for nearly two decades upon educational institutions nationwide by utilizing explosive devices was Theodore Kaczynski also known as The Unabomber. Kaczynski was an extremely bright
individual who skipped sixth grade in elementary school and the eleventh grade in high school. By the age of 16 he commenced studies at Harvard and by the time he was 25, he had completed his masters and Ph.D. Upon graduating in 1967, he became an assistant professor in Math at the University of California at Berkeley, but quit in June 1969 because he failed to see the relevance in what he taught (Ottley, 2007).

Kaczynski mailed bombs to his intended targets, usually professors, through the United States Postal Service. Kaczynski’s reign of terror extended nearly eighteen years before his arrest on April 3, 1996. On January 22, 1998, Kaczynski pled guilty to 13 bomb attacks killing 3 people and injuring 2. By pleading guilty he was spared from the death penalty and sentenced to life without a chance for parole.

Trump testified before Congress that schools are at considerable risk and ill prepared for a terrorist attack (Trump, 2007). Captured Al-Qaeda video shows specific training being conducted to assault schools. The video depicts a mock siege of schools which included the rehearsed shooting of schoolchildren and the taking of hostages (Homeland Security, 2002). Experts also suggest schools prepare for terrorism such as anthrax infection and sniper attacks (American Academy of Experts in Traumatic Stress, 1999; Trump, 1998).

In October 2004, schools in six states were notified that information had been uncovered by the United States military in Baghdad that a man, described as an Iraqi insurgent, had been captured and was in possession of computer disks with downloaded school floor plans and safety and security information about elementary
and high schools in the six states (Homeland Security, 2002). An ominous new threat against the United States appeared on a website and claimed to be from an Al Qaeda spokesman which read “We have the right to kill four million Americans, including one million children. We have the right to fight them with chemical and biological weapons so they catch the fatal and unusual diseases Muslims have caught due to United States chemical and biological weapons” (Fox News, 2002).

On August 1, 2005 in Missouri, two individuals entered a bus dealership stating they were French students and tourists. They stated they wanted to take photos of their Route 66 trip. They were given permission to take photos, but began photographing close-ups only of the cross-view mirrors and the security cameras installed on the school buses. A similar incident took place in Texas on October 10, 2005. An individual attempted to purchase 30 school buses. This individual falsely identified himself as an employee of an independent school district. Alert employees of the bus distributor company called the school district to verify the individual’s claims. The school district never heard of the individual and did not want to purchase buses (Chicago Police Department, 2005).

The yellow school bus is symbolic of our children and our future in America. By attacking school buses, terrorists intend to depict the government as incapable of protecting its citizens (Chicago Police Department, 2005). A school bus is viewed as an extension of the school and is a very soft target, utilizing only a limited amount of funds and effort to exert the greatest amount of casualties and hysteria. Historically, buses (both school and commuter) have been targeted at a higher rate (Dorn, 2005).
We cannot and should not underestimate the threat or worse yet, falsely believe the danger of a terrorist attack upon American schools doesn’t exist. In intelligence circles, many fear that the Beslan massacre may only have been a dress rehearsal for what Al Qaeda plans to do in America, but on a much larger scale, launching multiple school attacks simultaneously across the country (Homeland Security, 2002). This concern was also expressed by Trump, who further related to Congress that “Everyday 53 million young people attend more than 119,000 public and private schools, where 6 million adults work as teachers and staff. Counting students and staff, on any given weekday more than one-fifth of the United States population can be found in schools” (Trump, 2007).

The “All Hazard” Approach

During a national conference on school safety (2003) it was determined that schools need to take an “all hazard” approach while preparing and training for crisis or emergency situations. Preparedness planning, training, and collaboration between schools (staff, faculty, students, parents), public safety agencies (police, fire, and emergency medical), and government emergency management authorities can mitigate the impact of emergencies, improve responses, and accelerate recovery.

Planning, training, and conducting exercises must be integrated into a school’s and community’s emergency response plan (School Safety, 2003).

Michael Dorn reiterates the need to take an “all hazards plan” approach to address not only school violence and other emergency situations but also terrorism. Dorn suggests that models need to address terrorism concerns in an all hazard plan
rather than in addition to a previously devised plan. While some with the responsibility to establish proper safe school plans are in denial, it is imperative that we recognize that any school can be the scene of a disaster. Failure to develop a proper safe school plan is not only a serious oversight, but an inexcusable failure to properly safeguard our children (Dorn, 2005).

Dorn recommends that school officials work closely with area emergency management, law enforcement, fire service, emergency medical services, public health, mental health and other local experts when developing their plan. A properly implemented school safety plan allows a community to maximize the use of available resources, reduce the cost of safety measures and significantly reduce the risk of injury or death to students and staff. Furthermore, it would help develop a more effective working relationship between school and emergency response officials and dramatically improve the response to and recovery from any major crisis event. Public safety personnel want to be properly prepared to respond as effectively as possible should a tragedy strike a school in their community. They know, deep down, that in the event of a major crisis, there are not second chances, little time to stop and think, and that the lives of children will be in their hands. They also know that the outcome of any crisis will be determined by advanced planning efforts, regular drills and exercises as well as training conducted long before that day. The time for school and emergency response officials to address these issues is before, not during an incident (Dorn, 2005).

A crisis management plan should include every available resource from the
community and its organizations. A school may not be the intended target of terrorism, but may be located near one, as displayed in New York during the attacks of 9/11. Though the attacks were directed at the towers of the World Trade Center, schools in the area were directly impacted by the tragic event.

**Communication Barriers**

On September 11, 2001, there were more than 6000 students in attendance at seven public schools located near the World Trade Center in New York City (Barlett & Patrarca, 2002). As the towers collapsed, all seven schools were safely evacuated with no casualties to students or staff members. Although there were no casualties, new concerns have emerged regarding exposure to hazardous materials and toxic fumes while they were being evacuated from the disaster scene.

Ron Davis, spokesman for the United Federation of Teachers in New York City, reported concerns about the adequacy of emergency plans used in the evacuation of the schools on September 11, 2001. Davis complained that there were delays and confusion over evacuating students from the building, and where to relocate them. Davis described a top-down style of management utilized in the school district, where principals lacked the authority to make immediate on-the-spot decisions regarding school safety (Brown & Johnston, 2001).

Parents of children caught in the evacuation of schools near the World Trade Center on September 11, 2001 also complained about communication problems. Many parents were uncertain where to locate their children due to failed communication with the media. Principals reported they did not contact the media,
relying instead on the district superintendents to relay the information (Bartlett & Petrarca, 2002).

Schools near the World Trade Center evaluated the effectiveness of their crisis management plans after the attack. Principals surveyed, described cumbersome documents were as long as 25 pages in length. Other complaints regarded public address systems that did not work, adding to the confusion during the evacuation process (Barlett & Petrarca, 2002).

One of the major deficiencies discovered during the terrorist attacks on September 11, 2001 was communication. The failure of government agencies to disseminate vital information, the inability of communication between police and fire personnel, and the inability of concerned family members to communicate with medical and school facilities attempting to locate lost family members, also presented a problem to an already chaotic situation. Schools were inundated by parents attempting to locate their children, unfortunately for the parents; children were relocated to unknown locations due to failed communication with the media. Principals reported that they did not contact the media because they believed the district superintendent’s office would relay the information to the media. Lack of coordination and communication between public health, education, and other first responders, remains a concern (Greene, 2003).

Emergency communications still posed a problem fours years after the tragic events of 9/11. Michael Brown, director of the Federal Emergency Management Agency blamed the difficulties of delivering emergency assistance during Hurricane
Katrina on “the total lack of communications, the inability to hear and have good intelligence on the ground about what was actually occurring there” (Kerr, 2005).

The inability to coordinate and communicate between public health, education, and other first responders continues and could not have been better demonstrated then on the tragic day of April 16, 2007.

On April 16, 2007, a tragic chapter was added to Virginia’s history when a disturbed young man at Virginia Tech took the lives of 32 students and faculty, wounded many others, and killed himself (Virginia Tech Review Panel, 2007). Seung Hui Cho’s psychological condition and history was not forwarded to staff members that were responsible for his care. Furthermore, his mental history and prescribed medications were never forwarded to the Virginia State Police, which enabled Cho to circumvent the mandatory background check and purchase multiple handguns and ammunition at a gun store.

When Cho began to demonstrate signs of aggression toward his instructors and other classmates at Virginia Tech, the information was not forwarded to the appropriate authorities. There were several incidents in which campus police were called and interacted with Cho and no information was ever disseminated. There was no communication between the school, medical facilities, campus police and the Cho family leading up to the tragic event.

On April 16, 2007, Cho put his deranged plan into motion, at 7:15 a.m. he shot two individuals in a dorm building. One victim was a complainant on previous incidents reported to campus police involving Cho, but police decided to investigate
other leads at the time. At 7:57 a.m. the police chief notified the Executive Vice President of the shootings which triggered a meeting of the University’s Policy Group.

There are two key decision groups in Virginia Tech’s Emergency Response Plan: the Policy Group and the Emergency Response Group. The Policy Group deals with procedures to support emergency operations and to determine recovery priorities. The Policy Group sits above the emergency coordinator for an incident and does not include a member of the campus police department.

The second key group, the Emergency Response Resources Group, includes a vice president designed to be in charge of an incident, police officials, and others depending on the nature of the event. It is to ensure that the resources needed to support the Policy Group and needs of the emergency are available. The protocol for sending an emergency message in use on April 16 was cumbersome, untimely, and problematic when a decision was needed as soon as possible. The police did not have the capability to send an emergency alert message on their own and had to wait for the deliberations of the Policy Group, of which they are not a member, even when minutes count.

The lack of communication and coordination amongst administrative officials allowed Cho to continue his killing spree. At 9:40 a.m., Cho entered Norris Hall and systematically went room to room, firing and killing numerous students and staff. At 9:51 a.m. just as police arrived on the second floor of Norris Hall, Cho shot himself in the head. Cho’s shooting spree in Norris Hall lasted about 11 minutes. He fired
74 rounds, and killed 30 people in Norris Hall plus himself, and wounded 17 others (Virginia Tech Review Panel, 2007).

Chapter Summary

Review of the literature on the history of school violence has produced several findings. Violence in American schools in not new and actually dates back to the Colonial period. School violence has not been limited to students. Teachers, staff, parents, emergency response personnel and members of the community have been victims of violence throughout the history of American schools.

The literature has revealed that current responses to school violence include the need for efficient crisis plans. Although many schools may already have crisis plans, they may have been hastily adopted in response to a high profile incident of school violence and may be inadequate and not developed for a school’s unique environment. The literature suggest that schools conduct crisis analysis of the schools specific and unique needs, while incorporating contributions from staff, students, police, fire, medical emergency services along with other stake holders within the community. Although the literature supported conducting emergency drills with police, fire, medical services and other stake holders in the community, it discerned that few schools organize realistic simulations that actually test plans.

Although terrorist attacks directed at schools are rare, terrorism represents a new and significant threat for American schools and should be a significant component of a school’s crisis preparedness plan. Although a school may not be the intended target of a terrorist attack, it may be located near one, as displayed in New
York City during the attacks of 9/11. While terrorism and school violence have generated significant attention at state and federal levels, security experts contend that efforts to prepare schools have been hampered by denial, image concerns, and political influences.

Recommendations for effective crisis planning include training programs, drills, enhanced monitoring of school facilities, and empowering on-sight administrators to make decisions. While reviewing the literature, the following represent specific recommendations for school administrators on crisis preparedness regarding effective responses to violence and terrorism:

- Be informed of the school crisis plan, noting the length and ease of use.
- Assess the unique security risks of the school’s environment.
- Be aware of community crisis support agencies.
- Have access to sufficient emergency supplies.
- Monitor access to school grounds, have visitors sign in.
- Use video surveillance systems and metal detectors as deterrents.
- Implement violence prevention programs.
- Regularly check communication systems, such as a public address system.
- Include outside support services including police, fire, and medical emergency services while constructing a crisis plan.
- Conduct risk analysis to assess strengths and weaknesses of the school safety
plan.

• Be aware of Homeland Security Advisory color-coded warning system and incorporate responses in crisis preparedness plan.

• Train teachers, students and staff in safety procedures.

• Administrators should be able to make immediate on-the-spot decisions regarding protective measures.

• Conduct drills

• Conduct simulations of actual crisis with assistance from community resources such as police, fire, emergency medical services along with other organizations and stakeholders within the community.

• Include plans for crisis recovery in school safety plans.
CHAPTER III
RESEARCH METHODS

Introduction

This study focuses on the status of school crisis preparedness and the identification of any collaboration occurring between school administrators and other members of the community including first responders such as police and fire personnel in regard to crisis preparedness. In this chapter on research methodology, the researcher explains how a survey was designed and data were collected from that survey about school crises to (a) determine the adequacy of school crisis plans based on state, federal and expert recommendations for school safety, and (b) discover the relationship of schools and communities in crisis prevention. Demographic data were also gathered to examine whether specific factors played any role in preparing schools for crises.

The following sections of this paper report on the background of the study, the research methods and design of the study, the guiding research questions, the data collection procedures, and examination of the results. There is a need to learn more about the adequacy of school crisis plans based on state, federal and expert recommendations to create safer school environments for all students, administrators and personnel.
Background Information

In a review of the literature, the researcher analyzed the history of school violence (Crews et al., 1997; Greenburg et al., 1993; Kirby, 1976) and crisis preparedness (Brock et al., 2001; Bailey et al., 2001), current trends in school violence (Borum et al., 2004; O’Donnell et al., 1995; Virginia Tech Review Panel, 2007) and crisis preparedness (Greene, 2003; Johnson, 2000a), and recommended strategies in response to crisis preparedness (Bailey et al., 2001; Barlett et al., 2002; Brock et al., 2001; Dorn, 2005; Trump, 1998; Trump, 2005) including terrorism (Chicago Police Department, 2005; Dorn, 2005; Trump, 2005; Trump 2007).

From the literature review, the researcher discovered the limited investigations related to crisis preparedness that have been conducted in elementary and secondary schools. Based on those research findings, specific recommendations for principals and administrators were noted and used to develop a survey to study the planning and collaboration around emergency situations in schools to determine the current state of crisis preparation and community collaboration in schools.

Research Methods and Design

Quantitative methods (Johnson & Christensen, 2004) were employed to identify the adequacy of crisis preparedness and discover any collaboration occurring between school administrators and community resources. These methods were chosen based on the quantitative data collected about crisis preparedness and also because quantitative methods would best be able to identify any differences among administrators’ responses in regard to crisis preparedness and community
collaboration. Specifically a Chi-Square test was used to test the associations between the variables of each administrator’s experience, the grade levels and location of the school, and type of school (public or private) with expert recommendations for crisis preparedness. For Chi-Square (Lehmann, 1975) test results indicating a cell frequency of five or less, a Fisher’s exact test (Lehmann, 1975) was used to identify any statistical significance within a small group of data.

Several procedures were followed to design the survey and conduct the research study. First, a survey format was developed based on clarity of each statement in the response scale. Second, the research questions were developed from reviews of expert recommendations and guided the design of the survey and the way it was conducted and analyzed to draw conclusions.

The self-administered survey, *The Crisis Preparedness Survey*, was designed to collect information regarding crisis preparedness strategies and practices. The survey was developed from a review of the literature on crisis preparedness and related the recommendations by research experts. These experts included those who have studied effective crisis preparedness strategies. Also, informal reviews of various crisis situations in the police department suggested the need for improved crisis preparedness strategies. As a police officer, I realized the importance of open lines of communication and proper training prior to a crisis. Ineffective communications during crisis situations have been exhibited throughout modern history, resulting in devastating consequences, such as the Columbine incident, Hurricane Katrina, and the attacks on 9/11. Without open lines of communication,
Research Questions

Based on the current limitations of crisis preparedness in many institutions as reported by researchers (Dinkes et al., 2007; Dorn, 2005; Graham et al., 2006; Trump, 2005; Trump, 2007), questions emerged from both seminal articles as well as findings from public reports about the state of crisis preparedness within learning institutions. Schools are not properly preparing for crisis situations including violence, natural disasters and terrorism. These issues guided the framing of the survey ideas. The following questions emerged from the literature review that aided in revising the final survey:

1. Does an administrator’s experience have an affect on crisis preparedness?
2. Is there any association between administrator experience and crisis preparedness?
3. Does a school's location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness?
4. Is there any collaboration occurring between first responders or other members of the community and school officials in regard to crisis preparedness?
5. Is there any association between a school's location, type or grade level configuration and collaboration among school officials and other members of the community in regard to crisis preparedness?
Survey Sample

The population for the study consisted of administrators in all elementary and secondary schools located in the southwest region of a large metropolitan city. Of the 400 schools located in this region, 317 were public and 83 were private. The schools included 337 elementary, 59 high schools and 4 kindergarten through grade 12 buildings. Data collection for the study occurred during the 2009 - 2010 school year. The survey was directed to school administrators, of whom 129 agreed to participate in the study. Based on this sample administrators were placed into groups by their administrative experience, grade levels of schools and types of schools.

Survey Development

The survey questions were written to determine what strategies were being implemented in schools for crisis preparedness based on expert recommendations. Additional documentation was also need to understand if any collaboration was occurring in regard to crisis preparedness, specifically with first responders, police and fire department personnel. The survey addressed the question of whether or not collaboration existed between administrators and the community by requesting that administrators name any entity that participated in preparing the crisis plan and took part in any drills and/or simulations of the plan. The survey also requested that administrators provide the last two approximate dates they had met with police personnel in regard to crisis preparedness.

The survey ideas and literature review provided a foundation for the development of the instrument. The final survey (see Appendix C) instrument
included 36 questions from five different parts. Responses to each question were not mandatory; therefore a respondent could choose not to answer a particular question.

Part One covered demographic information of the school, including the approximate age of the facility, current student enrollment, maximum student enrollment, grade levels, location, and the type of school (public or private). This part of the survey also included demographic information in regard to the school administrators participating in the study, which included years of experience as an administrator and as an administrator at the current school.

Part Two addressed the design of the school crisis plan in nine questions. This section identified those responsible for the plan’s inception or implementation. This section of the survey measured administrators’ responses by use of a Likert scale and included four possible choices (strongly agree, agree, disagree and strongly disagree). A Kruskal-Wallis test (Lehmann, 1975) was conducted to evaluate whether the population medians of the dependant variables, years of experience, time as administrator at current school and grade levels of the school, were the same across all levels. Further analysis consisted of pairwise comparisons using a Mann-Whitney U test (Lehmann, 1975) to compare variables of interest.

Part Three included fifteen questions related to strategies and expert recommendations. Questions 18 through 20 included a declaration, “excluding fire drills”, in an attempt to avoid any confusion between annual fire drills and an actual crisis drill. A dichotomous response scale was used in the remaining questions in this section of the survey in regard to recommended strategies and practices of crisis
preparedness which consisted of yes or no responses.

Part Four addressed the principal’s personal experiences in regard to any collaboration occurring in response to crisis preparedness. This section encompassed three questions pertaining to whom and how often administrators met with individuals and other organizations to plan for crisis preparedness. Two questions instructed administrators to check all responses that apply to enable the researcher to learn more about any collaboration between administrators and other community organizations that had taken place in regard to preparing for a crisis situation. The third question instructed administrators to enter the last two dates they had met with police personnel. This questioning was chosen because it is more efficient in validating that administrators indeed met with police personnel in regard to crisis preparedness. Part Five consisted of one opened-ended question requesting administrators to comment on anything they would like to see implemented or changed in regard to crisis preparedness at their schools.

**Sample and Demographic Information**

When the survey was revised based on administrators’ responses from the pilot study, it was reviewed for category alignment and also for clarity of questions. Categories included: demographics, crisis plan design, recommended suggestions, collaboration and administrative insight. In an additional section, administrators provided demographic information about the schools in which they were employed. Grade levels at each school were categorized by grade clusters, such as kindergarten through second grade, kindergarten through fifth grade, kindergarten through eighth
grade, kindergarten through twelfth grade, fifth through eighth grade, high school and other. Administrators were instructed to select the appropriate response to identify the grade level clusters at their schools. Administrators then supplied the current number of students enrolled in the school and the suggested maximum number of students for the school per the school’s capacity in an open format setting. Schools were then categorized by the age of the school building including newly constructed through five years, six through fifteen years, sixteen through thirty years, thirty-one through fifty years, and over fifty years. The school’s location was presented in four categories which included urban, rural, suburban, and town. Type of school was presented in two categories including public and private. Administrators were instructed to choose the appropriate responses for their schools.

Demographic information regarding the administrators in the sample was also requested. Administrators responded to their years of experience in their administrative positions and to their years of experience at their current locations. The response scale for both questions was presented in five categories which included less than a year, one to two years, three to five years, six to ten years, and over ten years.

Data Collection Procedures

Overall, data collection involved several steps when designing and conducting the survey. These procedures guided the study and helped the researcher to address key points in the research questions that needed to be answered. First, two major constructs were developed for examination: crisis preparedness and
collaboration with the community. Second, based on these two major constructs, thirty-six questions were created to survey administrators. The researcher designed the comprehensive survey based on details of each construct that enhanced the reporting by administrators to describe fully the explicit information about their crisis preparedness programs. The following list includes the procedural steps taken:

1. Ten administrators were purposively selected (Merriam, 1988) based on the following criteria: a) administrator status in the school located within the northern section of the metropolitan city; b) familiarity with crisis prevention; and c) willingness to review the preliminary survey.

2. The preliminary survey was sent via E-mail to ten selected administrators in the pilot study with a cover letter (Appendix A). They were asked to analyze the survey and letter for readability, format, question structure and clarity of the response scale to determine the value of the instrument.

3. The survey was revised based on initial participants’ comments and designed for administration and dissemination with the final survey sample.

4. Participation was requested by mailing letters of invitation to 400 school administrators located within the southwest region of a large metropolitan city.

5. The survey was uploaded to a website (https://www.surveymonkey.com/crisispreparedness) for participation by administrators in the southwest region of a large metropolitan city.
Participants who opened the survey provided informed consent after reading the specific invitation to take the survey.

6. Data collection and analysis were conducted.

7. Preliminary findings were noted.

When conducting the survey, an invitation to participate was sent to all administrators in the sample. Upon receiving and opening the online survey, participants gave informed consent. Then they were asked to follow the onscreen directions to complete the survey and to read about the survey methods. An additional invitation was sent to the sample of administrators approximately three weeks after the initial letter was mailed. Since the survey responses were completely confidential and anonymous, it was not possible to determine who had responded to the survey within the first three weeks; thus all participants received a second request to participate.

**Analysis**

The research questions addressed core components in school crisis preparedness plans including the design and implementation of such plans based on expert recommendations. The study was designed to identify any notable differences among administrators in regard to crisis preparedness and collaboration with the community.

The null hypotheses state that there is no significant difference among administrators in regard to crisis preparedness or collaboration. An analysis was conducted to determine the adequacy of school crisis plans based on state, federal and expert
recommendations for school safety. Further examination was conducted to determine whether demographic factors played a part in crisis preparedness or to learn more about and identify aspects of collaborations. Demographic factors included administrators’ years of experience, time as administrator at current school, grade level clusters at each school, school location and type of school.

Chapter Summary

The Crisis Preparedness Survey was conducted to identify the status of crisis preparedness and identify any collaboration occurring between school administrators and other community resources. A self-administered survey, The Crisis Preparedness Survey, was used to collect information regarding crisis preparedness strategies and practices. Demographic information was also collected for each school. Further data was collected for analysis to discover if specific demographic factors, such as an administrator’s experience, grade levels of students attending the school, school location and type of school (public or private), had an impact on crisis preparedness.

Quantitative methods (Johnson & Christensen, 2004) were employed to identify the adequacy of crisis preparedness and discover any collaboration occurring between school administrators and community resources. These methods were chosen based on the type of data being collected about crisis preparedness and also because quantitative methods would best be able to identify any differences among administrators in regard to crisis preparedness and community collaboration.

Using data from school administrators’ survey responses, a Kruskal-Wallis
test was conducted to evaluate whether the population median ranks of the dependant variables, years of experience, time as administrator at a current school and grade level of students attending the school, are the same across all levels. Further analysis consisted of pairwise comparisons using a Mann-Whitney U test to determine variables of interest. For sections of the survey consisting of a dichotomous scale, a Chi-Square test was used to test the associations among the variables to determine if specific variables correlate with recommended practices in regard to crisis preparedness. For Chi-Square test results indicating a cell frequency of five or less, a Fisher’s exact test was used to ensure accurate results. The Chi-Square test provides precise results with large quantities of data while the Fisher exact test is designed to work with smaller quantities of data.

In the next chapter, nonparametric tests including Kruskal-Wallis, Mann-Whitney, Chi-Square, and Fisher exact test were employed due to the non-normal distribution of the data. These tests were used to identify with statistical significance any difference among groups of administrators in regard to crisis preparedness and collaboration based on expert recommendations.
CHAPTER IV

ANALYSIS

The purpose of the study was to determine the status of school crisis preparedness and to identify any collaboration related to preparing for crises in Illinois schools. An analysis was conducted to evaluate any collaboration noted between school administrators and other community resources that indicate specific ways that administrators may be preparing for crisis situations in their schools.

Sample

Data were collected and analyzed from surveys sent to 400 identified administrators of schools located in the southwest region of a large metropolitan city, of which 317 were public and 83 were private. The schools consisted of 337 elementary schools, 59 high schools, and 4 schools that included kindergarten through grade twelve. Respondents were not required to answer any of the survey questions and had the option to skip any question. Data for the study were collected during the 2009 - 2010 school year.

The invitation to participate in the survey was sent to the current administrator at each school whose name was derived from a district database that was constructed from the most current 2010 information available via the internet and telephone listings. Nineteen invitations to participate in the survey were returned.
undeliverable; thus the total number of survey respondents receiving the survey was 381, of which, 304 were public schools and 77 were private schools. The 381 deliverable invitations included 323 elementary schools, 54 high schools and 4 schools encompassing grades kindergarten through twelve. One hundred and twenty-nine administrators responded to the survey for an overall response rate of 34%.

When examining administrators’ responses to the demographic portion of the survey, administrators’ experience varied by number of years and also by years of experience in their current positions (see Table 1).

<table>
<thead>
<tr>
<th>Administrative Years of Experience</th>
<th>Administrative years of experience (N = 129)</th>
<th>Years of Administrative experience at current school (N = 129)</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 10 years</td>
<td>71  55</td>
<td>35  27</td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>18  14</td>
<td>18  14</td>
</tr>
<tr>
<td>3 – 5 years</td>
<td>39  31</td>
<td>45  35</td>
</tr>
<tr>
<td>1 – 2 years</td>
<td>28  22</td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>2   2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>128 100</td>
<td>128 100</td>
</tr>
</tbody>
</table>

Administrators’ responses to the configuration of grade levels in their schools varied (see Table 2). Administrators were presented with six available choices of grade levels based on common grade level structures of schools in the metropolitan area. Some administrators chose “other” as their response because the unique school grade level design to address specific area needs may have been configured differently. Some administrators chose “other” to represent over enrollment in any
particular grade level that changed the configuration of the grade clusters in their institutions. For example, some schools used satellite locations to alleviate overcrowding.

Table 2

<table>
<thead>
<tr>
<th>Grade Levels of Schools</th>
<th>(N = 129)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>High school -</td>
<td></td>
</tr>
<tr>
<td>Ninth through twelfth</td>
<td>24</td>
</tr>
<tr>
<td>Kindergarten through</td>
<td>48</td>
</tr>
<tr>
<td>eighth</td>
<td></td>
</tr>
<tr>
<td>Fifth through eighth</td>
<td>6</td>
</tr>
<tr>
<td>Kindergarten through</td>
<td></td>
</tr>
<tr>
<td>second</td>
<td>3</td>
</tr>
<tr>
<td>Kindergarten through</td>
<td></td>
</tr>
<tr>
<td>fifth</td>
<td>8</td>
</tr>
<tr>
<td>Kindergarten through</td>
<td></td>
</tr>
<tr>
<td>twelfth</td>
<td>1</td>
</tr>
<tr>
<td>Other grade levels</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>128</td>
</tr>
</tbody>
</table>

Demographics related to school location included four responses: urban, rural, suburban, and town. Other demographics included type of school, noting 71% public schools of which 48% were located in suburban settings and 28% private schools of which 13% were located in a suburban location (see Table 3). The related current and maximum enrollment status and the approximate age of the school facility/building data were insignificant.
Table 3  
*School Location and Type of School*

<table>
<thead>
<tr>
<th>Public</th>
<th>Private</th>
<th>(N = 129)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Suburban</td>
<td>60</td>
<td>48</td>
</tr>
<tr>
<td>Urban</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>Rural Town</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>72</td>
</tr>
</tbody>
</table>

Demographic variables were examined to identify whether they had an affect on the adequacy of school crisis plans based on state, federal and expert recommendations for school crisis preparedness. Further examination established any significant difference among administrators in regard to crisis preparedness collaboration while addressing the following specific research questions:

1. Does an administrator’s experience have an effect on crisis preparedness?
2. Is there any association between administrator experience and crisis preparedness?
3. Does a school's location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness?
4. Is there an association between an administrator’s experience and collaboration between first responders or other members of the community and school officials in regard to crisis preparedness?
5. Is there any association between a school's location, type or grade
level configuration and collaboration among school officials and other members of the community in regard to crisis preparedness?

**Administrator Experience and Recommended Strategies**

The survey was designed to examine all facets of crisis preparedness in schools. Thus the questions of the survey were developed with that guiding framework in mind. Questions one through eight of the survey requested demographic information in regard to administrators’ experience and information about the schools including the location, type of school and grade level configurations. Questions, nine through fourteen, related to recommended strategies for crisis preparedness, were selected from part two of the survey (see Table 4). These questions were presented in a four point Likert Scale with response options of strongly agree, agree, disagree, and strongly disagree. The questions were consolidated and analyzed using the Kruskal-Wallis test to determine if administrators’ experience had any impact on crisis preparedness. Post-hoc tests were conducted on variables of significance using a Mann-Whitney test. Question eighteen was designed to find out if the crisis preparedness plan was tested annually. In question nineteen, administrators were asked if the school conducted a simulation of an actual crisis during their tenure. Each question used a dichotomous scale consisting of yes or no answers. These questions were consolidated and analyzed together based on administrators' responses about their experiences. The resulting data were analyzed in ordinal form and showed a non-normal distribution. Nonparametric statistics were employed to determine if an administrators’
experience had any affect on crisis preparedness and to identify any association among administrators’ experience and crisis preparedness.

Table 4

<table>
<thead>
<tr>
<th>Number</th>
<th>Survey questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Plan is concise and easy to use</td>
</tr>
<tr>
<td>10</td>
<td>New staff members are informed of the plan</td>
</tr>
<tr>
<td>11</td>
<td>Plan was specifically designed for the school’s environment</td>
</tr>
<tr>
<td>12</td>
<td>School receives community support</td>
</tr>
<tr>
<td>13</td>
<td>Plan includes strategies for post-crisis recovery</td>
</tr>
<tr>
<td>14</td>
<td>Plan includes strategies for individuals with physical, mental, or medical limitations</td>
</tr>
</tbody>
</table>

**Research Question 1: Does an administrator’s experience have an effect on crisis preparedness?**

Does an administrator’s experience have an effect on crisis preparedness?

H₀: There is no significant difference in crisis preparedness relative to administrator experience.

Hₐ: There is a significant difference in crisis preparedness relative to administrator experience.

Due to having only one independent variable with two or more levels and an ordinal dependent variable, a nonparametric test that fit the assumptions was chosen. A Kruskal-Wallis test was conducted to evaluate any differences among the independent variable, range of administrators’ years of experience, and the ordinal dependent variables of recommended strategies in regard to crisis preparedness. The test was significant for five of the six variables tested (see Table 5).
Table 5

<table>
<thead>
<tr>
<th>Recommended Strategies in Regard to Crisis Preparedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan is concise and easy to use</td>
</tr>
<tr>
<td>( p = .019^* )</td>
</tr>
</tbody>
</table>


The test was significant for the variable that stated the plan was concise and easy to use in the event of an emergency \( \chi^2(2, N = 128) = 7.919, p = .01 \). The results indicated a statically significant difference between the groups (see Table 6). Follow-up tests were conducted to evaluate the pairwise differences among the three groups: three to five years of experience as an administrator, six to ten years of experience as an administrator and over ten years of experience as an administrator. A Mann-Whitney test with Bonferroni correction was conducted to identify differences among the administrators in relation to the plan being concise and easy to use. The Mann-Whitney test was chosen for use with ordinal, non-normally distributed data and helped to identify any differences between groups of administrators. Bonferroni correction was incorporated to overcorrect for any Type I errors. A Type I error occurs when the null hypothesis is rejected when it is in fact true. The hypothesis test procedure is therefore adjusted so that there is a guaranteed 'low' probability of rejecting the null hypothesis wrongly.

The results of the Mann-Whitney test indicated a significant difference, \( z = -2.75, p = .006 \), between administrators with three to five years of experience, which
had a mean rank of 46.65, and administrators with over ten years, had a mean rank of 60.91. The results reveal that there is indeed a statistically significant difference between the groups of administrators based on range of administrators’ years of experience and the school’s crisis plan being concise and easy to use. When administrators, who had three to five years and six to ten years of experience, were examined the results were not significant, $z = -0.342, p = 0.733$. When administrators, who had six to ten years and over ten years of experience, were examined the results were not significant, $z = -1.48, p = 0.137$. There were no administrator responses provided in the categories of experience indicating two years or less (see Table 6).

Table 6

<table>
<thead>
<tr>
<th>Administrators’ Years of Experience and Ease of Use of the School Crisis Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>&lt; 1</td>
</tr>
<tr>
<td>1 to 2</td>
</tr>
<tr>
<td>3 to 5</td>
</tr>
<tr>
<td>6 to 10</td>
</tr>
<tr>
<td>Over 10</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

*Note. Kruskal-Wallis test $p = .019$, Mann-Whitney test $p = .006*

A Kruskal-Wallis test was conducted to evaluate differences among the administrators’ years of experience in relation to new staff members being informed of the crisis plan. The test revealed a significant difference between groups in regard to new staff members being informed of the crisis plan, $\chi^2(2, N = 128) = 12.644, p = 0.002$ (see Table 7). A Mann-Whitney test with Bonferroni correction was conducted to identify any differences among the administrators in relation to new staff members being informed of the crisis plan. The results of the test indicated a significant
difference, \( z = -2.78, p = .005 \), between administrators with three to five years of experience, which had a mean rank of 45.35, and administrators with over ten years had a mean rank of 61.08. The results of the test also indicated a significant difference, \( z = -2.89, p = .004 \), between administrators with six to ten years of experience, which had a mean rank of 31.17, and administrators with over ten years had a mean rank of 48.51 (see Table 7). When administrators, who had three to five years and six to ten years of experience, were examined the results were not significant, \( z = -.570, p = .569 \). The difference among the administrator ranks indicates that there is a disparity between administrator groups based on experience in regard to new staff members being informed of the crisis plan.

### Table 7

**Administrator Experience and New Staff Members Being Informed**

<table>
<thead>
<tr>
<th>Experience</th>
<th>Kruskal-Wallis</th>
<th>Mann-Whitney test*</th>
<th>Mann-Whitney test**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n )</td>
<td>Mean rank</td>
<td>( n )</td>
</tr>
<tr>
<td>3 to 5</td>
<td>39</td>
<td>79.96</td>
<td>39</td>
</tr>
<tr>
<td>6 to 10</td>
<td>18</td>
<td>79.83</td>
<td></td>
</tr>
<tr>
<td>Over 10</td>
<td>71</td>
<td>55.72</td>
<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>128</td>
<td>55.72</td>
<td>110</td>
</tr>
</tbody>
</table>

*Note.* Kruskal-Wallis test \( p = .002 \), *Mann-Whitney test \( p = .005 \), **Mann-Whitney test \( p = .004 \)

A Kruskal-Wallis test was conducted to identify any differences among the administrators’ years of experience in relation to the crisis plan being specifically designed for the school’s environment. The test revealed a significant difference among groups in regard to the plan being specifically designed for the school’s environment, \( \chi^2(2, N = 126) = 10.143, p = .006 \) (see Table 8).

A Mann-Whitney test with Bonferroni correction was conducted to identify
any differences in the responses of administrators based on their years of experience in relation to the plan being specifically designed for the school’s environment. The results of the test indicated a significant difference, $z = -2.73$, $p = .006$, between administrators with six to ten years of experience which had a mean rank of 32.17, and administrators with over ten years had a mean rank of 46.67. The results of the test indicated an insignificant difference, $z = -2.51$, $p = .012$, when incorporating Bonferroni correction ($p = .01$), between administrators with three to five years of experience which had a mean rank of 62.82, and administrators with over ten years had a mean rank of 49.34 (see Table 8). When administrators with three to five years and six to ten years of experience were examined the results were not significant, $z = -.297$, $p = .767$.

Table 8
*Administrator Experience and Plan Specifically Designed for School Environment*

<table>
<thead>
<tr>
<th>Experience</th>
<th>Kruskal-Wallis</th>
<th>Mann-Whitney test*</th>
<th>Mann-Whitney test**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>Mean rank</td>
<td>$n$</td>
</tr>
<tr>
<td>3 to 5</td>
<td>37</td>
<td>71.42</td>
<td>37</td>
</tr>
<tr>
<td>6 to 10</td>
<td>18</td>
<td>76.17</td>
<td>18</td>
</tr>
<tr>
<td>Over 10</td>
<td>70</td>
<td>55.16</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>125</td>
<td>55.16</td>
<td>110</td>
</tr>
</tbody>
</table>


A Kruskal-Wallis test was conducted to evaluate differences among administrators’ years of experience in relation to the school receiving community support in regard to crisis preparedness. The test revealed a significant difference between groups in regard to the school receiving community support,
\( \chi^2(2, N = 128) = 11.245, p = .004 \) (see Table 9). A Mann-Whitney test with Bonferroni correction was conducted to identify any differences among the administrators in relation to the school receiving community support. The results of these tests indicated a significant difference, \( z = - 2.44, p = .015 \), between administrators with three to five years of experience which had a mean rank of 46.96, and administrators with over ten years had a mean rank of 60.19. The results of the test also indicated a significant difference, \( z = - 2.96, p = .003 \), between administrators with six to ten years of experience which had a mean rank of 31.33, and administrators with over ten years had a mean rank of 48.46 (see Table 9). When administrators, who had three to five years and six to ten years of experience, were examined the results were not significant, \( z = - 1.11, p = .267 \).

<table>
<thead>
<tr>
<th>Experience</th>
<th>Kruskal-Wallis</th>
<th>Mann-Whitney test*</th>
<th>Mann-Whitney test**</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 to 5</td>
<td>39</td>
<td>71.54</td>
<td>39</td>
</tr>
<tr>
<td>6 to 10</td>
<td>18</td>
<td>81.42</td>
<td>18</td>
</tr>
<tr>
<td>Over 10</td>
<td>71</td>
<td>56.35</td>
<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>128</td>
<td>110</td>
<td>89</td>
</tr>
</tbody>
</table>

*Note. Kruskal-Wallis test p = .004, *Mann-Whitney test p = .015, **Mann-Whitney test p = .003*

A Kruskal-Wallis test was conducted to evaluate differences among the administrators’ years of experience in relation to the crisis plan and how the plan addressed the support of people with medical, physical and mental limitations. Limitations could include those restricted to wheel chairs, inability to see or hear, or limited mental capacity to understand directions. The test revealed a significant
difference among groups in regard to the plan including people with medical, physical and mental limitations, $\chi^2(2, N = 126) = 6.45, p = .040$ (see Table 10). A Mann-Whitney test was conducted to identify any differences among the administrators in relation to the plan including people with medical, physical and mental limitations. The results of the test indicated a significant difference, $z = -2.14, p = .032$, between administrators with three to five years of experience which had a mean rank of 26.23, and administrators with six to ten years had a mean rank of 35.00. The results of the test also indicated a significant difference, $z = -2.22, p = .026$, between administrators with three to five years of experience which had a mean rank of 46.63, and administrators with over ten years had a mean rank of 58.95 (see Table 10). When administrators, who had six to ten years and over ten years of experience, were examined the results were not significant, $z = -.376, p = .707$.

Table 10

<table>
<thead>
<tr>
<th>Experience</th>
<th>Kruskal-Wallis</th>
<th>Mann-Whitney test*</th>
<th>Mann-Whitney test**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>Mean rank</td>
<td>$n$</td>
</tr>
<tr>
<td>3 to 5</td>
<td>39</td>
<td>74.14</td>
<td>39</td>
</tr>
<tr>
<td>6 to 10</td>
<td>18</td>
<td>55.83</td>
<td></td>
</tr>
<tr>
<td>Over 10</td>
<td>69</td>
<td>59.49</td>
<td>69</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
<td></td>
<td>108</td>
</tr>
</tbody>
</table>


**Administrator Experience at Current School and Recommended Strategies**

Recommended strategies in regard to crisis preparedness were examined based on administrators' experience as an administrator at the current school. Questions, nine through fourteen, which addressed recommended strategies for crisis
preparedness, were selected from part two of the survey. The responses were consolidated and analyzed to determine if an administrators’ experience at the current school had any affect on crisis preparedness.

A Kruskal-Wallis test was conducted to evaluate six different variables which consisted of recommended practices in regard to crisis preparedness and the administrators’ tenure at the current school. The six variables consisted of ease of plan; new staff members being informed of the plan; specifically designed plan for the school environment; community support in regard to crisis preparedness; post-crisis strategy and whether or not the plan includes provisions for people with disabilities. The test was significant for one of the six variables tested.

The Kruskal-Wallis test revealed a significant difference among groups of administrators based on experience at the current school in regard to the school receiving community support, $\chi^2(2, N = 128) = 12.371, p = .015$ (see Table 11). A Mann-Whitney test was conducted to identify any differences among the administrations’ tenure at the current school in relation to the school receiving community support. The results of the test indicated a significant difference, $z = -2.24, p = .025$, between administrators with three to five years of experience at the current school which had a mean rank of 29.00, and administrators with six to ten years had a mean rank of 39.50. The results of the test also indicated a significant difference, $z = -2.30, p = .021$, between administrators with three to five years of experience at the current school which had a mean rank of 35.70, and administrators with over ten years had a mean rank of 46.67 (see Table 11).
When administrators, who had six to ten years and over ten years of tenure at the current school, were examined the results were insignificant, \( z = -0.297, p = 0.767 \).

Table 11

<table>
<thead>
<tr>
<th>Experience</th>
<th>Kruskal-Wallis n</th>
<th>Mean rank</th>
<th>Mann-Whitney test* n</th>
<th>Mean rank</th>
<th>Mann-Whitney test** n</th>
<th>Mean rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>2</td>
<td>37.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 2</td>
<td>28</td>
<td>56.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 to 5</td>
<td>45</td>
<td>77.70</td>
<td>45</td>
<td>29.00</td>
<td>45</td>
<td>35.70</td>
</tr>
<tr>
<td>6 to 10</td>
<td>18</td>
<td>56.83</td>
<td>18</td>
<td>39.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 10</td>
<td>35</td>
<td>59.70</td>
<td></td>
<td></td>
<td>35</td>
<td>46.67</td>
</tr>
<tr>
<td>Total</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Kruskal-Wallis test \( p = 0.015 \), *Mann-Whitney test \( p = 0.025 \), **Mann-Whitney test \( p = 0.021 \).

Overall, administrators with over ten years of experience were more inclined to strongly agree that their schools participate in recommended strategies in regard to crisis preparedness than administrators with less experience. The results reveal that there is a statistically significant difference among administrators based on experience in regard to crisis preparedness. Therefore, the null hypothesis that there is no significant difference among administrators in regard to experience and crisis preparedness is rejected and the alternate is accepted.

**Research Question 2:** Is there any association between administrator experience and crisis preparedness?

Is there any association between administrator experience and crisis preparedness?

\( H_0 2: \) There is no association between administrator experience and crisis preparedness. \( H_a 2: \) There is an association between administrator experience and crisis preparedness.
To investigate any association between the categorical variables of administrator experience and variables of recommended strategies in regard to crisis preparedness, a Chi-Square test was utilized. This test was chosen to identify any relationship between the categorical variables with no expected variable values being less than one and no more than 20% of the expected values being less than five.

A Chi-Square test was conducted to investigate any association between the categorical variables of administrator experience and the school crisis plan being concise and easy to use. The test indicated a significant relationship between the two variables, \( \chi^2(4, N = 128) = 14.682, p = .005 \) (see Table 12). The results revealed that of the administrators with over ten years of experience \((n = 71)\), 63% strongly agreed that the school crisis plan is concise and easy to use, and 37% agreed that the crisis plan was concise and easy to use, while none disagreed within this particular group. Of administrators with three to five years of experience \((n = 39)\), 38% strongly agreed, 54% agreed, and 8% disagreed within their group. The results also revealed that of administrators with six to ten years of experience \((n = 18)\), 50% strongly agreed, 33% agreed, while 17% disagreed within their group. Overall \((n = 128)\), administrators with over ten years of experience were more inclined to strongly agree \((35\%)\) that the school crisis plan is concise and easy to use while administrators with less experience were more inclined to disagree \((5\%)\).
Further analysis was conducted using a Chi-Square test which indicated a significant relationship between the variables of new staff members being informed of the crisis plan and administrator experience, $\chi^2(4, N = 128) = 17.283, p = .002$.

The results revealed that of the administrators with over ten years of experience ($n = 71$), 59% strongly agreed that new staff members are informed of the plan, 37% agreed, while 4% disagreed within their groups. Thirty-one percent of administrators with three to five years of experience ($n = 39$) strongly agreed, 61% agreed, and 8% disagreed within their group. The results also revealed that of the administrators with six to ten years of experience ($n = 18$), 17% strongly agreed, while 83% agreed within their group (see Table 13). Overall ($n = 128$), administrators with over ten years of experience were more inclined to strongly agree (35%) while administrators with three to five years were more inclined to disagree (2%).
Table 13
Administrators’ Experience and New Staff Members being Informed of the Crisis Plan

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 to 5</td>
<td></td>
<td>6 to 10</td>
<td></td>
<td>Over 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>12</td>
<td>31</td>
<td>3</td>
<td>17</td>
<td>42</td>
<td>59</td>
</tr>
<tr>
<td>Agree</td>
<td>24</td>
<td>61</td>
<td>15</td>
<td>83</td>
<td>26</td>
<td>37</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>100</td>
<td>18</td>
<td>100</td>
<td>71</td>
<td>100</td>
</tr>
</tbody>
</table>

Further analysis was conducted utilizing a Chi-Square test which indicated a significant association between the variables of administrator experience and the plan being specifically designed for the school’s environment,

\[ \chi^2(4, N = 125) = 18.489, p = .001 \] (see Table 14). The results revealed that of the administrators with over ten years of experience (n = 70), 72% strongly agreed that the crisis plan was specifically designed for their school's environment, 24% agreed, while 4% disagreed within their group. Of administrators with three to five years of experience (n = 37), 49% strongly agreed, 35% agreed, and 16% disagreed within their group. The results also revealed that of the administrators with six to ten years of experience (n = 18), 33% strongly agreed, while 67% agreed within their group (see Table 14). Overall (n = 125), administrators with over ten years of experience were more inclined to strongly agree (40%) that the plan was specifically designed for their school’s environment while administrators with three to five years of experience were more inclined to disagree (5%).
Table 14
Administrators’ Experience and Plan Specifically Designed for School Environment

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>3 to 5</th>
<th>6 to 10</th>
<th>Over 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>18</td>
<td>49</td>
<td>6</td>
</tr>
<tr>
<td>Agree</td>
<td>13</td>
<td>35</td>
<td>12</td>
</tr>
<tr>
<td>Disagree</td>
<td>6</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>100</td>
<td>18</td>
</tr>
</tbody>
</table>

Further analysis was conducted utilizing a Chi-Square test which indicated a significant relationship between the variables of experience and the school receiving community support, $\chi^2(4, N = 128) = 13.405, p = .009$ (see Table 15). The results revealed that of the administrators with over ten years of experience ($n = 71$), 72% strongly agreed that the school received community support in regard to crisis preparedness, 21% agreed, while 7% disagreed within their group. Of administrators with three to five years of experience ($n = 39$), 46% strongly agreed, 46% agreed, and 8% disagreed within their group. The results also revealed that of the administrators with six to ten years of experience ($n = 18$), 33% strongly agreed, while 50% agreed and 17% disagreed within their group (see Table 15). Overall ($n = 128$), administrators with over ten years of experience were more inclined to strongly agree (40%) while administrators with less experience were more inclined to disagree (5%).
Table 15

Administrator Experience and School Received Community Support

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>3 to 5</th>
<th>6 to 10</th>
<th>Over 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>18</td>
<td>46</td>
<td>6</td>
</tr>
<tr>
<td>Agree</td>
<td>18</td>
<td>46</td>
<td>9</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>100</td>
<td>18</td>
</tr>
</tbody>
</table>

Further analysis was conducted using a Chi-Square test which indicated a significant relationship between the variables of an administrators’ experience and his or her crisis plan based on the preparations for including people with limitations, $\chi^2(4, N = 126) = 20.292, p = .000$ (see Table 16). The results revealed that of administrators with over ten years of experience ($n = 69$), 65% strongly agreed that the crisis plan had specific preparations for people with medical, physical, and mental limitations, 25% agreed, while 10% disagreed within their group. Thirty-six percent of administrators ($n = 39$) with three to five years of experience strongly agreed, and 64% agreed within their group. The results also revealed that of administrators with six to ten years of experience ($n = 18$), 67% strongly agreed, while 33% agreed within their group (see Table 16). Overall ($n = 126$), administrators with over ten years of experience were more inclined to strongly agree (36%) with the plan for including people with medical, physical, and mental limitations. Administrators with over ten years of experience were more inclined to disagree (6%) than administrators with less experience.
Table 16
Administrator Experience and Plan Includes People with Limitations

<table>
<thead>
<tr>
<th></th>
<th>3 to 5</th>
<th></th>
<th>6 to 10</th>
<th></th>
<th>Over 10</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>14</td>
<td>36</td>
<td>12</td>
<td>67</td>
<td>45</td>
<td>65</td>
</tr>
<tr>
<td>Agree</td>
<td>25</td>
<td>64</td>
<td>6</td>
<td>33</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>100</td>
<td>18</td>
<td>100</td>
<td>69</td>
<td>100</td>
</tr>
</tbody>
</table>

Further analysis was conducted using a Pearson Chi-Square to identify any association between the variables of administrators’ years of experience and if the school conducted a simulation of a crisis during their tenure. The Chi-Square test revealed a significant association between variables in regard to administrators’ experience and conducting an actual simulation of a crisis during their tenure, \( \chi^2(2, N = 128) = 8.14, p = .017 \) (see Table 17). The results revealed that of the administrators with three to five years of experience \( (n = 39) \), 77% conducted a simulation of an actual crisis during their tenure, while 100% of the administrators with six to ten years of experience \( (n = 18) \) and 67% of the administrators with over ten years of experience \( (n = 71) \) conducted actual simulations (see Table 17).

A simulation of an actual crisis would encompass a replication of a crisis using a roll playing model. Unlike tests or drills which may include analysis of the plan, or portions of the plan, using computer software or some other tool, simulations are hands on experiences.
Table 17

**Administrator Experience and Conducting an Actual Simulation**

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>3 to 5</th>
<th>6 to 10</th>
<th>Over 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Yes</td>
<td>30</td>
<td>77</td>
<td>18</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>100</td>
<td>18</td>
</tr>
</tbody>
</table>

A Fisher exact test analysis was conducted to identify any association among the variables of schools that tested or drilled the crisis plan annually and administrators who conducted an actual simulation during their tenure. The Fisher exact test was chosen due to an expected cell frequency of five or less and a dichotomous level of measurement. The results of the test indicated a statistically significant association between the variables (Fisher Exact test, \( p < .01 \)). Eighty-two percent of the administrators (\( n = 96 \)) who responded they conduct tests, drills, or simulations annually have conducted an actual simulation of a crisis while 18% have not (see Table 18).

Table 18

**Annually Tests Plan and Conducted an Actual Simulation**

<table>
<thead>
<tr>
<th>Conducts tests annually</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>96</td>
<td>82</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>8</td>
</tr>
</tbody>
</table>

Note. Fisher Exact test, \( p = .000 \)

Further analysis was conducted using a Chi-Square test which indicated a significant relationship among the variables of experience at the current schools and their receiving community support, \( \chi^2(8, N = 128) = 16.046, p = .042 \) (see Table 19).
The results revealed that of administrators with over ten years of experience \((n = 35)\), 65% strongly agreed that the school received community support, 26% agreed, while 9% disagreed within their group. The results revealed that of the administrators with six to ten years of experience \((n = 18)\) 67% strongly agreed, while 33% agreed within their group. Forty percent of administrators \((n = 45)\) with three to five years of experience strongly agreed, 40% agreed, and 20% disagreed within their group. Sixty-eight percent of administrators \((n = 28)\) with one to two years of experience strongly agreed, 32% agreed within their group (see Table 19).

<table>
<thead>
<tr>
<th>Years of Experience at Current School</th>
<th>1 to 2</th>
<th>3 to 5</th>
<th>6 to 10</th>
<th>Over 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>n %</td>
<td>n %</td>
<td>n %</td>
<td>n %</td>
<td>n %</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>2 100</td>
<td>19 68</td>
<td>18 40</td>
<td>12 67</td>
</tr>
<tr>
<td>Agree</td>
<td>0</td>
<td>9 32</td>
<td>18 40</td>
<td>6 33</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>9 20</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2 100</td>
<td>28 100</td>
<td>45 100</td>
<td>18 100</td>
</tr>
</tbody>
</table>

Overall, administrators with over ten years of experience were more inclined to strongly agree that their schools participate in recommended strategies in regard to crisis preparedness than administrators with less experience. The results revealed that there is an association between administrator experience and crisis preparedness. Therefore, the null hypothesis that there is no association between administrator experience and crisis preparedness is also rejected and the alternate hypothesis accepted.
School Location, Grade Levels, Type of School and Crisis Preparedness

Recommended strategies in regard to crisis preparedness were examined based on demographic variables including school location, grade level configuration and type of school. Questions, nine through fourteen, which addressed recommended strategies for crisis preparedness, were selected from part two of the survey. The responses were grouped together and analyzed to determine if demographic variables of school location, grade level configuration or type of school had any affect on crisis preparedness.

Research Question 3: Does a school's location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness?

Does a school's location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness?

H₀₃: There is no significant difference in crisis preparedness relative to the school location, type of school or grade level configuration of school.

H₃: There is a significant difference in crisis preparedness relative to the school location, type of school or grade level configuration of school.

The six variables included: ease of use of the crisis plan, new staff members being informed of the plan; plan being specifically designed for the school environment; school receiving community support; plan including a post-crisis strategy and plan including people with disabilities were examined to identify any significance between the dependent variables and the independent variables of school location, grade level configuration, and school type. A Mann-Whitney with
Bonferroni correction was conducted using the independent variables of school location (urban and suburban), grade levels (elementary and high school), and the type of school (public and private). Test results of public and private schools revealed no level of significance between the groups.

The results of the Mann-Whitney test on whether school location had an affect on the school receiving community support in regard to crisis preparedness indicated a statistically significant difference, $z = -4.82$, $p = .000$, between administrators. Administrators at urban schools had a mean rank of 47.79, and administrators at suburban schools had a mean rank of 76.25 (see Table 20).

<table>
<thead>
<tr>
<th>Location</th>
<th>Community Support</th>
<th>$n$</th>
<th>Mean rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Community Support</td>
<td>51</td>
<td>47.79</td>
</tr>
<tr>
<td>Suburban</td>
<td></td>
<td>78</td>
<td>76.25</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>129</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Mann Whitney test, $p = .000$

The results of the Mann-Whitney test on the independent variable of grade level configuration of the school, elementary and high school, in reference to the crisis plan being specifically designed for the school’s environment indicated a significant difference, $z = -2.41$, $p = .016$. Administrators at elementary schools had a mean rank of 32.68, and administrators at high schools had a mean rank of 42.93 (see Table 21).
Table 21

*Grade Levels and Crisis Plan Specifically Designed for School’s Environment*

<table>
<thead>
<tr>
<th>Grade Levels</th>
<th>Specifically designed for school environment</th>
<th>n</th>
<th>Mean rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td></td>
<td>48</td>
<td>32.68</td>
</tr>
<tr>
<td>High School</td>
<td></td>
<td>23</td>
<td>42.93</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>71</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Mann Whitney test, *p* = .016

When school location was examined, the results were statistically significant. Suburban administrators had a higher mean rank than urban administrators in regard to the school receiving community support in regard to crisis preparedness. High school administrators had a higher mean rank than elementary school administrators when the crisis plan was specifically designed for the school’s environment was examined. The results reveal that there is a statistically significant difference among administrators based on the schools’ location and grade level configuration in regard to recommended crisis preparedness strategies. High school administrators were more inclined to indicate that the crisis plan was specifically designed for the school environment than elementary administrators. Suburban administrators were more inclined to indicate that the school received community support in regard to crisis preparedness than urban administrators. Therefore, the null hypothesis that there is no significant difference among administrators in regard to the schools location, type, grade level configuration and crisis preparedness is rejected and the alternate is accepted.
Research Question 4: Is there an association between an administrator’s experience and collaboration between first responders or other members of the community and school officials in regard to crisis preparedness?

Is there an association between an administrator’s experience and collaboration between first responders or other members of the community and school officials in regard to crisis preparedness?

H₀₄: There is no association between crisis preparedness collaboration and administrator experience.

H₄: There is an association between crisis preparedness collaboration and administrator experience.

An analysis was conducted using a Pearson Chi-Square to identify any association between the variables of administrators’ experience and the approximate last two dates the administrator met with police department personnel in regards to crisis preparedness. The results indicated a statistically significant association between the variables, \( \chi^2(4, N = 128) = 32.17, p = .000 \) (see Table 22). The results revealed that 80% of administrators with over ten years of experience (\( n = 71 \)) provided the last two approximate dates that they met with police department personnel in regard to crisis preparedness. Among administrators with six to ten years of experience (\( n = 18 \)), 56% provided the last two dates they had met with the police department, while administrators with three to five years of experience (\( n = 39 \)), 33% provided the last two dates and 53% provided no dates (see Table 22).
Table 22
Administrator Experience and Last Two Dates Provided

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>3 to 5</th>
<th>6 to10</th>
<th>Over 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Two</td>
<td>13</td>
<td>33</td>
<td>10</td>
</tr>
<tr>
<td>One</td>
<td>5</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>None</td>
<td>21</td>
<td>53</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>100</td>
<td>18</td>
</tr>
</tbody>
</table>

Further analysis was conducted using a Pearson Chi-Square to identify any association between the variables of administrators’ tenure at the current school and the approximate last two dates the administrator collaborated with police department personnel in regard to crisis preparedness. The results indicated a significant association between the variables, $\chi^2(8, N = 128) = 29.26, p = .000$ (see Table 23). A majority of administrators (62%) supplied the last two dates that they met with police personnel in regard to crisis preparedness. Administrators with over ten years of experience (33%) were more inclined to supply the last two approximate dates than administrators with less experience while administrators with three to five years were more inclined not to supply any dates (52%) or supply only one date (50%)(see Table 23).

Table 23
Experience at Current School and Last Two Dates Provided

<table>
<thead>
<tr>
<th>Years at current school</th>
<th>3 to 5</th>
<th>6 to10</th>
<th>Over 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Two</td>
<td>20</td>
<td>44</td>
<td>14</td>
</tr>
<tr>
<td>One</td>
<td>8</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>None</td>
<td>17</td>
<td>38</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>100</td>
<td>18</td>
</tr>
</tbody>
</table>
Variables associated with personnel that assisted in formulating the school's crisis plan were analyzed using a Pearson Chi-Square test. When experience of the administrator was analyzed the results were significant, \( \chi^2(2, N = 128) = 9.76, p = .008 \) see Table 24, in regard to police department personnel assisting in formulating the plan. The results indicated that among administrators with over ten years of experience (\( n = 71 \)), 85% indicated that the police department was involved in the process. Among administrators with six to ten years of experience (\( n = 18 \)), 50% indicated that the police were involved in the process, while administrators with three to five years of experience (\( n = 39 \)), 77% indicated that the police were involved (see Table 24).

Table 24

<table>
<thead>
<tr>
<th>Years of experience</th>
<th>Police</th>
<th>3 to 5</th>
<th>%</th>
<th>6 to10</th>
<th>%</th>
<th>Over 10</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>30</td>
<td>77</td>
<td>9</td>
<td>50</td>
<td>60</td>
<td>85</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>9</td>
<td>23</td>
<td>9</td>
<td>50</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>39</td>
<td>100</td>
<td>18</td>
<td>100</td>
<td>71</td>
<td>100</td>
</tr>
</tbody>
</table>

When the variable, other community resources participated in forming the schools crisis plan, were analyzed using a Pearson Chi-Square, the results were significant, \( \chi^2(2, N = 128) = 6.529, p = .038 \) (see Table 25), in regard to other community resources participating in formulating the plan. Forty-seven percent of administrators (\( n = 71 \)) with over ten years of experience indicated that they utilized outside resources in formulating the crisis plan, while 17% of administrators (\( n = 18 \)) with six to ten years experience and 31% of administrators (\( n = 39 \)) indicated they
included other community resources (see Table 25).

Table 25  
*Administrator Experience and Community Resources Assisting in Plan*

<table>
<thead>
<tr>
<th>Community</th>
<th>Years of experience</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 to 5</td>
<td>6 to 10</td>
<td>Over 10</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>100</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>No</td>
<td>27</td>
<td>69</td>
<td>15</td>
<td>83</td>
</tr>
</tbody>
</table>

The administrators’ experience was examined in regard to groups that have participated in tests, drills, or simulations of the crisis plan. A Pearson Chi-Square was used and the results were significant, $\chi^2(2, N = 128) = 12.629, p = .002$ (see Table 26), in regard to fire personnel participating in tests, drills, or simulations. Fifty-eight percent of administrators ($n = 71$) with over ten years experience indicated that fire department personnel have participated in the school's tests, drills or simulations of the crisis plan. Among administrators with three to five years of experience ($n = 39$), 62% indicated that fire department personnel participated (see Table 26).

The results of the Chi-Square were significant in regard to police department personnel participating in tests, drills or simulations of the crisis plan in regard to the administrators’ experience, $\chi^2(2, N = 128) = 11.841, p = .003$ (see Table 26). Seventy-two percent of administrators ($n = 71$) with over ten years indicated police department personnel participated in the tests, drills or simulations of the crisis plan. Thirty percent of administrators with six to ten years ($n = 18$) and 77% of administrators with three to five years ($n = 39$) indicated that police personnel
participated in the tests, drills or simulations of the crisis plan (see Table 26).

Table 26

**Administrator Experience and Fire/Police Personnel Participated in Drills**

<table>
<thead>
<tr>
<th>Years of Experience (Years)</th>
<th>Fire Personnel</th>
<th></th>
<th>Police Personnel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>3 to 5</td>
<td>24</td>
<td>62</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>6 to 10</td>
<td>15</td>
<td>38</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Over 10</td>
<td>71</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Overall, administrators with over ten years of experience were more inclined to strongly agree that police and fire department personnel along with other community organizations participated in formulating and testing the schools crisis preparedness plan than administrators with less experience. The results reveal that there is a statistically significant association between crisis preparedness collaboration and administrator experience. Therefore, the null hypothesis that there is no association between crisis preparedness collaboration and administrator experience is rejected and the alternate is accepted.

**School Location, Grade Levels, Type of School and Community Collaboration**

Collaboration in regard to crisis preparedness was examined based on demographic variables of school location, grade level configuration and type of school. Questions fifteen, twenty and thirty-five were again chosen from the survey to address crisis preparedness collaboration. However, an additional question was included in this portion of the analysis. Question thirty-four requested administrators...
to identify any groups that they meet with annually in regard to crisis preparedness.

The response scale included ten possible choices and administrators were instructed to check all that apply. The response scale included fire department, police department, staff, students, parents, medical facilities, security specialist, counselors, other community resources and none of the above. The resulting data was of non-normal distribution and nonparametric statistics were employed. The responses were consolidated and analyzed to determine if any demographic variables had any affect on crisis preparedness collaboration.

**Research Question 5: Does a school's location, type or grade level configuration have an affect on collaboration among school officials and other members of the community in regard to crisis preparedness?**

Does a school's location, type or grade level configuration have an affect on collaboration among school officials and other members of the community in regard to crisis preparedness?

**H$_{0,5}$**: There is no association between crisis preparedness collaboration and the school’s location, type, or grade level configuration.

**H$_{a,5}$**: There is an association between crisis preparedness collaboration and the school’s location, type, or grade level configuration.

The variables of meeting with police annually and the approximate last two dates that the administrator met with police in regard to crisis preparedness were analyzed using a Pearson Chi-Square Test. The results indicated a significant association between the variables, $\chi^2(2, N = 129) = 12.41, p = .002$ (see Table 27). Eighty-four percent of the administrators ($n = 99$) that responded that they meet with
police department personnel annually input the last two approximate dates they last met with police personnel in regard to crisis preparedness while 88% only provided one date and 55% did not provide any dates (see Table 27).

Table 27
Meet with Police Annually and Provided Last Two Dates

<table>
<thead>
<tr>
<th>Dates Provided</th>
<th>Meet with Police Annually</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>Two</td>
<td>66</td>
<td>67</td>
<td>13</td>
</tr>
<tr>
<td>One</td>
<td>15</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>18</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
<td>100</td>
<td>30</td>
</tr>
</tbody>
</table>

Further analysis was conducted utilizing a Pearson Chi-Square to identify any association among the variables of meeting with police annually and the approximate last two dates that the administrator met with police department personnel in regard to crisis preparedness while including the variable of school type as a layer. The results indicated a significant association among public schools, $\chi^2(2, N = 126) = 7.60, p = .022$ (see Table 28), the results also indicated a significant association among private schools, $\chi^2(2, N = 126) = 6.97, p = .031$ (see Table 28).

Of the public school administrators ($n = 66$) that replied they meet with police department personnel annually for the purpose of crisis preparedness, 68% provided the last two approximate dates, 14% provided one date, while 18% did not provide any dates. Among the private school administrators ($n = 30$) that replied they meet with police department personnel annually for the purpose of crisis preparedness, 63% provided the last two approximate dates, 20% provided one date, while 17% did not provide any dates (see Table 28).
Table 28

*Meet with Police Annually and Last Two Approximate Dates with Type of School as a Layer*

<table>
<thead>
<tr>
<th>Police Annually</th>
<th>Public</th>
<th></th>
<th></th>
<th>Private</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Two</td>
<td>One</td>
<td>None</td>
<td>Two</td>
<td>One</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
<td>21</td>
<td>1</td>
<td>10</td>
<td>11</td>
<td>48</td>
</tr>
<tr>
<td>No</td>
<td>45</td>
<td>79</td>
<td>9</td>
<td>90</td>
<td>12</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>100</td>
<td>10</td>
<td>100</td>
<td>23</td>
<td>100</td>
</tr>
</tbody>
</table>

Further analysis was conducted utilizing a Pearson Chi-Square to identify any collaboration among the variables of meeting with police annually and the approximate last two dates the administrator met with police department personnel in regard to crisis preparedness while including the variable of school location as a layer. The results indicated a significant association among urban schools, $\chi^2(2, N = 129) = 9.28$, $p = .010$ (see Table 29), the results also indicated no significant association among suburban schools, $\chi^2(2, N = 129) = 1.94$, $p = .377$ (see Table 29). Among the public urban administrators ($n = 33$) that replied they meet with police department personnel annually for the purpose of crisis preparedness, 64% provided the last two approximate dates, 15% provided one date, while 21% did not provide any dates. Although not significant, suburban school administrators ($n = 66$) that replied they meet with police department personnel annually for the purpose...
of crisis preparedness, 68% provided the last two approximate dates, 15% provided one date, while 17% did not provide any dates (see Table 29).

Table 29
Meet with Police Annually and Last Two Approximate Dates with Location of School as a Layer

<table>
<thead>
<tr>
<th></th>
<th>Two</th>
<th>One</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n %</td>
<td>n %</td>
<td>n %</td>
</tr>
<tr>
<td>Police Annually</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21 75</td>
<td>5 100</td>
<td>7 39</td>
</tr>
<tr>
<td>No</td>
<td>7 25</td>
<td>0 0</td>
<td>11 61</td>
</tr>
<tr>
<td>Total</td>
<td>28 100</td>
<td>5 100</td>
<td>18 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Two</th>
<th>One</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n %</td>
<td>n %</td>
<td>n %</td>
</tr>
<tr>
<td>Police Annually</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>45 87</td>
<td>10 91</td>
<td>11 73</td>
</tr>
<tr>
<td>No</td>
<td>7 13</td>
<td>1 9</td>
<td>4 27</td>
</tr>
<tr>
<td>Total</td>
<td>52 100</td>
<td>11 100</td>
<td>15 100</td>
</tr>
</tbody>
</table>

When the variables of grade level configuration and the last two approximate dates the administrator met with police department personnel were analyzed using a Pearson Chi-Square, the results were significant, \( \chi^2(12, N = 128) = 25.09, p = .014 \) (see Table 30). High school administrators \( n = 24 \) where more inclined to provide the last two dates (83%) than not to provide any dates (17%). Administrators of schools encompassing the grades of kindergarten through eight \( n = 48 \) were more inclined to supply two dates (58%) then providing only one date (17%) or providing no dates (25%)(see Table 30).
Table 30

*Grade Levels and Provided Last Two Dates*

<table>
<thead>
<tr>
<th>Dates Provided</th>
<th>Elementary</th>
<th>%</th>
<th>High School</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two</td>
<td>28</td>
<td>58</td>
<td>20</td>
<td>83</td>
</tr>
<tr>
<td>One</td>
<td>8</td>
<td>17</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>None</td>
<td>12</td>
<td>25</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

When grade level configuration of the schools were examined, the results were significant, $\chi^2(6, N = 128) = 27.59, p = .000$ (see Table 31), in regard to police personnel assisting in formulating the schools’ crisis plan. Administrators at high schools ($n = 24$) were more inclined to respond that the police department participated (86%) than elementary school administrators ($n = 48$) that encompass kindergarten through eight grade (71%)(See Table 31).

Table 31

*Grade Levels and Police Personnel Assisted in Formulation of Plan*

<table>
<thead>
<tr>
<th>Police Assisted</th>
<th>Elementary</th>
<th>%</th>
<th>High School</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>34</td>
<td>71</td>
<td>21</td>
<td>88</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>29</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

When location of the schools were examined, the results were significant, $\chi^2(1, N = 129) = 26.77, p = .000$ (see Table 32), in regard to police personnel assisted in formulating the plan. Administrators at suburban schools ($n = 78$) were more inclined to respond that the police department participated (92%) than urban ($n = 51$) school administrators (53%)(See Table 32).
Table 32

**School Location and Police Assisted in Formulation of Plan**

<table>
<thead>
<tr>
<th>Police assisted</th>
<th>Grade levels of school</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elementary</td>
<td>High School</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Yes</td>
<td>27</td>
<td>53</td>
<td>72</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>47</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100</td>
<td>78</td>
</tr>
</tbody>
</table>

When grade level configuration of the schools were examined, the results were significant, $\chi^2(6, N = 128) = 13.829, p = .032$ (see Table 36), in regard to other community resources participating in formulating the plan. Forty-six percent of administrators ($n = 48$) with grade levels kindergarten through eight indicated they included outside resources, while 25% of high school administrators ($n = 24$) indicated that they included other community resources (See Table 33).

Table 33

**Grade Levels and Community Assisted in Formulation of Plan**

<table>
<thead>
<tr>
<th>Community</th>
<th>Grade levels of school</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elementary</td>
<td>High School</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>46</td>
<td>6</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>54</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
<td>24</td>
</tr>
</tbody>
</table>

When school location (urban and suburban) were examined there were no significant findings ($p = .097$). When type of school (public and private) were examined, the results were significant, $\chi^2(1, N = 126) = 7.181, p = .014$ (see Table 34), in regard to other community resources participating in formulating the plan. Fifty-six percent of administrators ($n = 36$) at private schools indicated they included
other community resources, while 30% of public school administrators \((n = 90)\) indicated that they included other community resources (see Table 34).

### Table 34

*School Type and Community Assisted in Formulation of Plan*

<table>
<thead>
<tr>
<th>Community</th>
<th>Type of school</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27</td>
<td>20</td>
<td>30 %</td>
</tr>
<tr>
<td>No</td>
<td>63</td>
<td>16</td>
<td>70 %</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>36</td>
<td>100 %</td>
</tr>
</tbody>
</table>

When grade level configuration of the school were examined the results were significant, \(\chi^2(6, N = 128) = 25.307, p = .000\) (see Table 35). Eighty-eight percent of high school administrators \((n = 24)\) indicated that police department personnel participated in tests, drills or simulations of the crisis preparedness plan, while 46% of administrators \((n = 48)\) from schools with kindergarten through eighth grade indicated that police personnel participated (see Table 35).

### Table 35

*Grade Levels and Police Participated in Drills*

<table>
<thead>
<tr>
<th>Police</th>
<th>Grade levels of school</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elementary</td>
<td>High School</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>46</td>
<td>21</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>54</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100</td>
<td>24</td>
</tr>
</tbody>
</table>

When school location was examined the results were significant, \(\chi^2(1, N = 129) = 55.556, p = .000\) (see Table 36). Ninety-two percent of suburban administrators \((n = 78)\) indicated that police personnel participated in the tests, drills,
or simulations. Twenty-nine percent of urban administrators indicated that police personnel participated (see Table 36).

<table>
<thead>
<tr>
<th>Table 36</th>
<th>School Location and Police Participated in Drills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Location of school</td>
</tr>
<tr>
<td></td>
<td>Urban                Suburban</td>
</tr>
<tr>
<td>Police assisted</td>
<td>n</td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
</tr>
<tr>
<td>No</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
</tr>
</tbody>
</table>

When type of school was analyzed the results were significant, $\chi^2(1, N = 126) = 17.680, p = .000$ (see Table 37). Eighty percent of public school administrators ($n = 90$) indicated that police department personnel have participated in tests, drills, or simulations of the school's crisis preparedness plan while 42% of private school administrators ($n = 36$) indicated that police personnel participated (see Table 37).

<table>
<thead>
<tr>
<th>Table 37</th>
<th>School Type and Police Participated in Drills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type of school</td>
</tr>
<tr>
<td></td>
<td>Public            Private</td>
</tr>
<tr>
<td>Police</td>
<td>n</td>
</tr>
<tr>
<td>Yes</td>
<td>72</td>
</tr>
<tr>
<td>No</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
</tr>
</tbody>
</table>

When grade level configuration of the school were examined the results were significant, $\chi^2(6, N = 128) = 19.960, p = .003$ (see Table 38). One hundred percent of high school administrators ($n = 24$) indicated that fire department personnel
participated in crisis preparedness drills, while 81% of administrators of schools encompassing grades kindergarten through eight \((n = 48)\) indicated fire department personnel participated (see Table 38).

Table 38

<table>
<thead>
<tr>
<th>Grade levels of school</th>
<th>Fire</th>
<th>n</th>
<th>%</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>Yes</td>
<td>39</td>
<td>81</td>
<td>24</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>9</td>
<td>19</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>High School</td>
<td>Yes</td>
<td>24</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>48</td>
<td>100</td>
<td>78</td>
<td>100</td>
</tr>
</tbody>
</table>

When variables of school location and administrators that met with first responders (police and fire personnel) annually, in regard to crisis preparedness were analyzed using a Fisher Exact Test, the results were significant. The results indicated that there is a significant association between administrators who met with police personnel annually (Fisher Exact test, \(p < .05\)), and those that met with fire personnel annually (Fisher Exact test, \(p < .01\)). Sixty-seven percent of suburban school administrators \((n = 78)\) met with police department personnel annually, while 33% of urban administrators \((n = 51)\) met with police department personnel annually in regard to crisis prevention. Seventy percent of suburban school administrators met with fire department personnel annually, while 30% of urban administrators met with fire department personnel annually in regard to crisis prevention (see Table 39).
When school type was examined in regard to administrators meeting with police personnel annually and providing the approximate last two dates that they met with police personnel, public school administrators were more inclined to provide dates than private school administrators. When school location was examined suburban administrators were more inclined to provide the approximate last two dates than urban administrators. High school administrators were more inclined to provide the last two approximate dates than elementary school administrators. When grade level configurations were examined in regard to police personnel participating in the development of the crisis preparedness plan, high school administrators were more inclined to respond that police personnel participated than elementary school administrators. When location was examined, administrators at suburban schools were more inclined to respond that police personnel participated in the plans design than urban school administrators. The results reveal that there is a statistically significant correlation between crisis preparedness collaboration and the schools location, type of school, and grade level configuration. Therefore, the null hypothesis
that there is no association between crisis preparedness collaboration and the schools location, type, and grade level configuration is rejected and the alternate is accepted.
CHAPTER V

DISCUSSION

This study was designed to investigate any significant difference among administrators in regard to the adequacy of school crisis preparedness plans and crisis preparedness collaboration. This chapter provides an overview and analysis of the significant findings of the study. Research questions explored whether administrator experience, grade level configuration, school location, or type of school have an effect on crisis preparedness or crisis preparedness collaboration. The study focused on two elements: crisis preparedness plan adequacy and crisis preparedness collaboration. The research questions were developed from suggestions by state, federal and expert recommendations. The specific research questions addressed were:

1. Does an administrator’s experience have an effect on crisis preparedness?
2. Is there any association between administrator experience and crisis preparedness?
3. Does a school's location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness?
4. Is there any collaboration occurring between first responders or other members of the community and school officials in regard to crisis preparedness?

5. Is there any association between a school's location, type or grade level configuration and collaboration among school officials and other members of the community in regard to crisis preparedness?

**Statistical Findings**

This study was designed to investigate administrators’ responses to state, federal and expert recommendations related to crisis preparedness. For the purposes of this study, crisis preparedness recommendations included the following elements: plan is concise and easy to use, new staff members were informed of the plan, plan was specifically designed for the school’s environment, school receives community support in regard to crisis preparedness, plan includes strategies for post-crisis recovery, and plan includes strategies for individuals with physical, mental, or medical limitations. Data were collected and analyzed from surveys sent to 400 administrators in the southwest region of a large metropolitan city. The resulting data were analyzed in ordinal form and showed a non-normal distribution. Nonparametric tests were employed to analyze the data. A Kruskal-Wallis test was conducted to evaluate any differences among the ranks of administrators based on experience. Post hoc tests were conducted using a Mann-Whitney test to evaluate the pairwise differences among the groups. Chi-Square and Fisher exact tests were conducted to evaluate any association among the variables.
Research Question 1: Does an administrator’s experience have an effect on crisis preparedness?

Does an administrator’s experience have an effect on crisis preparedness?

(H0:1. There is no significant difference in crisis preparedness relative to administrator experience.) The main effect for an administrator's experience on crisis preparedness revealed to be significant on five of the six recommended practice variables tested. Kruskal-Wallis tests revealed a statistically significant difference among administrator groups based on experience. Mann-Whitney tests with Bonferroni correction uncovers pairwise significant differences (see Table 40).

Table 40
Findings on Recommended Crisis Preparedness Strategies Based on Experience

<table>
<thead>
<tr>
<th></th>
<th>3 to 5 years vs 6 to 10 years</th>
<th>3 to 5 years vs over 10 years</th>
<th>6 to 10 years vs over 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis plan is concise and easy to use in the event of an emergency</td>
<td>p = .733**</td>
<td>p = .006*</td>
<td>p = .137**</td>
</tr>
<tr>
<td>New staff members are informed of the crisis plan</td>
<td>p = .569**</td>
<td>p = .005*</td>
<td>p = .004*</td>
</tr>
<tr>
<td>The crisis plan is specifically designed for the school’s environment</td>
<td>p = .767**</td>
<td>p = .012*</td>
<td>p = .006*</td>
</tr>
<tr>
<td>The school receives community support in regard to crisis preparedness</td>
<td>p = .267**</td>
<td>p = .015*</td>
<td>p = .003*</td>
</tr>
<tr>
<td>The crisis plan includes provisions for people with medical, physical and mental limitations</td>
<td>p = .032*</td>
<td>p = .026*</td>
<td>p = .707**</td>
</tr>
</tbody>
</table>

Note. * Statistically Significant, ** Not Statistically Significant

Administrator experience in regard to tenure at the current institution was also examined in reference to the school receiving community support. A Kruskal-
Wallis test was conducted to identify any difference between groups of administrators in regard to tenure at the current school and the school receiving community support in regard to crisis preparedness. The test revealed statistically significant results. Post hoc Mann-Whitney tests confirmed the findings. The results indicate that administrators with more experience at their current school were more inclined to respond that the school received community support in regard to crisis preparedness (see Table 41).

<table>
<thead>
<tr>
<th>School receives community support in regard to crisis preparedness</th>
<th>3 to 5 years vs 6 to 10 years</th>
<th>3 to 5 years vs over 10 years</th>
<th>6 to 10 years vs over 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>p (.025*)</td>
<td>p (.021*)</td>
<td>p (.767**)</td>
<td></td>
</tr>
</tbody>
</table>

Note. * Statistically significant, ** Not statistically significant

A more in-depth investigation into administrator experience revealed 56% of the administrators surveyed (n = 129), responded they had over ten years of experience as an administrator. When examining the administrators with over ten years of experience, 34% were administrators encompassing grades kindergarten through eight and 21% were high school administrators. Thirty-three percent responded “other” in regard to grade level configuration and 12% responded to a mixture of other grade level clusters. Sixty-eight percent were administrators in suburban schools, while 32% were urban school administrators. Seventy-six percent were public school administrators and 24% were administrators at private schools (see Table 42).
Table 42

In-Depth Investigation into Administrators with Over Ten Years of Experience

\[(n = 70)\]

<table>
<thead>
<tr>
<th>Grade level configuration</th>
<th>K – 8</th>
<th>High school</th>
<th>“Other”</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34%</td>
<td>21%</td>
<td>33%</td>
<td>12%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburban</td>
<td>Urban</td>
</tr>
<tr>
<td>68%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Implications

The study revealed that there is indeed a significant difference among the group of administrators based on experience in regard to crisis preparedness. The findings suggested that administrators with more experience were more inclined to strongly agree with recommended practices for crisis preparedness than less experienced administrators. The results also suggest that as administrators gain experience and tenure at the school, community support in regard to crisis preparedness increases. As administrators gain experience they may be better equipped to identify what is needed in regard to crisis preparedness and more capable of obtaining the necessary resources.

Recommendations

There is no substitution for experience. However, administrators on all levels must be cognizant that the welfare of their students, staff and the community depend on their actions, especially during a crisis situation. Inadequate, incorrect or inaction during a crisis situation can have devastating results. Administrators must possess the necessary tools and resources to mitigate any given crisis situation. The
discrepancies between administrators based on experience may be addressed with training. Mandatory training modules on crisis preparedness could expedite the experience process and provide less experienced administrators with the necessary tools they need to keep their school environment safe.

A certification process could be implemented to verify that administrators, across the board, are receiving the essential training needed in regard to crisis preparedness. The training must go beyond formality. The training must encompass an adequate worthwhile exchange of information to prepare administrators for a wide variety of crisis scenarios and not simply be just another mandate such as the jurisdictional requirement of a school to have a crisis preparedness plan which is absolutely useless if not practiced. Training must be ongoing, comprehensive crisis preparedness plans must be in place, practiced, revisited, and altered to remain effective. A recertification process, on an annual basis, may be required for an administrator to remain diligent. The certification process could be implemented on the state jurisdictional level as in other occupational fields including police and fire department personnel to become state certified in crisis preparedness.

**Research Question 2: Is there any association between administrator experience and crisis preparedness?**

Is there any association between administrator experience and crisis preparedness? (H₀: There is no association between administrator experience and crisis preparedness.) Chi-Square tests were conducted to investigate any association among the variables of administrator experience and crisis preparedness.
recommended strategies. A Fisher exact test was conducted when there was an expected cell frequency of five or less and a dichotomous level of measurement.

The results of the Chi-Square test revealed a significant association between administrator experience and five of the six recommended crisis preparedness strategies tested. This study revealed that there is indeed a statistically significant association between administrator experience and recommended crisis preparedness strategies (see Table 43). Administrators with more experience were more inclined to indicate that they participated in the recommended crisis preparedness strategies than less experienced administrators.

Table 43
*Crisis Preparedness Association Based on Experience*

<table>
<thead>
<tr>
<th>Findings</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis plan is concise and easy to use in the event of an emergency</td>
<td>.005*</td>
</tr>
<tr>
<td>New staff members are informed of the crisis plan</td>
<td>.002*</td>
</tr>
<tr>
<td>The crisis plan is specifically designed for the school’s environment</td>
<td>.001*</td>
</tr>
<tr>
<td>The school receives community support in regard to crisis preparedness</td>
<td>.009*</td>
</tr>
<tr>
<td>The crisis plan includes provisions for people with medical, physical and mental limitations</td>
<td>.000*</td>
</tr>
</tbody>
</table>

*Note.* Chi-Square tests, * Statistically Significant

Administrators’ tenure at their current school was also examined to identify any association among the variables in regard to recommended crisis preparedness strategies. A Chi-Square test indicated a significant association between the variables of administrator tenure at the current school and the school receiving community support in regard to crisis preparedness (see Table 44). Administrators with over ten
years of experience at the current school were more inclined to strongly agree (18%), while administrators with less experience were more inclined to disagree (7%).

Table 44

*Community Support Based on Tenure*

<table>
<thead>
<tr>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>School receives community support in regard to crisis preparedness</td>
</tr>
</tbody>
</table>

*Note.* Chi-Square test, * Statistically significant

To identify any association between the variables of administrators’ years of experience and if the school conducted a simulation of a crisis during their tenure, a Chi-Square test was conducted which revealed a significant association between the variables (see Table 45). Further analysis was conducted on the variables of conducting tests, drills, or a simulation of the plan annually and conducting an actual simulation during their tenure using a Fisher Exact test. The results of the test indicated a statistically significant association between the variables (see Table 45). Eighty-two percent of the administrators (n = 96) who responded they conduct tests, drills, or simulations annually have conducted an actual simulation of a crisis while 18% have not.

Table 45

*Findings on Tests, Drills, and Simulations of the Crisis Plan*

<table>
<thead>
<tr>
<th>Conducts tests, drills, or a simulation of the plan annually</th>
<th>Chi-Square</th>
<th>Fisher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p = .017*</td>
<td></td>
</tr>
<tr>
<td>Conducted an actual simulation of the plan</td>
<td></td>
<td>p = .000*</td>
</tr>
</tbody>
</table>

*Note.* Chi-Square test, * Statistically significant

**Implications**

The results of the Chi-Square and Fisher Exact tests indicate that there is
indeed a statistically significant association among the variables of administrator experience and recommended crisis preparedness strategies. Administrators with more experience were more inclined to indicate that they participate in recommended crisis preparedness strategies than less experienced administrators. More experienced administrators were more inclined to indicate that the crisis plan was specifically designed for the school environment and that new staff members were informed of the plan. Administrators with more experience were also more inclined to indicate that they had conducted an actual simulation of the crisis plan during their tenure and that the school received community support in regard to crisis preparedness. However, other variables could have influenced the findings. An in-depth investigation into administrator experience revealed that administrators with over ten years of experience \((n = 71)\) were employed in suburban locations (68%). The in-depth investigation also revealed that 76% of administrators with over ten years of experience were employed at public schools. The variables of location and type could have directly influenced the findings.

**Recommendations**

During a national conference on school safety (2003) it was determined that schools need to take an “all hazard” approach while preparing and training for crisis or emergency situations. Crisis preparedness planning, training, and collaboration between schools, public safety agencies, and government emergency management authorities can mitigate the impact of emergencies, improve responses, and accelerate recovery. Planning, training, and conducting exercises must be integrated
into a school’s and community’s emergency response plan (School Safety, 2003).

Experts have suggested (Dorn, 2005; Johnson, 2000a; School Safety, 2003; Shoenfeldt, 2000; Trump, 2000; Trump, 2007; USDOE, 2003) that school officials work closely with area emergency management, law enforcement, fire service, emergency medical services, public health, mental health and other local experts when developing their plan. A properly implemented school safety plan allows a community to maximize the use of available resources, reduce the cost of safety measures and significantly reduce the risk of injury or death to students and staff. Furthermore, it would help develop a more effective working relationship between school and emergency response officials and dramatically improve the response to and recovery from any major crisis event.

This study revealed that there is indeed a significant association between administrator experience and recommended crisis preparedness strategies. The findings suggest that administrators with more experience were more inclined to strongly agree with recommended practices for crisis preparedness than less experienced administrators. The results also suggest that as administrators gain experience and tenure at the school, community support in regard to crisis preparedness increases. As administrators gain experience they may be better equipped to identify what is needed in regard to crisis preparedness and more capable of obtaining the necessary resources. Crisis preparedness training could expedite the experience process and provide less experienced administrators with the necessary tools they need to keep their school environment safe.
Research Question 3: Does a school's location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness?

Does a school’s location, type (public or private) or grade level configuration (elementary or high school) have an affect on crisis preparedness? \( (H_03: \text{There is no significant difference in crisis preparedness relative to the school location, type of school or grade level configuration of school.}) \) Demographic variables of the schools were collected and examined to identify if they had any affect in regard to recommended crisis preparedness strategies. The demographic variables included school location (urban or suburban), type of school (public or private), and grade level configuration (elementary or high school). Mann-Whitney tests were used to identify any differences between pairs of administrative groups based on the demographic variables in regard to recommended crisis preparedness strategies.

The results of the Mann-Whitney test on school location in reference to the school receiving community support indicated a statistically significant difference between suburban and urban administrators (see Table 46). Further investigation using a Mann-Whitney test into the independent variable of grade level configuration of the school, elementary and high school, in reference to the crisis plan being specifically designed for the school’s environment indicated a significant difference between elementary and high school administrators (see Table 46).
<table>
<thead>
<tr>
<th>Location Configuration Type</th>
<th>School receives community support in regard to crisis preparedness</th>
<th>Crisis plan is specifically designed for the school's environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburban</td>
<td>p = .000*</td>
<td>p = .578**</td>
</tr>
<tr>
<td>Urban</td>
<td>p = .967**</td>
<td>p = .016*</td>
</tr>
<tr>
<td>Type</td>
<td>p = .329**</td>
<td>p = .203**</td>
</tr>
</tbody>
</table>

*Note.* Mann-Whitney tests, * Statistically Significant, **Not statistically Significant

Suburban administrators were more inclined to indicate that the school received community support in regard crisis preparedness than urban administrators. High school administrators were more inclined to indicate that the school’s crisis preparedness plan was specifically designed for the school’s environment than elementary school administrators. This study revealed that there is indeed a statistically significant difference among administrators based on the school’s location and grade level configuration in regard to recommended crisis preparedness strategies.

**Implications**

This study revealed that suburban school administrators were more inclined to indicate that they received support from the community to meet the needs for crisis preparedness than urban school administrators. This is consistent with the findings related to years of experience since the data reveals more experienced administrators are more prominent in suburban districts. This study did not examine what type of community support the schools had received. Also, this study did not
address what type of support the schools were seeking in regard to crisis preparedness or what type of support was available in their specific regions. Resources available to a given school may not be needed because the school already possessed the resource. Resources that may have been available but not needed were not addressed in this study. Also, administrators may not be aware of the available resources within a given community which may be more identifiable through experience or training.

The results of this study confirmed that there is indeed a significant difference between groups of administrators from elementary and high schools in regard to crisis preparedness. High school administrators were more inclined to indicate that the school’s crisis preparedness plan was specifically designed for the school’s unique environment than elementary school administrators. However, other variables such as location could have significantly influenced the findings. While examining administrators experience and location of school, it was revealed that administrators with over ten years of experience were more likely to be employed in suburban schools. Eighty-eight percent of administrators with over ten years of experience were employed in schools located in suburban areas.

**Recommendations**

Schools face a variety of crisis situations, from violence to terrorism, and must adequately prepare for an infinite number of crisis possibilities. Self-assessments of the crisis preparedness plan need to be conducted regularly to identify any deficiencies. The school’s crisis plan needs to be altered to accommodate such
challenges. Without regular self-assessments and proper modification of the crisis preparedness plan to address the school’s unique environment, schools will remain at risk.

Experts suggest that testing procedures through mock crisis simulations help participants to realize their roles and ask questions regarding areas of uncertainty and identify issues that may have been overlooked by the planning team, which can be addressed during these drills (Schoenfeldt, 2000; Trump, 2000). Cross-training with community agencies that might be involved in the crisis should also occur (Johnson, 2000a).

Crisis preparedness simulations involving other community resources, such as police and fire department personnel, could help identify any unforeseen shortfalls in the crisis preparedness plan by introducing new perspectives to the process. Including additional resources, such as medical personnel, security specialist, parents and students would also be beneficial in the process. Crisis preparedness plans can then be altered to address the school’s unique environment based on recommendations from such exercises.

**Research Question 4: Is there an association between an administrator’s experience and collaboration between first responders or other members of the community and school officials in regard to crisis preparedness?**

Is there an association between an administrator’s experience and collaboration between first responders or other members of the community and school officials in regard to crisis preparedness? (H₀: There is no association between crisis preparedness collaboration and administrator experience.) Chi-Square
tests were conducted to investigate any association among the variables of administrator experience and crisis preparedness collaboration.

Collaboration between school administrators and other community resources, including first responders, were examined. Administrators were asked to identify any groups that participated in formulating the school’s crisis preparedness plan. Administrators were also asked to identify any groups that participated in actual tests, drills or simulations of the crisis plan. To further investigate any crisis preparedness collaboration, administrators were asked to provide the last two approximate dates they had met with police department personnel in regard to crisis preparedness.

When the variables of administrator experience and police personnel participated in formulating the school’s crisis plan were examined using a Chi-Square test the results were significant (see Table 47). The results indicated that of administrators with over ten years of experience \( (n = 71) \), 85% indicated that police personnel were involved in the process while administrators with less experience were less likely to indicate that police personnel assisted in the process. Overall, 95% of the administrators \( (n = 128) \) indicated that staff participated in formulating the school’s plan while 81% indicated fire and 77% indicated police participated. Thirty-seven percent of the administrators indicated that other community resources participated.
Table 47

<table>
<thead>
<tr>
<th>Experience Associated with Police Personnel Participating in Formulating Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police personnel participated in formulating the school’s crisis preparedness plan</td>
</tr>
<tr>
<td>p = .008*</td>
</tr>
</tbody>
</table>

Note. Chi-Square test, * Statistically Significant

Collaboration was also investigated by requesting the responding administrators to identify any groups that participated in tests, drills or simulations of the crisis preparedness plan. Administrator experience was examined using a Chi-square test and the results were significant in regard to other community resources participating in tests, drills or simulations of the school's crisis preparedness plan (see Table 48). Administrators with over ten years experience were more inclined to indicate that fire department personnel participated in the school's tests, drills or simulations of the crisis plan. When a Chi-Square test was conducted to identify any association between administrator experience and police department personnel participating in tests, drills or simulations of the crisis plan the results were statistically significant (see Table 48). Administrators with over ten years of experience were more inclined to indicate police department personnel participated in the tests, drills or simulations of the crisis plan than less experienced administrators.
Table 48  
*Administrator Experience Associated with Collaboration during Test, Drills or Simulations*

| Community resources participated in tests, drills or simulations of the crisis plan | Administrator experience | \( p = .002^* \) |
| Police department personnel participated in tests, drills or simulations of the crisis plan | Administrator experience | \( p = .003^* \) |

*Note. Chi-Square test, * Statistically Significant*

A more in-depth investigation into collaboration was conducted to identify any communication between school administrators and first responders, in particular, police department personnel in regard to crisis preparedness. To further validate any collaboration, administrators were asked to provide the last two approximate dates they met with police personnel in regard to crisis preparedness.

When administrator experience and the last two approximate dates the administrator met with police department personnel in regard to crisis preparedness were analyzed using a Chi-Square test the results indicated a statistically significant association between the variables (see Table 49). The results revealed that 80% of administrators with over ten years of experience provided the last two approximate dates that they met with police department personnel in regard to crisis preparedness. Of administrators with six to ten years of experience, 56% provided the last two dates while of administrators with three to five years of experience, 33% provided the last two dates and 54% provided no dates. Administrators with over ten years of experience were more inclined to supply the last two approximate dates than administrators with less experience while administrators with three to five years were
more inclined to not supply any dates or supply only one date.

Further analysis was conducted using a Chi-Square test to identify any association between the variables of administrator tenure at the current school and the last two approximate dates the administrator met with police department personnel in regard to crisis preparedness. The results indicated a significant association between the variables (see Table 50). A majority of administrators (62%) supplied the last two dates that they met with police personnel in regard to crisis preparedness. Administrators with over ten years of experience (33%) were more inclined to supply the last two approximate dates than administrators with less experience. Administrators with less experience were more inclined not to supply any dates (52%) or supply only one date (50%).

Table 50

| Administrator Tenure | Last two approximate dates the administrator met with police personnel in regard to crisis preparedness | p = .000* |

Note. Chi-Square test, * Statistically Significant

Implications

In order for schools to remain safe, administrators must communicate with other community resources, especially first responders, in regard to crisis
preparedness. Although this study examined other community involvement in the crisis preparedness process, attention to collaboration with police department personnel was of particular interest. Police department personnel will often be the first to respond to a crisis situation. Analysis of the last two approximate dates administrators meet with police personnel in regard to crisis preparedness revealed that more experienced administrators supplied the last two approximate dates than less experienced administrators. Administrators with greater tenure were also more inclined to supply the last two approximate dates. In order for schools to remain safe, open lines of communication between school administrators and police department personnel must be fostered. School officials must maintain that these lines of communication remain active which could be guided by school policy. Although one hundred percent participation in response to a question is desirable, it is highly improbable. The survey used an open box type of response in which the administrators could input the last two approximate dates they had met with police personnel in regard to crisis preparedness in a month/day/year format. If another type of response format were to be implemented, such as a calendar being provided in which the administrator could have simply clicked on a date, the response may have been greater. Further analysis would need to be conducted to identify if an alternate response format may have increased participation in regard to supplying the last two approximate dates.

**Recommendations**

Schools face a variety of emergencies, including the potential for violence,
natural disasters, civil unrest, and terrorism. A crisis is “an event that is extraordinary and therefore cannot be predicted” (Peterson & Straub, 1992). With an infinite number of catastrophic possibilities, preparation for such emergencies can be an exhausting endeavor. Planning ahead for crisis is a key element to an effective response, planning should include the designation of a core response team, establishment of procedures, communication with community services, and proper training of staff to handle crisis situations (Dwyer & Osher, 2000a; Dwyer et al., 1998). The goal of crisis response planning is to prevent a situation from getting worse, restoring victim’s functioning, and decreasing any long-term effects (American Academy of Experts in Traumatic Stress, 1999). Although many schools have crisis preparedness plans, few have actually conducted simulations that test the plan in a crisis situation leading to real knowledge on how well the plan would work in an actual crisis (Trump, 2007).

School officials must monitor the crisis preparedness process and insure that the crisis preparedness plan is revisited and altered on a regular basis to remain effective. Conducting regular tests, drills and simulations of the plan in cooperation with other community resources such as police, fire and medical personnel could provide school administrators with the most current information available to more effectively mitigate a crisis situation. School administrators can remain informed on any current information that may be of particular interest to the school from recent terrorist threats to gang activity in the community which may directly affect the school or the students. Training activities should be conducted regularly and be
ongoing to address any new threats from the ever-changing environment.

To ensure administrators with less experience are prepared to handle a crisis situation within their school, training on crisis preparedness must be provided. To further enhance the training process, a mentoring program can be implemented. Administrators with more experience could guide less experienced administrators through the crisis preparedness process. A support system could greatly enhance the training process by providing less experienced administrators with the vital information they need to keep the students, staff and school safe.

**Research Question 5: Is there any association between a school's location, type or grade level configuration and collaboration among school officials and other members of the community in regard to crisis preparedness?**

Is there any association between a school's location, type or grade level configuration and collaboration among school officials and other members of the community in regard to crisis preparedness? (H0: There is no association between crisis preparedness collaboration and the school’s location, type, or grade level configuration.) Chi-Square tests were conducted to investigate any association among the variables of the school’s location, type and grade level configuration and crisis preparedness collaboration. A Fisher exact test was conducted when there was an expected cell frequency of five or less and a dichotomous level of measurement.

Collaboration between school administrators and other community resources, including first responders, were examined. Administrators were asked to identify any groups that participated in formulating the school’s crisis preparedness plan or participated in tests, drills or simulations of the crisis plan. Administrators were also
asked if they met with police personnel annually in regard to crisis preparedness. To further investigate any collaboration, administrators were asked to provide the last two approximate dates they had met with police department personnel in regard to crisis preparedness.

When the variables of grade level configuration of the school and police personnel participated in the formulation of the school’s crisis plan were examined using a Chi-Square test, the results were statistically significant (see Table 51). Administrators at high schools were more inclined to respond that the police department participated in formulating the crisis preparedness plan than elementary school administrators. When location of the schools were examined using a Chi-Square test, the results were significant in regard to police personnel assisted in formulating the plan (see Table 51). Administrators at suburban schools \((n = 78)\) were more inclined to respond that the police department participated (92%) than urban \((n = 51)\) school administrators (53%).

A Chi-Square test was conducted to examine the variables of community resources that participated in formulating the crisis preparedness plan and grade level configuration which revealed significant results (see Table 51). Forty-six percent of administrators \((n = 48)\) with grade levels kindergarten through eight indicated they included outside resources, while 25% of high school administrators \((n = 24)\) indicated that they included other community resources. When type of school (public and private) was examined using a Chi-Square test, the results were significant in regard to other community resources participating in formulating the plan (see Table
Fifty-six percent of administrators ($n = 36$) at private schools indicated they included other community resources, while 30% of public school administrators ($n = 90$) indicated that they included other community resources.

Table 51

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Grade level configuration</th>
<th>Location</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police participated in formulation of crisis plan</td>
<td>p = .000*</td>
<td>p = .000*</td>
<td>p = .821**</td>
</tr>
<tr>
<td>Other community resources participated in formulation of crisis plan</td>
<td>p = .032*</td>
<td>p = .192**</td>
<td>p = .014*</td>
</tr>
</tbody>
</table>

Note. Chi-Square test, * Statistically Significant, ** Not statistically significant

A Chi-Square test was conducted to examine the variables of grade level configuration and police personnel participated in tests, drills or simulations of the crisis preparedness plan. The results of the test were statistically significant (see Table 52). High school administrators were more inclined to indicate that police department personnel participated than grammar school administrators. When the variables of school location and police department personnel participated in tests, drills or simulations were examined using a Chi-Square test the results were statistically significant (see Table 52). Suburban school administrators were more inclined to indicate that police personnel had participated than urban school administrators. When the variables of type of school and police personnel participated in tests, drills or simulations were analyzed using a Chi-Square test the results were statistically significant (see Table 52). Public school administrators were more inclined to indicate that police department personnel have participated in tests,
drills, or simulations of the school's crisis preparedness plan than private school administrators. When the variables of grade level configuration and fire personnel participated in tests, drills or simulations were examined using a Chi-Square test the results were significant (see Table 52). High school administrators were more inclined to indicate that fire department personnel participated than grammar school administrators.

Table 52

<table>
<thead>
<tr>
<th>Tests, Drills and Simulations Associated with School Location, Type and Grade Level Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade level configuration</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>Police participated in tests, drills and simulations of the crisis plan</td>
</tr>
<tr>
<td>Fire participated in tests, drills and simulations of the crisis plan</td>
</tr>
</tbody>
</table>

*Note. Chi-Square test, * Statistically Significant, ** Not statistically significant

When variables of school location and administrators that met with first responders (police and fire personnel) annually, in regard to crisis preparedness were analyzed using a Fisher Exact Test, the results were significant. The results indicated that there is a significant association between administrators who met with police personnel annually and those that met with fire personnel annually (see Table 53). Sixty-seven percent of suburban school administrators (n = 78) met with police department personal annually, while 33% of urban administrators (n = 51) met with police department personnel annually in regard to crisis preparedness. Seventy percent of suburban school administrators met with fire department personal annually, while 30% of urban administrators met with fire department personnel
annually in regard to crisis preparedness.

Table 53

<table>
<thead>
<tr>
<th>Location</th>
<th>Meet with police annually in regard to crisis preparedness</th>
<th>p = .010*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Meet with fire annually in regard to crisis preparedness</td>
<td>p = .000*</td>
</tr>
</tbody>
</table>

Note. Fisher Exact test, * Statistically Significant

A more in-depth investigation into collaboration was conducted to identify any communication between school administrators and first responders, in particular, police department personnel in regard to crisis preparedness. The final tool used to identify any collaboration was an open format question requesting administrators to provide the last two approximate dates they had met with police personnel in regard to crisis preparedness.

When the variables of school location and the last two approximate dates were analyzed using a Chi-square test the results indicated a significant association between the variables (see Table 54). Of the urban public school administrators (n = 33) that replied they met with police department personnel annually for the purpose of crisis preparedness, 64% provided the last two approximate dates, 15% provided one date, while 21% did not provide any dates. Of the suburban public school administrators (n = 66) that replied they met with police department personnel annually for the purpose of crisis preparedness, 68% provided the last two approximate dates, 15% provided one date, while 17% did not provide any dates. When the variables of grade level configuration of the school and the last two
approximate dates the administrator met with police department personnel were analyzed using a Chi-square test the results were significant (see Table 54). High school administrators ($n = 24$) were more inclined to provide the last two dates (83%) than not provide any dates (17%). Elementary school administrators ($n = 48$) were more inclined to supply two dates (58%) than provide only one date (17%) or no dates (25%).

<table>
<thead>
<tr>
<th>School Location and Grade Level Configuration Associated with Last Two Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last two approximate dates meet with police in regard to crisis preparedness</td>
</tr>
<tr>
<td>p = .010*</td>
</tr>
</tbody>
</table>

Note. Chi-Square test, * Statistically Significant

The variables of meeting with police annually and the last two approximate dates the administrator met with police in regard to crisis preparedness were analyzed using a Chi-Square test which indicated a significant association between the variables (see Table 55). Eighty-four percent of the administrators that responded that they meet with police department personnel annually provided the last two approximate dates they met with police personnel in regard to crisis preparedness while 88% only provided one date and 55% did not provide any dates. Of the public school administrators that replied they meet with police department personnel annually for the purpose of crisis preparedness, 68% provided the last two approximate dates, 14% provided one date, while 18% did not provide any dates. Of the private school administrators that replied they meet with police department personnel annually for the purpose of crisis preparedness, 63% provided the last two
approximate dates, 20% provided one date, while 17% did not provide any dates.

Table 55

<table>
<thead>
<tr>
<th>Meet with Police Annually Associated with Last Two Approximate Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with police annually in regard to</td>
</tr>
<tr>
<td>crisis preparedness</td>
</tr>
<tr>
<td>p = .002*</td>
</tr>
</tbody>
</table>

Note. Chi-Square test, * Statistically Significant

A Chi-Square test was conducted to examine the variables of school type, meeting with police personnel annually for the purpose of crisis preparedness and providing the last two approximate dates they had met with police in regard to crisis preparedness. The results indicated a significant association among public school administrators and private school administrators (see Table 56). Of the public school administrators \((n = 66)\) that replied they meet with police department personnel annually for the purpose of crisis preparedness, 68% provided the last two approximate dates, 14% provided one date, while 18% did not provide any dates. Among the private school administrators \((n = 30)\) that replied they meet with police department personnel annually for the purpose of crisis preparedness, 63% provided the last two approximate dates, 20% provided one date, while 17% did not provide any dates.

Table 56

<table>
<thead>
<tr>
<th>School Type, Meet with Police Annually Associated with Last Two Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with police annually in regard to</td>
</tr>
<tr>
<td>crisis preparedness</td>
</tr>
<tr>
<td>p = .022*</td>
</tr>
<tr>
<td>p = .031*</td>
</tr>
</tbody>
</table>

Note. Chi-Square test, * Statistically Significant
Implications

This study revealed a statistically significant association between the school’s location, type and grade level configuration and collaboration with community resources in regard to crisis preparedness. Police personnel will often be the first to respond to a crisis situation. In this study collaboration between school administrators and police personnel was of particular interest.

Administrators must communicate and collaborate with community resources, especially first responders, in regard to crisis preparedness to keep their schools safe irrelevant of the school’s location, type or grade level configuration. Community collaboration is an essential component to properly prepare for and recover from any crisis situation. Any school, regardless of location, type and grade level configuration, can unfortunately experience a crisis situation. Although some schools may have a higher propensity for certain types of risk, the realization is that all schools remain at risk may it be from a natural disaster, violence, chemical spill, terrorist attach or some other unforeseen incident. Lack of preparedness and collaboration during a crisis situation can result in unnecessary casualties. Unfortunately, innocent children may pay the price.

Recommendations

No school is immune to crisis. Tragedy can strike a school at any time irrelevant to a schools location, type or grade level configuration may it be by natural disaster, violence, or some other unforeseen incident. Experts suggest preparedness planning, training and collaboration between schools; public safety agencies and
other community resources can mitigate the impact of emergencies, improve responses and accelerate recovery. Planning, training, and conducting exercises must be incorporated into a school’s crisis preparedness plan (Dorn, 2005; Johnson, 2000a; School Safety, 2003; Shoenfeldt, 2000; Trump, 2000; Trump, 2007; USDOE, 2003).

Although most schools created or adopted crisis plans after the Columbine attack in April of 1999, many plans are sitting on shelves collecting dust. Gaps in emergency plans include a lack of training of school staff, a lack of exercising plans in cooperation with public safety partners, and content that does not pertain to the unique environment of the individual school. Although many schools have crisis plans, and some conduct practice drills, few have actually participated in simulations that test the plan in a crisis situation leading to real knowledge on how well the plan would work in an actual crisis (Trump, 2007).

Communication is essential to effectively respond to any situation, especially a crisis situation in or near a school when young innocent lives are at risk. In this study collaboration was examined but can not be accomplished until avenues of communication are established. The most constructive way to establish effective avenues of communication are through tests, drills, simulations and training amongst all stakeholders within the community. This will not only establish communication, but also confidence among all members involved in the process which is beneficial to effectively defuse any exceptionally stressful crisis incident.

Communication is a vital necessity in any effort of collaboration.
Administrators were asked to provide the last two approximate dates they had met with police personnel in regard to crisis preparedness with that in mind. Although many administrators provided the last two approximate dates, many did not. This study revealed a statistically significant association between administrators based on school location, type and grade level configuration in regard to providing the last two approximate dates. School administrators must have an open dialog with police department personnel in regard to crisis preparedness. Although annual review of the crisis preparedness plan is recommended, the school environment is continuously changing. Increased communication with police department personnel may be necessary to address any developing concerns before they elevate to a crisis situation.

Further examination into the variables of meeting with police annually and providing the last two approximate dates administrators met with police personnel provided statistically significant results in regard to the school’s location and type. Overall, most administrators provided two dates; however, a large amount did not provide any dates.

**Recommendations for Future Research**

In this study, the researcher concentrated on examining the differences among administrator groups based on experience while incorporating demographic variables of the school which included location, school type and grade level configuration. Future research to examine crisis preparedness should include expanding the study sample size to include other community stakeholders to identify
if their perceptions of the crisis preparedness plan parallel administrators' perceptions. However, other variables may have influenced the variable of experience such as school location, type of school or grade level configuration. Further investigation with a greater sample size using purposive sampling may address the issue. In purposive sampling, the researcher specifies the characteristics of a population of interest and then attempts to locate individuals who possess those characteristics (Johnson, 1995). This type of sampling may provide the researcher a more balanced sample and greater ability to analyze the data.

Future analysis should evaluate what type of community support the schools are receiving. Also, the analysis should address what type of support the schools are seeking in regard to crisis preparedness while investigating what type of support is available to the schools in their specific area. School district and jurisdiction protocol should be included in future studies. Protocol could have heavily influenced the findings of this study and were not addressed. For instance, does a school district or jurisdiction, township or municipality, require police or fire personnel to assist in the formulation of the crisis plan or participate in tests, drills or simulations of the plan? Does a school district or jurisdiction, township or municipality, encourage community involvement in regard to a school’s crisis preparedness plan?

**Conclusion**

The study was designed to investigate the adequacy of crisis preparedness plans based on state, federal and expert recommendations. The study addressed administrator experience and possible affects on crisis preparedness in schools. The
study revealed that there is indeed a difference among the groups of administrators based on experience and crisis preparedness. Overall, administrators with more experience were more inclined to strongly agree with the recommended practices in regard to crisis preparedness. Although the schools location, type and grade level configuration resulted in significant findings in the study, further investigation needs to be conducted to examine whether it is indeed the location, type or grade level configuration which presented the results or did other factors such as the administrator experience have an affect on the results.

The study was also designed to investigate collaboration occurring in the preparation for crisis preparedness by school administrators and community resources including first responders. However, a definition of crisis was not presented to survey participants. In addition, school, school grounds and the possible affects of an actual crisis on the school climate were not defined or presented.

When collaboration was examined in the study the results were significant. Administrators with more experience were more inclined to agree with the recommended practices than less experienced administrators. Administrators with over ten years of experience were more inclined to indicate that police and fire personnel assisted in the formulation of the school's crisis preparedness plan. They were also more inclined to indicate that police and fire personnel participated in the tests, drills or simulations of the plan. The study revealed significant differences among administrators by location, type and grade level configuration of the school. Administrators of suburban schools were more inclined to indicate that police and
fire personnel participated in formulating the plan and participating in tests, drills or simulations. High school administrators were more inclined to indicate that police and fire personnel participated in the formulation and assessment of the plan. Public school administrators were more inclined to indicate that police personnel participated in tests, drills or simulation of the school's crisis plan. Although the schools location, type and grade level configuration resulted in significant findings in the study, further investigation needs to be conducted to examine whether it is indeed the location, type or grade level configuration which presented the results or did other factors such as the administrators experience have an affect on the results. Further examination would also need to be conducted to identify if additional factors may have influenced the results of the study such as school administration or jurisdictional protocol.

Discrepancies between administrators in regard to crisis preparedness could be addressed with training and implementing policy directives at the district and state level. Training on crisis preparedness could expedite the experience process and provide less experienced administrators with the necessary tools they need to keep their school environment safe. A standardized approach to crisis preparedness training could address any differences between administrators based on location, type, and grade level configuration. Universities could include instruction on crisis preparedness in their principal preparation programs to familiarize new administrators with the core concepts of crisis preparedness and better prepare them for a host of crisis situations. A certification process could be implemented to verify
that administrators are receiving the essential training to keep their schools safe. The
certification process could be implemented on the state jurisdictional level similar to
becoming state certified as a teacher. Training must be ongoing, comprehensive
crisis preparedness plans must be in place, practiced, revisited, and altered to remain
effective. A recertification process, on an annual basis, may be required for an
administrator to remain diligent on new procedures and threats in regard to crisis
preparedness. Administrators must possess the necessary tools and resources to
mitigate any given crisis situation.

Administrators must be cognizant that the safety of their students and staff
depend on their actions, especially during a crisis situation. Inadequate, incorrect or
inaction during a crisis situation can have devastating results. With an increase in
terrorist threats, increased violence and an estimated 135,000 American children
carrying guns to school each day (Krulak, Warner & Weist, 1999), schools should
not wait until the midst of a crisis to figure out what to do. At that moment, everyone
involved – from top to bottom – should know the drill and know each other
(USDOE, 2003). Public safety personnel want to be properly prepared if tragedy
should strike a school in their community. They know that in the event of a major
crisis, there are no second chances and little time to stop and think, and that the lives
of innocent children will be in their hands. The outcome of any crisis will be
determined by advanced planning efforts, regular drills and training conducted long
before that day. The time for emergency response and school officials to address
crisis issues is before, not during an incident (Dorn, 2005).
APPENDIX A

INITIAL RECRUITMENT LETTER
Dear Name:

School safety is a primary concern for communities throughout America. I am writing to request your help in a study to identify the status of school crisis preparedness during these turbulent times.

I am currently a doctoral candidate at Loyola University Chicago School of Education. I am gathering information to complete my dissertation and requesting your assistance in this process. The goal of the study is to gather information from principals across Illinois, regarding strategies and practices that are being implemented to prepare for and respond to crisis. Your shared experience and contribution to this study is important to generate an accurate depiction of school crisis preparedness.

The survey consists of thirty-six questions and takes approximately ten minutes to complete. Your participation is completely voluntary and responses will remain confidential. Participants and any information afforded will be unidentifiable, as privacy issues will be held to the utmost standards. Your participation is essential to completeness and fair representation of this study.

If you would please complete the survey it would be greatly appreciated. To access the survey, simply go to the following website: https://www.surveymonkey.com/crisispreparedness and follow the onscreen directions to complete the survey. Additional information is available on the website.

If you have any questions regarding this study, please contact my advisor or myself. If you have any questions regarding your rights as a research participant, contact the Loyola University Review Board at IRB@LUC.EDU or 773-508-2689. A summary of the results will be available to participants at the completion of the study.

Thank you for your time and participation in this study.

Sincerely,

Charles Maida
Doctoral Candidate

Charles Maida
Phone: 773-851-1580
Email: chasmaida@att.net

Dr. Rola Khishfe
Associate Professor
Loyola University
Department of Education
6525 N. Sheridan Rd.
Chicago, IL 60626
Phone: 773-508-8344
Email: rkhishf@luc.edu
APPENDIX B

FOLLOW-UP LETTER
Dear,

Several weeks ago I sent an invitation to participate in a research study on crisis preparedness. If you have already participated, thank you very much! If you have not participated, it is not too late!

School safety is a primary concern for communities throughout America. I am writing to request your help in a study to identify the status of school crisis preparedness during these turbulent times.

I am currently a doctoral candidate at Loyola University Chicago School of Education. I am gathering information to complete my dissertation and requesting your assistance in this process. The goal of the study is to gather information from principals across Illinois, regarding strategies and practices that are being implemented to prepare for and respond to crisis. Your shared experience and contribution to this study is important to generate an accurate depiction of school crisis preparedness.

The survey consists of thirty-six questions and takes approximately ten minutes to complete. Your participation is completely voluntary and responses will remain confidential. Participants and any information afforded will be unidentifiable, as privacy issues will be held to the utmost standards. Your participation is essential to completeness and fair representation of this study.

If you would please complete the survey it would be greatly appreciated. To access the survey, simply go to the following website: https://www.surveymonkey.com/crisispreparedness and follow the onscreen directions to complete the survey. Additional information is available on the website.

If you have any questions regarding this study, please contact my advisor or myself. If you have any questions regarding your rights as a research participant, contact the Loyola University Review Board at IRB@LUC.EDU or 773-508-2689. A summary of the results will be available to participants at the completion of the study.

Thank you for your time and participation in this study.

Sincerely,

Charles Maida
Doctoral Candidate

Charles Maida
Phone: 773-851-1580
Email: chasmaida@att.net

Dr. Rola Khishfe
Associate Professor
Loyola University
Department of Education
6525 N. Sheridan Rd.
Chicago, IL 60626
Phone: 773-508-8344
Email: rkhishf@luc.edu
APPENDIX C

CRISIS PREPAREDNESS SURVEY
Project Title: Crisis Preparedness
Researcher(s): Charles Maida
Faculty Sponsor: Dr. Rola Khishfe

Introduction:
You are being asked to take part in a research study being conducted by Charles Maida for a dissertation under the supervision of Dr. Rola Khishfe in the Department of Education at Loyola University of Chicago.

You are being asked to participate because as an administrator you are at the forefront of school crisis preparedness. I am attempting to gather information from school administrators across Illinois, regarding strategies and practices that are being implemented to prepare for and respond to crisis.

Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

Purpose:
The purpose of this study is to generate an accurate depiction of school crisis preparedness. The goal of the study is to gather information from principals across Illinois, regarding strategies and practices that are being implemented to prepare for and respond to crisis. Your shared experience and contribution to this study is important to generate an accurate depiction of school crisis preparedness.

Procedures:
If you agree to be in the study, you will be asked to complete an online survey which consists of thirty-six questions and takes approximately ten minutes to complete.

Risks/Benefits:
There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.
Neither personal information nor identifiable information regarding the school will be collected.

There are no direct benefits to you from participation, but the study could be an effective tool in understanding the current status of crisis preparedness and could possible identify variables that directly influence crisis management plans in the school system. By identifying procedures that are effective in securing the safety of schools, violence within our schools can be reduced, enhancing the learning experience for all involved.

Confidentiality:
There will be no personal demographic information collected and therefore no way a participant could be identified.
There is also no identifiable information being collected about the school and therefore no way a school could be identified. There are no limits of confidentiality since no demographic information will be collected.

Voluntary Participation:
Participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty.

Contacts and Questions:
If you have questions about this research project, feel free to contact Charles Maida at chasmaida@att.net or the faculty sponsor Dr. Rola Khishfe at rkhishf@luc.edu.

If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

Statement of Consent:
You consent to participating in this study by continuing with the survey.
Crisis Preparedness Survey

1. Years of experience as an administrator.
   - Less than a year
   - 1 to 2 years
   - 3 to 5 years
   - 6 to 10 years
   - Over 10 years

2. How long have you been an administrator at the current school?
   - Less than a year
   - 1 to 2 years
   - 3 to 5 years
   - 6 to 10 years
   - Over 10 years

3. What are the grade levels of the school.
   - Kindergarten through Second Grade
   - Kindergarten through Fifth Grade
   - Kindergarten through Eighth Grade
   - Kindergarten through 12th Grade
   - Fifth grade through Eighth Grade
   - High School
   - Other

4. Please enter the current enrollment of students in the school.

5. What is suggested maximum number of students in the school?

6. Approximate age of school building/ facility.
   - 0-5 Years
   - 6-15 years
   - 16-30 years
   - 31-50 years
   - Over 50 years

7. In which setting is the school located?
   - Urban
   - Rural
   - Suburban
   - Town

8. Is the school a
   - Public Institution
   - Private Institution

9. Is the school crisis plan concise and easy to use in the event of the emergency?
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

10. New staff members are informed of the school crisis plan.
    - Strongly Agree
    - Agree
    - Disagree
    - Strongly Disagree
11. The school’s crisis plan was specifically designed for the school’s environment.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

12. The school receives support from the community to meet the needs of crisis preparedness.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

13. The school crisis plan includes strategies for post-crisis recovery.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

14. The school crisis plan includes strategies for students, staff and visitors with physical, mental, or medical limitations.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

15. The below listed personnel assisted in formulating the school’s crisis plan. (Check all that apply)

☐ Fire Department ☐ Police Department ☐ Staff ☐ Students ☐ Parents ☐ Medical Facilities ☐ Security Specialist ☐ Counselors

☐ Other Community Resources ☐ None of the above

16. The school’s crisis plan was derived from a template or computer software.

☐ Yes ☐ No ☐ Don’t Know

17. The crisis plan was provided by school district administration.

☐ Yes ☐ No ☐ Don’t Know

18. Our school conducts tests, drills, or simulations on the crisis plan at least once a year. (Excluding fire drills)

☐ Yes ☐ No

19. Our school has conducted a simulation of an actual crisis during my tenure. (Excluding fire drills)

☐ Yes ☐ No
20. The below listed groups have participated in the tests, drills or simulations. (Excluding fire drills) (Check all that apply)

- Fire Department
- Police Department
- Staff
- Students
- Parents
- Medical Facilities
- Security Specialist
- Counselors
- Other Community Resources
- None of the above

21. Our superintendent empowers principals to make on-the-spot decisions in the event of an actual crisis.

- Yes
- No

22. Police officers or security personnel are assigned to the school to assist with safety issues.

- Yes
- No

23. Our School has conducted a climate analysis to assess safety strengths and weaknesses.

- Yes
- No

24. Student input is an essential part of the crisis plan.

- Yes
- No

25. Our school has a violence prevention program.

- Yes
- No

26. All visitors are required to sign in upon entering the school.

- Yes
- No

27. Our school uses video surveillance equipment to monitor the school.

- Yes
- No

28. Our school uses metal detectors to check for potential weapons.

- Yes
- No

29. Our school regularly checks the public address system to ensure it is working properly.

- Yes
- No
30. Our school provides staff development training on safety procedures.
☑ Yes ☐ No

31. Our school provides transportation for students in school buses.
☑ Yes ☐ No

32. School buses and bus drivers are included in the crisis preparedness plan.
☑ Yes ☐ No

33. During your tenure, have you met with below listed groups in regards to crisis preparedness in the school? (Check all that apply)
☐ Fire Department ☐ Medical Facilities ☐ None of the above
☐ Police Department ☐ Security Specialist
☐ Staff ☐ Counselors
☐ Students

34. I meet with the below listed groups annually in regards to crisis preparedness. (Check all that apply)
☐ Fire Department ☐ Parents ☐ Other Community Resources
☐ Police Department ☐ Medical Facilities ☐ None of the above
☐ Staff ☐ Security Specialist
☐ Students ☐ Counselors

35. What were the approximate dates of the last two times you met with police department personnel in regards to crisis preparedness in the school?
☑ Date
☑ Date

36. What things would you like to see implemented or changed in your school's crisis plans?

Thank you for participating in this study.
REFERENCES


VITA

Charles Maida was born in Chicago, Illinois, the son of Marleen and Joseph Maida. He is a lifelong resident and still resides in Chicago with his wife and two children. Charles attended public schools in Chicago until the eighth grade. Charles attended high school at St. Rita of Cascia in Chicago. After completing his work at St. Rita High School, he attended Lewis University where he studied Criminal Justice and received a Bachelor of Arts in May 2003. After completing the program, he remained at Lewis University and studied Public Safety Administration. He received a Master of Science in May 2005. Charles has worked in the criminal justice field for the past 20 years. Charles has also worked in the field of education as a part-time college instructor in the criminal justice field for the past 3 years.
The Dissertation submitted by Charles V. Maida has been read and approved by the following committee:

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Clinical Assistant Professor, School of Education
Loyola University Chicago

Diane Schiller, Ph. D.
Professor, School of Education
Loyola University Chicago

Barney Berlin, Ph.D.,
Professor Emeritus, School of Education
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The final copies have been examined by the director of the Dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the Dissertation is now given final approval by the committee with reference to content and form.

The Dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

________________________________________  _____________________________
Date          Director’s Signature