2022

Applying Situational Crime Prevention to Terrorism Against Stadiums

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Walden University
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Abstract

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by

Emanuel Maurice Yeoman

MS, University of the District of Columbia, 2013

BS, California University of Pennsylvania, 1984

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

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Abstract

According to recent studies, there has been increasing concern of terrorist threats to U.S. stadiums. The research problem is that existing U.S. stadium policies, procedures, and plans do not adequately address evacuation of special populations in the event of a terrorist threat. There is a particular concern regarding the adequacy of existing stadium evacuation plans for patrons with special needs. In the current study there were three research questions examining the organizational deficiencies and best practices of stadium evacuation plans currently in place to respond to terrorist threats How situational crime prevention (SCP) can help in the identification of deficiencies and best practices and what strategic deficiencies exist in current practices regarding the evacuation of special populations procedures at major sporting venues. Using a general qualitative design, interviews were conducted with 20 stadium operators, consultants, security managers, or stadium security staff members. The SCP approach was used to explore identification of deficiencies and best practices in stadium evacuation plans in the event of a terrorist attack**.** The results indicated that existing U.S. stadiums need to improve training, communication, and planning for evacuation of all patrons, including patrons with special needs. The results also indicated best practices that align with the SCP strategy of increased risk, the SCP technique that includes hard interventions, and SCP Pillar 2, Weapons. Ineffective stadium evacuation can result in unnecessary injury and loss of life. Implications for positive social change include improved stadium evacuation plans to assure patron safety in the event of a terrorist attack.

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Dedication

This research is dedicated to all first responders, who without question risk their lives daily to save others! Words cannot express my appreciation for their determination and bravery. I thank my mother, Virginia Thurman Yeoman (deceased January 2015), who gave me life. I cannot forget my two heroes; my father James Henry Yeoman (deceased February 2021) and my father-in-law Dr. William Ridley Spaulding (deceased November 2021). Dr. Spaulding, a member of the first elected Washington DC City Council, wrote the legislation establishing the University of the District of Columbia (UDC). My father James Yeoman, the first African American Chief Electrical Inspector of the District of Columbia, approved the occupancy permit for UDC. I am one of the millions who have graduated from UDC. My two heroes, my father and my father-in-law, talked to me about learning something new daily, and helping others in need. I have angels in heaven who know my name! Thanks be to God, in Jesus magnificent holy name. Amen!

Acknowledgments

The sheer length of this dissertation demonstrates how much it is a result of the encouragement of others. I could not have reached this point alone. I would like to thank my committee chair, Dr. Clarence Williamson, for his outstanding support and guidance during my research and for his advice on the theoretical and practical framework. He was patient with me, encouraged me to remain on course, motivated me to make a difference, and made suggestions during my work that helped me find my professional voice. I would also like to thank committee member Dr. Michael Knight for his invaluable feedback on methodology.

When earning my master's degree, I depended on the God-given skills and teaching of Dr. Michael A. Hodge. The knowledge I gained from him was mind-boggling. I would like to again thank Prof. Otto J. Herzel, who helped me in ways that words cannot describe. I never envisioned being able to coordinate and decipher the concepts and ideas that he helped me understand. I would also like to thank Prof. David Watts for his professionalism, generosity, and constancy. He took me under his wing and showed me the road to knowledge and success. I would also like to again thank Dr. Angelyn Flowers for her dedication to higher education. Her teaching made me a well-rounded person and my life special.

My blessings are heavenly: My family drives my compassion and spirit with their continuous support, patience, and kindness. I must also let the world know that this is only part of my legacy to my spouse and closest friend, Deirdre, whom I love with all my heart.

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Chapter 1: Introduction to the Study

Terrorism has been a growing concern in the United States. Terrorists have been studying the architecture and security of sports stadiums in the United States (Kuper, 2015; Ryan et al., 2015; Webb, 2015). The Boston Marathon bombing and Stade de France attacks in Paris indicated that major sports venues were potential targets for terror attacks in the United States. Terrorist attacks have increased the attention on sports arena security in the United States (O'Brien, 2016). The U.S. Department of Homeland Security (USDHS) has identified U.S. stadiums as terrorist targets due to being recognized at the national and international level as icons with large populations (USDHS, 2015). Stadiums are part of critical infrastructure (Cybersecurity and Infrastructure Security Agency, 2020). A critical infrastructure consists of systems and assets vital to the United States, which, if disrupted, would have a severely negative impact on national security, the economy, and public health or safety (Cybersecurity and Infrastructure Security Agency, 2020).

The continued evolution of terrorism has led to increased focus on the study of security methods at stadiums in the United States and globally. However, few researchers have investigated the impact of terrorism on sports venues. I identified a gap in the literature regarding security experts' perceptions of the capability of security professionals to evacuate physically challenged patrons from major sports venues in the event of a terrorist attack. Although all businesses serve physically challenged patrons, large sports venues face unique challenges in this area. Sports venues may serve crowds of 10,000–100,000 people per event. Safely evacuating physically challenged patrons

presents several challenges for security experts working in stadiums. For example, most stadium evacuation plans direct physically challenged patrons to contact the nearest stadium employee for assistance. Ineffective stadium evacuation resulting from a terrorist attack could result in unnecessary injury and loss of life.

The major sections of this chapter are as follows. In the next section, I discuss the background of the issue by summarizing the literature related to the dissertation, describing the gap in existing knowledge that the study addressed, and stating why this study was needed. The background is followed by a statement of the problem, the purpose of the dissertation, and the research question that guided it. After defining key terms, I then discuss the nature of the study, the assumptions underlying it, its scope and limitations, and its significance. The chapter concludes with a summary.

Background of the Study

Although many people have proposed definitions for "terrorism," they have yet to reach a consensus. This lack of consensus has derived, in part, from the political and emotional associations of the term (History of Terrorism, 2011). The Federal Bureau of Investigation (2011) defined terrorism, generally, 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" (para. 11). Hess (2015) deferred to the legal definition of terrorism as "premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents, usually intended to influence an audience" (22 U.S.C. § 2656f(d), 2017).

In the post 9/11 era of planning for domestic terrorist attacks, sporting and entertainment venues have been the focus of several studies. Schimmel (2011) focused on terrorist planning and prevention at the National Football League's (NFL's) Super Bowl venues. Schimmel noted that the unique features of the Super Bowl provide opportunities for domestic terrorism and present planning challenges to antiterrorism experts. Specifically, Super Bowl venues are planned based on the concept of being "Super Bowl Ready" or shifting from a "violence-complacent perspective" to a "terrorist-ready perspective" (Schimmel, 2011). Additionally, Schimmel noted that the extended approach to the Super Bowl via venue host bidding, media coverage, and stadium infrastructure that "extends into the surrounding communities" presents unique planning issues that require over 40 committees and subcommittees from the military, local police, state police, and federal law enforcement. Schimmel conducted content analysis of media stories and social media posts over a 10-year period beginning in 2000 and illustrated how 9/11 changed the perspective on and potential for terrorist attacks on entertainment venues.

Coaffee (2011) examined security planning practices surrounding the Olympics and Paralympic Games. Coaffee noted that since 9/11, "security fears" around terrorist attacks on sporting "mega" events had increasingly magnified. Coaffee further noted that because of heightened fears by security experts, sporting venues were viewed as soft targets for domestic terrorism characterized by high crowd density and large, accessible open spaces. Additionally, mega sporting events would inevitably receive significant media coverage in the event of a terror attack. Coaffee examined planning documents

over a 10-year period leading up to the 2012 London Olympics and identified focus areas including extended perimeter fencing, ticketing systems, surveillance technology, and spatial buffer zones for extended evacuation of dense crowds.

I found a gap in existing literature regarding communication and shared knowledge before, during, or after an incident, and communications as part of the stadium evacuation process. Researchers have indicated that communication is important when managing crowds, as in stadiums (Aradau, 2015); that crowd evacuation includes communicating the evacuation decision (Vreugdenhil et al., 2015); and that effective antiterrorism plans include communication planning (Command, Control, and Interoperability Center for Advanced Data Analysis [CCICADA], 2013), but little else.

I also found a gap in the literature concerning evacuating patrons with physical challenges following a natural disaster or terrorist attack on a stadium. Individuals with physical disabilities attend stadium events, and in the event of an emergency such as a terrorist threat, policies, procedures, and plans need to be in place to address their safety. Every stadium operator should address the applicable regulatory requirements and the site-specific attributes of their stadium when devising their evacuation plan to ensure the success of the plan (USDHS, 2008).

Public policy regarding terrorism is a matter of global concern (Block, 2016). Terrorism researchers and security professionals have recognized the lack of data needed to guide policy changes to address terrorism (Braddock, 2019). USDHS (2019) expanded on the White House's 2017 national security strategy and 2018 national strategy for counterterrorism and addressed targets such as major sports events. The NFL's security

policies and the counterterrorism policies of USDHS have led to a militarization of spectators (Hassan, 2016). The dissertation is needed to guide the formulation of best practices for stadium evacuations in the event of terrorist attacks.

Problem Statement

The research problem is that existing stadium policies, procedures, and plans do not adequately address evacuation procedures for special populations in the event of a terrorist threat. Strategies for preventing terrorist attacks have continued to improve and evolve. However, no researchers have examined the challenges of including special populations in stadium evacuation plans. It is difficult to control the movement of dense crowds, especially during a catastrophic event. Inability to effectively and efficiently evacuate special populations during a terror attack could contribute to loss of life.

More than 150 million individuals attended professional sporting events in 2018 across the five major sports leagues (Sports Destination Management, 2020). There are numerous threats that can occur in these stadium environments. The events of the past 36 years have illustrated the necessity of having emergency plans in place to facilitate the evacuation of stadiums. For example, on May 11, 1985, 56 people were burned to death and over 200 were injured when a fire caused by a cigarette engulfed the wooden main grandstand at Bradford's football stadium (Fay, 2019; Taylor, 2012). This tragic event occurred in 1985, well before the increased terrorist attacks of the 21st century; however, even with this huge lead time from 1985 to 2021, there were no plans and policies put into place to address the evacuation of mass gatherings of people. The impacts of not having more thorough mass gathering evacuation policies in place have been devastating.

Purpose of the Study

The purpose of the dissertation study was to determine the existing evacuation policies, procedures, and plans in the event of a terrorist attack at stadiums, with a specific focus on evacuation of individuals with special needs. The findings may be used to guide the formulation of best practices for mass evacuations at sports venues and have revealed the need to develop more comprehensive stadium evacuation procedures that take into account the evacuation requirements for patrons with special needs.

Research Questions

The research questions in this dissertation were the following:

1. What are the organizational deficiencies and best practices of stadium evacuation plans currently in place to respond to terrorist threats?
2. How can situational crime prevention (SCP) help in the identification of deficiencies and best practices?
3. What strategic deficiencies exist in current practices regarding the evacuation of special populations procedures at major sporting venues?

Theoretical Foundation

SCP was the lens through which I viewed the problem, research questions, literature review, data collection, and data analysis procedures. Clarke developed SCP in the 20th century (Clarke, 1980, 1995, 1997, 2008; Tunley et al., 2018). SCP aids in the identification of ways to reduce opportunity for crime (Block, 2016; Clarke, 2008). SCP derives from environmental criminology and emphasizes the importance of analyzing

specific forms of crime to develop measures to prevent and disrupt opportunities for crime (Clarke, 2008; Mandala & Freilich, 2018).

Clarke and Newman (2006) tailored the 25 techniques of SCP for application to terrorism (Mandala & Freilich, 2018). They used a three-step process (Clarke & Newman, 2006). In Step 1, they matched the 25 SCP techniques to the opportunity structures of specific types of terrorism. In Step 2, they identified sequences of events that produced terrorist attacks and linked them to appropriate prevention techniques. In Step 3, they assessed the possible interventions according to "practicality, costs, intrusiveness, and public acceptability" (Clarke & Newman, 2006). Researchers and practitioners have applied SCP to a range of crimes, including terrorism (Clarke & Newman, 2006; Tunley et al., 2018). SCP applies to terrorist events and stadium security because it encapsulates how humans think and act. The underlying motivation of the dissertation was that stadium evacuation policies and procedures need evidence-based enhancement to address evolving terrorist threats. SCP applied to the dissertation.

Nature of the Study

This dissertation used a general qualitative approach. Qualitative methods allow researchers to explore situations from the perspectives of individuals who experience a problem (Rudestam & Newton, 2015) and obtain insight into the problem (Tuckerman et al., 2020). Qualitative research begins with specific observations and moves toward the identification of general patterns that emerge from studied cases, and qualitative data may consist of detailed descriptions of events, situations, or behaviors (Rudestam & Newton, 2015). The problem that I explored in the dissertation was how to prepare for and respond

to potential terrorist attacks on U.S. stadiums. The qualitative data collected consisted of descriptions of cases of terrorist attacks on stadiums.

The rationale for selecting a qualitative research design for the dissertation was as follows. Qualitative research is "discovery-oriented" and concentrates on developing theories or investigating, explaining, and describing a problem (Rudestam & Newton, 2015). A qualitative researcher reviews written material (Tuckerman et al., 2020) and, in some instances, uses "text analysis" to identify themes that they subjectively evaluate to explain a topic (Rudestam & Newton, 2015). In the dissertation, the text analyzed includes literature related to stadium evacuation and terrorism.

Definitions

Person with a disability: People with disabilities include those who need the aid of a wheelchair, crutches, a cane, or another device to move about (ADA National Network, n.d.-a, n.d.-b); the elderly (Kelley-Moore et al., 2006); pregnant women (U.S. Equal Employment Opportunity Commission, n.d.); and non-English-speaking individuals. (Disability Benefits Help, n.d.).

Stadium evacuation: The process of returning a stadium to a condition where it is empty of spectators, as defined by the writer of this dissertation.

Terrorism: A method of violent action, employed by a semiclandestine individual, group, or state actors, for criminal or political reasons ("History of Terrorism," 2011).

Assumptions

I assumed that the dissertation data collection process had sufficient autonomy to generate fundamental knowledge and theoretical understanding while protecting the

validity, reliability, and credibility of the study. It was important to let the facts guide the conclusions, and I assumed that the findings and conclusions would transfer to other applications. Another assumption was that I had access to the sample population and that participants would anonymously, honestly, and accurately share their knowledge of stadium security issues. A further assumption was that participants who were managers or supervisors had some spectator-facing job responsibilities in their careers. An additional assumption was that participants completed interviews in one sitting without interruptions. A further assumption was that participants did not refer to any reading material that would alter their responses to the questions.

Scope and Delimitations

Delimitations are characteristics that limit the scope of a study and define its boundaries (Ajiboye, 2017; Leedy & Ormond, 2013). The specific aspects of the research problem addressed in the dissertation were the need for improved stadium evacuation policies, procedures, and plans for use in the event of terrorist attack and identification of the improvements needed. I interviewed 20 participants using qualitative-based questions. Each participant had at least 5 years of experience as a stadium operator/consultant, stadium security manager/consultant, or stadium security staff member/consultant. Holmberg et al. (2016) indicated, based on other qualitative studies, that a sample size of 20 participants is appropriate for a study.

This study included input only from stadium operators/consultants, stadium security managers/consultants, or stadium security staff members/consultants. The reason for delimiting the sample to this group was to ensure that the data collected came from

specialists in stadium operations. The study did not include input from stadium patrons. The findings transfer to major sports stadiums throughout the United States.

Limitations

A limitation of the dissertation was the inability of stadium operators to run full-scale evacuation drills under the true conditions of a terrorist attack. In recent years, stadium simulation software has become the main tool for testing stadium evacuations. However, simulation software is limited because it is difficult to model the true behavior of real people in an actual emergency. Because terrorist attacks have not occurred in U.S. stadiums, real-life experience is lacking on how a stadium would respond.

Bias could have influenced the outcome of the dissertation. Bias typically influences the outcome of a research study during the analysis portion of the study. Bias is a lack of objectivity, and examples of bias include investigator bias (due to investigators' ideological positions), reactive bias (due to participants' responses), and confirmation bias (due to preconceptions present during analysis; Roulston & Shelton, 2015). Other biases that could have influenced the dissertation derived from the professional roles of the participants, the sample size, and the diversity of the participants. I addressed potential biases by following the best practices on avoiding bias when conducting research. It is important to eliminate sources of bias, which can reduce the validity, reliability, and credibility of a study; therefore, I ensured that there were no supervisory relationships or other relationships involving positions of power between me and the study participants. Bias is further discussed in Chapter 3.

Significance of the Study

Expanded knowledge regarding best practices for the prevention of terrorist attacks at major sports venues would inform owners, law enforcement officers, stadium managers, critical incident professionals, health departments, fire and emergency services, and state, local and federal governments. The significance of the dissertation lies in its emphasis on the need for enhanced stadium evacuation plans. The development of enhanced evacuation plans would close gaps in policies, procedures, and plans, which would have a significant positive impact on society. It is important to increase situational awareness among all stakeholders. Policies, procedures, plans, roles, and responsibilities for protecting the lives of stadium patrons need to be discussed, analyzed, and updated frequently to keep pace with the evolution of terrorism. The findings of the dissertation can be used to inform stadium managers/operators and officials at every level of government regarding the adequacy of stadium evacuation plans for patrons with special needs.

It is important to establish a disaster management team before a terrorist attack takes place. The National Aeronautics and Space Administration (NASA, 2021) has indicated that disasters affect millions of people every year. Minimizing disaster impacts is part of the disaster management process, which requires critical thinking, decision making, continuous effort, and collaboration and communication among all stakeholders (NASA, 2021; Sagun et al., 2009). Establishing a disaster management team and planning a disaster management process helps speed up return to normal function in the

event of a terrorist attack or other disaster. Responsibility for disaster resources lies with the disaster management team and disaster management process.

The use of advanced technology can enhance and improve crowd evacuation and traffic management during normal and emergency situations. Improvement of evacuation times during terrorist attacks, natural disasters, or other emergencies will have a great impact on society worldwide.

Significance for Practice

The potential contribution of this study to practice is the advancement of knowledge of the discipline of stadium evacuation in the event of a terrorist attack, including identification of gaps and inadequacies in existing stadium evacuation policies, procedures, and plans. This advancement of knowledge may lead to improvement of stadium evacuation policies, procedures, and plans. Potential implications for positive social change consistent with, and bounded by, the scope of the dissertation include improvement in the readiness of U.S. stadiums to address potential terrorist attacks. Improvement in readiness will increase the safety of stadium patrons.

Significance for Theory

The theoretical significance of the dissertation lies in its contribution to advancing knowledge of the application of SCP to stadium evacuation planning. The study relies on applying SCP in a relatively novel way: Few researchers have studied SCP in connection with terrorism; only nine qualitative studies of SCP and terrorism have been done, there have only been 17 quantitative studies of SCP and terrorism, and only 1 study that used mixed-method (Freilich et al., 2018).

Significance for Social Change

Potential implications for positive social change consistent with, and bounded by, the scope of the dissertation include providing information pertaining to the readiness of U.S. stadiums to safely evacuate patrons in the event of potential terrorist attacks or other emergencies. Improvement in readiness will increase the safety of stadium patrons.

Summary and Transition

The continued evolution of terrorism has led to a need for improved stadium evacuation policies, procedures, and plans. Stadiums have become prime targets for terrorist attacks. However, terrorism has evolved since the USDHS published one of the major guides for stadium evacuation in 2008, and stadium evacuation plans have not kept pace with these developments. The purpose of this qualitative study was to guide the formulation of best practices for stadium evacuation.

The next chapter provides an exhaustive review of existing literature (and gaps in the literature) regarding terrorist attacks on stadiums and stadium policies for evacuation following terrorist attacks.

Chapter 2: Literature Review

The research problem was that existing stadium policies, procedures, and plans do not adequately address stadium evacuation of patrons with physical challenges in the event of a terrorist attack. As terrorist attacks continue, threats to sports venues will increase. The purpose of the dissertation was to identify existing evacuation policies, procedures, and plans in the event of a terrorist attack at stadiums, with a specific focus on the evacuation of disabled persons. After 9/11, new risks and security at sports venues increased (Galily et al., 2015). USDHS (2018) indicated that U.S. sports venues are potential targets for terrorist attacks (Zale & Kar, 2012). Similarly, Galily et al. (2015) asserted that global terrorist attacks at sporting events provide evidence that large sporting events are susceptible to terrorist attacks. Other researchers have studied stadium evacuation techniques, yet further study is needed. Zhang et al. (2016) discussed crowd evacuation theory and its shortcomings. The researchers noted that crowd evacuation theory tends to focus on conventional evacuation guidance, which for a stadium (a) directs patrons to the nearest exit and (b) does not address the unfamiliarity of patrons with their surroundings. The evacuation of a stadium is a dynamic system (Sikora & Malinowski, 2013). Sikora and Malinowski (2013) developed a mathematical model of a football stadium to determine the most efficient evacuation scenario. Lee and Tseng (2014) described pedestrian behavior during stadium evacuations and analyzed the behavior of pedestrians to determine the minimum time needed for evacuation.

This chapter covers the literature search strategy, the theoretical foundations of the dissertation, and the review of literature related to the key concepts of the study. The

chapter concludes with a summary and conclusions. In the Literature Search Strategy section, I discuss the databases and search terms used to identify reviewed literature. In the Theoretical Foundation section, I describe the theory underlying the dissertation and how the theory relates to the study. In the Literature Review section, I describe previous work related to the dissertation and include a synthesis of previous work with respect to key concepts.

Literature Search Strategy

During the literature search, I accessed several databases via the Walden University library: the ABI/INFORM Collection, Academic Search Complete, Business Source Complete, the Criminal Justice Database, the Directory of Open Access Journals, GovInfo, the Homeland Security Digital Library, the International Security and Counter Terrorism Reference Center, the Military and Government Collection, ProQuest Central, ProQuest Dissertations and Theses Global, ProQuest Science Journals, SAGE Journals, ScienceDirect, Taylor and Francis Online, Thoreau Multi-Database Search, and Bielefeld Academic Search Engine. I also used the search engines on the websites of the National Center for Spectator Sports Safety and Security, USDHS, Google Scholar, WorldWideScience, and Research Gate.

With regard to search terms, I searched for “terrorist” in conjunction with “arena,” “sports,” “stadium,” “venue,” “stadium evacuation,” and “situational crime prevention”; “terrorism” in conjunction with “arena,” “sports,” “stadium,” and “venue”; “terrorist attack” in conjunction with “arena,” “sports,” and “stadium”; “situational crime prevention” alone; and “situational crime prevention theory” alone. The Boolean

connector “and” joined terms searched for in conjunction, requiring both terms to appear in each result. I used an iterative search process to identify germane scholarship, entering each of the search expressions into each of the databases and search engines.

Theoretical Foundation

The theory underlying the dissertation was SCP, developed by Clarke in the 20th century (Clarke, 1980, 1995, 1997, 2008; Tunley et al., 2018). SCP aids in the identification of ways to reduce opportunities for crimes (Block, 2016; Clarke, 2008). SCP derives from environmental criminology and emphasizes the importance of analyzing specific forms of crime to develop measures to prevent and disrupt opportunities for crime (Mandala & Freilich, 2018). The roots of SCP lie in opportunity theories such as routine activity theory, crime pattern theory, and rational choice theory (Block, 2016; Clarke, 2008). Crime pattern theory and rational choice theory are based on rationality and assume that crime is a choice and that opportunity to commit crime plays a major role in its development (Block, 2016; Clarke, 2008). SCP focuses on the proximate causes and opportunities that facilitate the occurrence of a crime (Block, 2016; Clarke, 2008; Mandala & Freilich, 2018). A proximate cause of crime is an opportunity in a place that allows someone to commit a crime (e.g., terrorism at an airport due to a lack of metal detectors; Block, 2016; Clarke, 2008). An example of a distant cause of terrorism at an airport would be an international conflict that attracts people to join the fray (Block, 2016). SCP guides the creation of preventative measures that reduce opportunities for crime by increasing risks and reducing rewards for offenders (Clarke, 1995; Mandala & Freilich, 2018).

I identified work relevant to SCP and its applicability to terrorism published between 2006 and 2016 (Freilich et al., 2018). Few researchers have conducted qualitative studies of SCP and terrorism. Out of 60 identified studies of SCP and terrorism, nine were qualitative, 17 were quantitative, and one relied on mixed methods (Freilich et al., 2018). Of the remaining studies, 29 were theoretical and four were critical essays or reviews (Freilich et al., 2018). None of the studies included empirical assessment of facilitating conditions, and only one included a test of the weapons framework (Freilich et al., 2018). Only five works included empirical investigation of the targets pillar (Freilich et al., 2018). None included examination of Clarke and Newman's (2006) tools pillar; however, Freilich et al. (2018) reported that Mandala did evaluate tools in a dissertation published in 2017.

SCP involves 25 techniques related to crime prevention grouped into five strategies that (a) increase effort, (b) increase risk, (c) reduce reward, (d) reduce provocation, and (e) remove excuses (Cornish & Clarke, 2003; Freilich et al., 2020; Mandala & Freilich, 2018). The techniques include both hard and soft interventions: Hard interventions make it harder to commit a crime, and soft interventions remove environmental prompts that incite a person to commit a crime (Freilich et al., 2020). Clarke and Newman (2006) created the canonical guide to applying SCP to the prevention of terrorist attacks (Freilich et al., 2020). Clarke and Newman tailored the 25 techniques of SCP for application to terrorism through the opportunity structure of SCP, which includes four pillars (Freilich et al., 2020). The four pillars exist alongside four principles: increase the effort, increase the risks, reduce the rewards, and reduce

provocations and excuses (Clarke & Newman, 2006; Mandala & Freilich, 2018). The four pillars are targets, weapons, tools, and facilitating conditions (Freilich et al., 2020; Mandala & Freilich, 2018; Newman & Clarke, 2010). The sections that follow address the four pillars.

Pillar 1: Targets

Targets that attract terrorists are exposed, vital, iconic, legitimate, destructible, occupied, near, or easy, captured by the mnemonic acronym "EVIL DONE" (Clarke & Newman, 2006; Freilich et al., 2020; Hsu & Newman, 2016; Mandala & Freilich, 2018). The subsections that follow address these characteristics.

Exposed

Exposed targets are very noticeable and visible (Freilich et al., 2020). In 2011, campers on the island of Uyoya, Norway, fell victim to a lone wolf shooter (Hsu & Newman, 2016).

Vital

Vital targets, such as the electricity grid and water system, allow society to function (Freilich et al., 2020). Transportation systems, such as the London Underground and the New York City Subway, have been recurring targets (Hsu & Newman, 2016).

Iconic

Iconic targets, such as the U.S. Capitol or the White House, are significant and symbolic to society (Freilich et al., 2020). Terrorists strike iconic targets (Clarke & Newman, 2006; Drake, 1998; Freilich et al., 2020; Gruenewald et al., 2019; Marchment et al., 2018).

Legitimate

Legitimate targets are more justifiable to attack. An example would be a soldier in uniform as opposed to a sleeping baby in a private home (Freilich et al., 2020).

Destructible

Destructible targets are easier to destroy (Freilich et al., 2020). Using the right weapon, the World Trade Center in New York City was finally destroyed on 9/11, after a previous attempt using a truck bomb failed (Hsu & Newman, 2016).

Occupied

To underscore their commitment to violence or the threat of violence, terrorists try to kill as many people as possible (Hsu & Newman, 2016; Nacos, 2016). Occupied targets have more potential victims and are at a greater risk of terrorist attacks (Clarke & Newman, 2006; Freilich et al., 2020).

Near

The nearer terrorists are to a target, the easier it is for them to reach that target and the higher the risk to the target (Freilich et al., 2020).

Easy

Easy targets are readily accessible and less protected than other targets (Freilich et al., 2020). For example, it was easy to put a car bomb at the perimeter of the Murrah Federal Building in Oklahoma City on April 19, 1995 (Hsu & Newman, 2016).

Pillar 2: Weapons

Terrorists are more inclined to use weapons that are adaptable to a diverse range of settings (multipurpose), are not noticeable (undetectable), are not difficult to transport

(removable), can easily harm others (destructive), provide enjoyment (enjoyable), usually work (reliable), are easy to get (obtainable), do not require specialized training (uncomplicated), and are not dangerous (safe), captured by the mnemonic acronym "MURDEROUS" (Clarke & Newman, 2006; Freilich et al., 2020; Hsu & Newman, 2016; Mandala & Freilich, 2018). The subsections that follow address these characteristics of weapons.

Multipurpose

A high-powered single-action rifle has a specific use when compared to explosives, which have a much wider range of uses (Hsu & Newman, 2016).

Undetectable

Explosives such as Semtex are compact, lightweight, largely undetectable, and ideal for penetrating security (Hsu & Newman, 2016).

Removable

Unless transportation is accessible, a terrorist's weapon must be portable, light, and reasonably small (Hsu & Newman, 2016).

Destructive

Explosive devices cause more deaths than guns targeted at specific individuals (Hsu & Newman, 2016).

Enjoyable

Terrorists seek out their weapons of choice and will repeatedly use them (Hsu & Newman, 2016).

Reliable

Terrorists prefer the familiarity of a weapon with a long track record because of its proven reliability (Hsu & Newman, 2016).

Obtainable

A terrorist evaluates the ease of obtaining a weapon and whether it must be purchased, stolen, or built at home (Hsu & Newman, 2016). In the United States, terrorists find it hard to obtain explosives, such as Semtex or C-4, used in suicide bomb vests, but find it easy to obtain high-powered guns.

Uncomplicated

All weapons require practice and skill to use, but terrorists will seldom use a weapon that demands considerable skill, such as an armor-piercing missile launcher (Hsu & Newman, 2016).

Safe

Although bombs are inherently more dangerous than other weapons, especially when made at home, terrorists prefer them because they are so destructive (Hsu & Newman, 2016).

Pillar 3: Tools

The tools that terrorists use to carry out their attacks are the third pillar of terrorism opportunity (Clarke & Newman, 2006; Freilich et al., 2020). Tools include credit cards or money, which can be used to buy weapons; identification documentation, which can be used to gain access to weapons or a location; and vehicles in which to travel

(Clarke & Newman, 2006; Freilich et al., 2020; Mandala & Freilich, 2018; Newman & Clarke, 2010).

Pillar 4: Facilitating Conditions

The fourth pillar is facilitating conditions, which are factors that facilitate the operations of terrorists (Freilich et al., 2020; Hsu & Newman, 2016; Mandala & Freilich, 2018; Newman & Clarke, 2010). The five facilitating conditions are easy conditions, as in a jurisdiction with widespread corruption; safe conditions of minimal oversight or regulations, such as limited ID policies; excusable conditions, such as harsh government reactions to terrorism that increase sympathy for the terrorists; enticing conditions, such community support for terrorists; and rewarding conditions, which increase financial status or social status (Freilich et al., 2020). The mnemonic acronym "ESEER" captures these five facilitating conditions (Clarke & Newman, 2006; Freilich et al., 2020; Hsu & Newman, 2016). The subsections that follow give examples of the five facilitating conditions.

Easy

Local officials are susceptible to corruption (Hsu & Newman, 2016).

Safe

Transactions have inadequate identification requirements (Hsu & Newman, 2016).

Excusable

Local antiterrorist actions kill family members (Hsu & Newman, 2016).

Enticing

Local culture or religion endorses heroic acts of violence (Hsu & Newman, 2016).

Rewarding

Domestic or foreign charities make financial support available for new immigrants (Hsu & Newman, 2016).

Application of Situational Crime Prevention

According to Hsu and Newman (2016), adapting SCP to explain and prevent terrorism is a unique approach. The uniqueness of SCP stems from its treatment of terrorism as the result of many choices and decisions made by individuals who perform a series of actions and act in seemingly reasonable ways to get from one point to another (Hsu & Newman, 2016). Clarke and Newman (2006) indicated that understanding the motivation of a terrorist attack is unnecessary but understanding the situational opportunities from which the attack arises is necessary (see also St. George, 2017). St. George (2017) asserted that because motivations for crimes can vary significantly from situation to situation, the goal of SCP is simply to prevent opportunities and thus neutralize motivation. Clarke and Newman indicated that there is little difference between terrorism and other crimes in that planning occurs in relation to opportunities. Application of SCP to the dissertation was appropriate, and I applied SCP to elucidate effective ways to evacuate physically challenged people and determine best practices for stadium evacuation. I also applied SCP as a theory of effective stadium evacuation to explain the processes and actions necessary for evacuation. Other researchers have used SCP in ways comparable to its application in the dissertation.

Literature Review

"Violent extremists and potential civil unrest [are at the] top of the list of concerns for stadium security professionals" (Finkel, 2015, p. 52).

Industry leaders have perceived terrorism as a foreseeable threat to sports facilities and considered it imperative for stadium operators to develop and implement strategies aimed at managing the risks associated with terrorism (Spaaij & Hamm, 2015). The 1972 Munich Olympic massacre demonstrated that global sports events are appealing to terrorists because they attract world focus to their causes (Galily et al., 2015). Governments have long feared the susceptibility of stadiums to terrorist attacks (Spaaij & Hamm, 2015). USDHS identified sports stadiums as critical infrastructure and therefore potential terrorist targets (Zale & Kar, 2012). Sports stadiums in the United States have become terrorist targets because watching sports is a popular, capitalist, and internationally visible part of American life (Hurst et al., 2003). A terrorist attack at a sports event could have long term social, psychological, and economic impacts (Hall et al., 2007, 2008; Perić, 2018; Sauter & Carafano, 2005; Zale & Kar, 2012). To achieve maximum damage and maximize publicity for their causes, terrorists seek to attack large, dense gatherings, which makes sports events with huge attendance and mass appeal desirable targets for them (Galily et al., 2015). Al Qaeda's list of targets has included sports events; its online English-language magazine *Inspire* identified sports stadiums as the most important targets and indicated that civilians should be targeted in places where the greatest human losses can result (Spaaij & Hamm, 2015). The magazine also indicated that the best time to inflict maximum damage is at the end of a game when huge

crowds are leaving a stadium. Researchers have said that the potential for terrorist attack has led to the inclusion of evacuation planning and simulation among sports event security best practices (Hall et al., 2007, 2008; Zale & Kar, 2012).

Past Terrorist Attacks

St. George (2017) argued that domestic terrorism has become a significant concern and highlighted a notable increase in deadly extremist attacks. One of the largest terrorist attacks carried out by a lone individual killed two people and injured more than 110 others during the 1996 Olympic Games in Atlanta, Georgia (Spaaij & Hamm, 2015). Terrorists bombed the Boston Marathon in 2013, resulting in 264 injuries and three fatalities (Galily et al., 2015; Rauner et al., 2016).

Sport and Terrorism Interaction

The study of the interaction between sport and terrorism has developed into a recognized body of scholarship (Spaaij & Hamm, 2015). Coa et al. (2014) argued that the study of stadium evacuation planning has important practical significance and has become a hot research field. Academic researchers have been studying the interaction between terrorism and stadiums, while others have been addressing practical aspects of dealing with terrorism in stadiums.

Although understanding of the interaction between sport and terrorism has progressed, it has tended to extend only to high-level areas, such as sport facility management and counterterrorism (Spaaij & Hamm, 2015). In 240 years of the history of terrorism in the United States, terrorists have claimed approximately 4,000 lives (Doyle & Veranas, 2014; Schneier, 2003). “In 2019, deaths from terrorism fell for the fifth

consecutive year, after peaking in 2014." (Institute for Economics & Peace. Global Terrorism Index 2020, p. 2). Millions of Americans attend sports events in stadiums, many of which are iconic (CCICADA, 2013; Gift & Miner, 2017). Because of the visibility of a well-attended sports event in one of these iconic stadiums and the potential for fatalities, injuries, economic loss, and psychological impact, these venues are prime targets for a terrorist attack (CCICADA, 2013). Hassan (2016) indicated that since the 9/11 attacks, security concerns have increased for American sports events. Similarly, Shelby et al. (2020) asserted that Super Bowl security needs have risen to the level of necessitating the need to invest in smart technology as a means to combat the terrorist threat.

Crowd Evacuation

Crowd crushes and stampedes in a stadium are the leading causes of death after an incident such as a bomb scare or a terrorist attack (Ancliffe, 2017; Yogameena & Nagananthini, 2017). Crushes and stampedes occur as the result of a lack of training beforehand and lack of communication during and after an incident. Communication is important in managing crowds, such as those found in stadiums (Aradau, 2015), and effective training for disasters that may occur is key (Hsu et al., 2013). Similarly, regarding the importance of communication, Vreugdenhil, Bellomo, and Townsend (2015) asserted that the crowd evacuation process includes communicating the evacuation decision. Yogameena and Nagananthini (2017) said, "Before any mass gathering, it is important to identify at every event the factors that influence the risks which lead to a stampede in a crowd" (p. 96).

Crowd panic during a terrorist attack combined with inadequate procedures for stadium personnel to follow can lead to harm of patrons and damage to property (Coa et al., 2014). In emergency situations, crowds need to evacuate effectively and safely to a secure area; stadium evacuation planning is therefore very important. Although it was not caused by a terrorist attack, the tragic loss of life at Bradford's football stadium during a fire disaster was the direct result of not having an evacuation plan (Fay, 2019; Taylor, 2012).

A recent focus in the study of crowd evacuation has been how individuals behave under different circumstances (Wang et al., 2014). Crowd management researchers have had difficulty understanding human behavior during evacuations (Zhu & Shi, 2016). One way to understand how humans behave in stadium crowds—especially when they behave as parts of family groups—is to use simulation based on artificial intelligence (Zhu & Shi, 2016).

Crowd Evacuation Modeling

According to Zhang et al. (2016), crowds in concert arenas or office buildings behave differently in emergency situations due to the layout of their surroundings and the attending staff members. Zhang et al (2016) found that researchers employing crowd evacuation theory in the 1990s focused primarily on the parameters associated with how people move during an evacuation. From 2005 to 2015, crowd evacuation theory researchers focused on how people moved during evacuation; however, their modeling showed neither individual behaviors of people nor interactions between people during evacuation (Zhang et al., 2016).

Use of crowd management strategies—such as crowd scene analysis, modeling, and monitoring—can help avoid deadly accidents caused by crowd crushes, which can occur as a result of terrorist attacks in crowded areas such as stadiums (Yogameena & Nagananthini, 2017).

According to Lee and Tseng (2014), Fang developed a model of pedestrian behavior to determine how to minimize bottlenecks during stadium evacuations. The model used algorithms to find the best evacuation route and detect crowd movement. The algorithms can send real-time alerts to authorities in response to changes in crowd behavior. One of the concepts used in evacuations is sheltering in place in a safe location. This method reduces panic and the possibility of stampeding. Algorithms in surveillance systems are an important way to track the unique behavior of crowds. The algorithm described by Lee and Tseng did not address disabled persons being in the crowd. Surveillance systems are valuable tools for supporting national security and fighting terrorism both nationally and internationally (Rest et al., 2014).

Stadium Evacuation Guidelines

The 1996 bombing of the Atlanta Olympics, the terrorist attack of 9/11, and the 2013 Boston Marathon bombing all made clear the vulnerability of large venues to terrorist attacks (CCICADA, 2015). The CCICADA, a DHS research group, has pursued an initiative to make the nation's largest sports and entertainment stadiums safe from malicious activity (CCICADA, 2015). The recommended improvements include efficient and effective inspection and stadium evacuation plans (CCICADA, 2015). The recommended improvements are described in a CCICADA document titled "Best

Practices in Anti-Terrorism Security for Sporting and Entertainment Venues Resource Guide" (2013) described the results of using 28 subject matter experts to distill best practices for combatting terrorism in sports venues. The discussion of best practices included the contents of stadium antiterrorism security plans (CCICADA, 2013) and identification of useful metrics but did not include recommended levels of performance. For example, discussion included identification of the time required to empty a stadium as a useful metric but did not include specification of how quickly an operator should expect to clear a stadium of a particular size (CCICADA, 2013). The document titled "Best Practices in Anti-Terrorism Security (BPATS) Tier II Metrics & Measures of Effectiveness Resource Guide" (2016) focused on access control and screening patrons, venue staff credentialing, and training. A metric for training is "Are screeners trained before working?" (CCICADA, 2013, p. A-1). "Best Practices in Anti-Terrorism Security (BPATS) Tier III Economics of Security and Randomization" (2018) provides information concerning adding randomized protocols to stadium security programs. One option concerned random checks of patrons and suggested that special lanes be created to process disabled patrons (CCICADA, 2018).

USDHS (2008) was the first to provide guidelines on stadium evacuation. However, USDHS has not updated this guidance despite changes in regulations and the evolution of terrorism. Outdated evacuation plans based on these guidelines could leave a stadium at risk.

The USDHS (2008) identified key actions and components that stadium evacuation plans should include, such as developing methods for communicating

evacuation information to individuals with limited English proficiency or sensory or cognitive disabilities. The USDHS (2008) also indicated that plans should clearly provide for special needs populations and ensure compliance with the Americans with Disabilities Act, the Rehabilitation Act, and the Communications Act when determining accommodations needed for patrons with special needs. For example, planners should address questions such as the following (USDHS, 2008): "How are the evacuation needs of patrons with special needs identified and addressed" (USDHS, 2008, p. 23)? "How is the special needs population determined at each event" (USDHS, 2008, p. 23)? "What equipment and signs are present to address the evacuation needs of patrons with special needs" (USDHS, 2008, p. 23)? "Are staff members trained to assist patrons with special needs in the event of evacuation" (USDHS, 2008, p. 23)? "Who is responsible for evacuating individuals with special needs" (USDHS, 2008, p. 23)? "Are rescue areas established with evacuation and communication equipment" USDHS, 2008, p. 23)?

The USDHS (2008) indicated that special needs populations may have additional needs in one or more of the following functional areas before, during, and after evacuation: maintaining independence, communication, transportation, supervision, and medical care. Individuals with such additional needs include those with disabilities, older people, people from foreign cultures, and people with limited or no English proficiency. The evacuation plan should also describe where people with special needs should be located; how they should evacuate, relocate, or shelter in place in each area of the stadium; how they should move; and who will assist them (USDHS, 2008).

In 2014, the Federal Bureau of Investigation announced that it would conduct active shooter training drills at sports stadiums for the benefit of law enforcement officers and operators (Spaaij & Hamm, 2015). Active shooter training is important because terrorist attacks on stadiums have increasingly been carried out by lone individuals who are not part of a larger network (Spaaij & Hamm, 2015). Active shooter training allows law enforcement officers to learn to distinguish between friendly fire and the terrorist attackers.

Summary and Conclusions

The major themes identified in the literature are that terrorist attacks on stadiums have increased and stadium evacuation plans need improvement. I addressed the research problem and data collection and analysis procedures through the lens of SCP. The next chapter discusses the methods to be used in the dissertation.

Chapter 3: Research Method

The purpose of the dissertation study was to identify existing evacuation policies, procedures, and plans in the event of a terrorist attack at stadiums, with a specific focus on evacuation of disabled people. The findings guided the formulation of best practices for mass evacuations at sports venues. Additionally, the study was conducted to extend the literature on this topic.

This chapter addresses several topics. The research design and rationale as well as the role of the researcher are discussed. Additionally, I discuss the methodology and issues of trustworthiness and ethics. The chapter concludes with a summary.

Research Design and Rationale

The research questions for this dissertation were as follows: What are the organizational deficiencies and best practices of stadium evacuation plans currently in place to respond to terrorist threats? How can situational crime prevention help in identification of deficiencies and best practices? What strategic deficiencies exist in current practices regarding the evacuation of special populations procedures at major sporting venues? The phenomenon explored was stadium evacuation processes during terrorist threats. The goal of qualitative research is to concentrate on "description, exploration, search for meaning, or theory building" (Rudestam & Newton, 2015, p. 41). Qualitative researchers rely on "text analysis" to explain topics. For the dissertation, I analyzed related literature. I applied SCP to the issue of terrorist attacks in stadiums and used it to guide recommendations for best practices.

Qualitative methods allow researchers to explore phenomena from the perspectives of the individuals who experience those phenomena (Rudestam & Newton, 2015). "Qualitative data may consist of detailed descriptions of events, situations, and behaviors" (Rudestam & Newton, 2015, p. 52). Qualitative research starts with precise observations and moves toward identifying general themes that develop from studied cases (Rudestam & Newton, 2015). For this dissertation study, I used a qualitative design that included interviewing stadium management officials. Qualitative methods are applicable to the evaluation of strategic planning efforts in preparation for emergencies at stadiums.

Role of the Researcher

Qualitative research allowed me to investigate subjective perceptions of fundamental theories, themes, and patterns to produce descriptions that explain the phenomenon studied. I developed study-specific questions to use when I interviewed participants from the field of stadium security. Participants were individuals involved in stadium evacuation planning.

I had no personal working relationships with the study participants. It is important to eliminate sources of bias, which can reduce the validity, reliability, and credibility of a study; therefore, I ensured that there were no supervisory relationships or other relationships involving positions of power between me and the study participants. After 9/11, I watched the world's framework for evacuation of critical infrastructure change; organizations housed in high-rise buildings that had previously eschewed mandatory

evacuation drills now introduced them. I also observed that after 9/11 the government established several agencies to address terrorism.

The design of a qualitative study permits access to the true knowledge of study participants in relation to the facts and environment of the study. Throughout this qualitative study, I revealed the facts as they were presented to me. It is important to eliminate ethical issues in any study. My role as a researcher was also to protect and safeguard the data provided by participants. It was important for me to obtain approval for the study from my committee and the Institutional Review Board (IRB). IRB approval notification indicated that the Walden University approval number for this research is 04-05-21-0467127. Not conducting the study within my immediate work environment reduced the risk of a conflict of interest or the existence of power differentials between me and the participants. I have not received, and will not receive, any funding for this research from any organization.

Methodology

This section begins with a description of the participant selection logic, which includes identification of the population and sample, and a discussion of the sample size. This section also addresses the instruments, the participant recruitment process, the data collection process, and the data analysis process that I used.

Participant Selection Logic

Each member of the targeted population had at least 5 years of experience as a stadium operator/consultant, stadium security manager/consultant, or stadium security staff member/consultant. I recruited a sample of people via LinkedIn who were from

organizations involved in the field of sports and entertainment venue management, such as stadium managers' associations, universities, security companies, and professional or semiprofessional sport leagues. After identifying potential participants and receiving their consent form, I set up the interview using their preferred medium, telephone or Zoom.

Sample Size

I recruited a sample of 20 participants, which was a sample of an appropriate size for the dissertation (Holmberg et al., 2016). For example, an exploratory interview of 20 executives in the United States produced credible results (Sen & Metzger, 2010). A sample size of 20 police investigators was used in qualitative research in which their self-reporting data were studied to identify interview and interrogation methods used and to record the perceptions of the methods (Donovan, 2020). A sample size of 20 senior Department of Defense cybersecurity experts was used in a qualitative study that evaluated the level of consensus on effective cybersecurity strategies (Gibson, 2020). A sample size of 20 minority police officers was used in a qualitative study that assessed the perceived barriers in city police departments.

Instrumentation

Many researchers conducting discovery-oriented inquiries create study-specific questions for their interviews instead of using preestablished instruments (Gubrium & Holstein, 2003). I created study-specific questions for the interviews. The data collection instruments for the dissertation were text analysis and study-specific questions for use in interviews. A qualitative researcher reviews written material (Tuckerman et al., 2020)

and, in some instances, uses “text analysis” to identify themes that they subjectively evaluate to explain a topic (Rudestam & Newton, 2015).

Procedures for Recruitment, Participation, and Data Collection

For study recruitment, I used the social media platform LinkedIn and recruited through my professional network. I used the informed consent form template as found on the Walden University IRB website. I used a process that explained the study to the participant and encouraged questions before the participant decided about participation. I included in the consent form an understandable description of the data collection procedures. Additionally, I included in the consent form an explanation that I would not use names in the research report. Furthermore, the explanation included how names, contact information, and research data would be secured and destroyed after 5 years and indicated that the data would not be used for any purposes other than research. To participate in the research, participants needed to provide their consent. Qualified individuals participated in the interview process after I received their consent. Individuals provided their consent by email reply with the words “I consent” if they wished to participate in the research study.

This study involved completing the following steps:

1. Participants were interviewed via Zoom, with the interview lasting a maximum of 1 hour.
2. The participant spoke with me to hear my takeaways from the person’s interview via Zoom, and the participant was able to confirm whether my interpretations were accurate; this lasted 20-30 minutes.

The research procedures ensured privacy during data collection; a private office with a secure door was used during data collection.

The data collection instruments used in this dissertation were (a) document analysis as provided by the information in Chapter 2, which informed my development of the interview questions; and (b) study-specific interview questions used during the interviews. I conducted 20 interviews. When conducting interviews, I conducted no more than three per day. Each interview lasted a maximum of 1 hour. I recorded the interview data on an interview response sheet and typed information into my laptop computer. The interview data were collected by interviewing 20 individuals. I conducted the interviews via Zoom, which was the participants' preference. I interviewed each individual in one setting over a 5-week timeframe. Each interview lasted a maximum of 1 hour. I recorded data manually and electronically by entering the data into my laptop computer. Initially, retaining identifiers and/or contact information is necessary since I need to follow up for a member checking step. I interviewed 20 individuals. The number of 20 participants was supported by the literature that had acknowledged the acceptability of the number of 20 participants. If I had not been able to obtain enough participants to interview, I would have used additional social media such as Facebook or Twitter. Paper interview notes have been stored in a locked file cabinet at my home. Electronic files have been stored on my password-protected computer and backed up on a password-protected cloud drive. Data will be kept for a minimum of 5 years, as required by the university. After 5 years, paper interview notes will be shredded. Electronic files on my password-protected computer will be securely deleted, and the backup on the cloud drive will be securely

deleted. I provided a one-page summary of the research results to share with the participants.

Data Analysis Plan

Study-specific interview questions were used during the interview process. Interviews were recorded and transcribed. Additionally, during the interviews I took handwritten notes or typed notes into my computer. I read the interview data and reread the interview data, and common themes emerged from the data. These common themes were used for coding. Member checking was used. I contacted the interviewees by email for the member checking step after transcription and initial coding. In the email, I offered to share my takeaways from that person's interviews via phone or email (according to the participant's preference) so that the participant could confirm whether my interpretations were accurate. I provided a one-page summary of the research results to share with the participants. Participant demographic details (i.e., age, ethnicity, number of years in a position) are not in the results because no demographic information was collected.

Issues of Trustworthiness

This section discusses issues of trustworthiness, including credibility, transferability, dependability, confirmability, and the ethical procedures that I followed. The trustworthiness of qualitative research data encompasses degrees of trust and internal validity (also known as credibility), external validity (also known as transferability), reliability (also known as dependability), and objectivity (also known as confirmability; Goa et al., 2020).

Credibility

The purpose of credibility in qualitative research is "to establish confidence that the results (from the perspective of the participants) are true, credible and believable" (Forero et al., 2018, p. 3). Triangulation is the double-checking of data through the use of diverse sources (Lincoln & Guba, 1986). I demonstrated triangulation by using different sources to check the data that were used. Additionally, I interviewed participants at different times and did member checking. I provided the participants a one-page summary of the research results. A precise description of the framework used in a study contributes to the credibility of that study (Wood et al., 2020). I provided a detailed description of the framework that was used in this dissertation.

Transferability

Transferability corresponds to the degree to which research outcomes are applicable to other situations or scenarios (Forero et al., 2018; Lincoln & Guba, 1986; Moon et al., 2016; Stenfors et al., 2020). To demonstrate transferability, a researcher must describe their study with enough detail to permit other researchers to determine whether the study's findings apply elsewhere (Lincoln & Guba, 1986). "Thick description enhances transferability of the study through detailed descriptions of the processes and findings" (Liao & Hitchcock, 2018, as cited in Jirsa, 2020, p. 62).. I provided enough details to permit others to decide whether my findings can be used in other areas. To further show transferability, recruitment and sample selection were based on participants' expert knowledge of the phenomenon being studied (Ferero et al., 2018, as cited in Daniels, 2019). I selected participants based on their expert knowledge.

Dependability

Dependability corresponds to how consistent the findings of a study are when the study is repeated in the same context; there should be enough information for the study to be duplicated by another researcher who follows the same steps (Stenfors, 2020). An audit trail is "a meticulous record of the process of the study that others could use to recapture steps and reach the same conclusion" (Rudestam, 2015, p. 133). Dependability can be influenced by the consistency of the research process during participant recruitment, data collection, and reporting of findings. I maintained consistency throughout the research process and documented this process in detail. The use of study-specific questions during the interviews maintained consistency throughout the interview process. Detailed documentation of each participant selected, and detailed documentation of data collection further established dependability. Triangulation is using different resources to confirm evidence (Rudestam, 2015).

Confirmability

Confirmability reflects the degree to which other researchers substantiate or confirm the results of a study (Forero et al., 2018). Confirmability also reflects whether study findings accurately represent collected data rather than the preconceived notions of researchers (Elo et al., 2014; Nowell et al., 2017). A methodical search of existing literature (Forero et al., 2018) is one way to demonstrate confirmability. I completed such a methodical search of the literature for the dissertation. The dissertation is also confirmed by the extensive Walden University dissertation process.

Ethical Procedures

I followed all ethical procedures established by the IRB of Walden University. IRB approval notification indicated that the Walden University approval number for this research is 04-05-21-0467127. Additionally, I followed the guidance provided in the Belmont Report (National Institutes of Health, 1979), which recommends respect for participants, maximizing benefits while minimizing risks, and impartial selection of participants. I conducted interviews at places and times that participants were comfortable with. Prior to interviews, participants provided informed consent. I explained the interview procedure to each participant before their interview. Every participant received a written copy of the interview procedure with the consent form. I maintained participant confidentiality and have not identified interviewees by name. I electronically archived interview data, for which each participant was assigned a code to assure anonymity. I have not included any personally identifiable information and have protected electronic data with passwords. After a period of 5 years, I will destroy the electronic data and written notes. I provide applicable documents required by the IRB.

Summary

This dissertation reviewed SCP theory and terrorism at stadiums aligned with SCP and more specifically with the "Four Principles of Situational Prevention and Four Pillars of Opportunity" associated with terrorist attacks on stadiums. Using the information in this dissertation, stadium managers/owners can get a better understanding of issues that should be addressed in their terrorist attack response plans and make

enhancements to their policies, procedures, and plans. The following chapter provides a detailed analysis and review of the results.

Chapter 4: Results

The purpose of the dissertation was to determine the existing evacuation policies, procedures, and plans in the event of a terrorist attack at stadiums, with a specific focus on the evacuation of individuals with special needs. The findings from this study could be used to guide the formulation of best practices for mass evacuations at sports venues. Additionally, the study was conducted to extend the literature on evacuation procedures and determine areas of potential improvements in policies and procedures for patrons with special needs.

The research questions that guided this research were the following: What are the organizational practices of stadium evacuation plans currently in place to respond to terrorist threats? How can situational crime prevention help in identification of deficiencies and best practices? What strategic deficiencies exist in current practices regarding the evacuation procedures for individuals with special needs during emergencies at major sporting venues? Chapter 4 addresses several aspects of this dissertation research. The pilot study is described, as well as the data collection and data analysis process, and evidence of trustworthiness is provided. The results are detailed and discussed.

Pilot Study

I followed the pilot study methodology that was approved by Walden University. For pilot recruitment, I recruited friends to engage in a small-scale test of interviews. I called each person on the telephone and asked if they were available and willing to participate. For pilot consent, I emailed the pilot consent form to participants and asked

them to reply with the words “I consent” if they consented to participating in the pilot study. For pilot data collection, I interviewed the pilot volunteer. A postinterview debriefing was completed via phone or an online platform such as Zoom (depending on volunteer’s preference). The debriefing involved asking the participants whether the questions were understandable and comfortable to answer. All of the participants in the pilot study were experts in stadium evacuation plans. The pilot also helped me determine the time needed for each interview so that the study’s consent form could provide an accurate estimate of the study’s time commitment.

Research Setting

There were no personal or organizational conditions that influenced participants or their experiences at the time of the study. The participant recruitment process used was one in which the participants would not feel that they were being pressured to participate. Communications methods such as social media invitations that permitted potential participants to participate were used. I was not in a position of authority over any of those who chose to participate. Participation was voluntary, and participants had the right to decline or stop participation at any time. Volunteer participants were offered the choice to be interviewed via phone or an online platform such as Zoom, depending on the volunteer’s preference. There was no partner organization that participated in the recruitment or data collection processes.

Demographics

As indicated in approved IRB Form C, no demographic information was collected. The consent form indicated that to participate in the study, participants needed

to have at least 5 years of experience as a stadium operator/consultant, stadium security manager/consultant, or stadium security staff member/consultant. No demographic information was collected from the volunteer interviewees pertaining to race, age, position title, or gender identification.

Data Collection

There were no unusual circumstances encountered in data collection. Twenty volunteer participants were interviewed for the study. Data collection occurred electronically via Zoom. Face-to-face interviews were not considered due to the coronavirus pandemic. COVID-19 could only have impacted interviews performed in person located in the Washington, DC metropolitan area. I live in the Washington, DC metropolitan area. Due to the COVID pandemic, I was not going to interview anyone in person. Because the interviews were conducted via Zoom, there was no impact to data collection. People were comfortable and able to talk via Zoom in the same way they would talk in person. The frequency of data collection ranged from interviewing one person in 1 day to interviewing as many as three participants in 1 day. The duration of the interviews was no more than 1 hour. The shortest interview was 50 minutes. I recorded the data by hand and by audio. I also wrote notes by hand as a backup to the audio notes.

There was no variation in the data collection from the plan presented in Chapter 3. Branco (2021) used member checking to ensure the accuracy of interviews. Furey and Harris-Evans (2021) indicated that after interviews, they asked participants to provide feedback, which they called participative member checking. Thoman et al. (2020) cited Carlson (2010) and indicated that in their research, participants were asked to clarify and

verify interview accuracy. Carlson (2010) described member checking as a single event that takes place only with the verification of transcripts or early interpretations. I followed the member checking process as described by Carlson (2010).

Data Analysis

The data analysis process adhered to was initially discussed in Chapter 3. I read and reread the interview data several times, and common themes emerged from the data. These common themes were used for coding, which was done manually by hand. I used the following four-step process to move from inductively coded units to larger representations, including categories and themes:

1. I coded data.
2. I organized my codes into categories.
3. I checked the coded data several times.
4. I turned the codes into a narrative.

When I coded the data, I first read through the transcripts. I highlighted relevant quotes; the relevant quotes were connected to my research questions. I cut out the relevant quotes from the transcripts, and I organized them by themes. When I organized my codes into categories, I grouped my codes by similarity. When I checked the coded data several times, I reexamined the codes that I created. By reexamining the codes that I created, I identified additional similarities. I turned the codes into a narrative.

To determine the emergent themes, I read and reread the interview data several times. When one reads and rereads something several times, it becomes apparent when the same or similar phrases are used. I identified the same or similar phrases as being the

themes. There were responses to 10 interview questions in each interview. Themes emerged from the responses to all 10 questions.

There were several themes that emerged from the data. The themes were the best practices as defined by the participants' responses. The themes that emerged are: communications, planning and procedures, patron safety, patrons with special needs, training and practice, preparedness for a potential terrorist attack, and improvement needed in evacuating patrons with special needs.

Communications

The theme of communications is important in stadium evacuations. Participant responses included the following: "And then there's communication, we don't know how an emergency is going to affect communication. Communication is going to be key during the evacuation process, so keeping radio channels clear for emergency messages only" (Participant H). "Secondly, making sure the communication is there. Making sure staff communicates well. Making sure the people with whom staff are communicating understand them, via verbal or signaling" (Participant D). "Utilization of ham radios during an emergency" (Participant J). "In a perfect world radio usage is number one" (Participant S). "They communicate with radios" (Participant H). "What you would tend to find is most advanced stadiums will have a very comprehensive technical communications package. We call it command, control, and communication (C3). So, having this process in place you can communicate normally by radios" (Participant M).

Planning and Procedures

The theme planning and procedures is important in stadium evacuations. Participant responses included the following: “Dust off the plan, reconstitute the planning team, replan, practice the plan, and adjust the plan as we approach the 100% capacity [meaning returning to normal 100% stadium capacity after the COVID 19 pandemic ends]. Know how the current environment might affect your safety and security procedures and policies at the stadiums” (Participant A). “My observation is training could be better when planning for emergency evacuations” (Participant M). “There has to be a communication plan linked to the emergency action plan” (Participant J). “Over the PA system tell the fans there is an evacuation plan located in the program booklet” (Participant K).

Patron Safety

The theme of patron safety is important in stadium evacuations. Participant responses included the following: “One of the major considerations in stadium evacuation is participants. You have a large number of participants who leave the playing area to go to the locker room, are they safe? Can we get them out of the structure safely?” (Participant C). “I would make sure my training protocols are up to date” (Participant T). “Most important is to prevent stampeding, having ease of flow, staying calm, and using a structure based on training and practice” (Participant E). “Make sure the patrons are exited expeditiously but still in a safe manner” (Participant K). “Instill calmness in your patrons to avoid people running and pushing; also consider your frontline ushers and

security who in some cases are minimum wage workers who need to hold the line until everyone can be gotten out safely" (Participant L).

Patrons With Special Needs

The safety needs of patrons with special needs must be assured in stadium evacuation plans. Participant responses included the following: "And then, you have to see what their special need is, whether it's physical, whether it's mental, and make sure you have a specific person trained in this area" (Participant T). "And now, when it comes to special needs, I'm going to say we need to revisit the evacuation plans, especially in concern of special needs" (Participant A). "But if there are patrons with special needs (autism, hearing or vision impaired or physical disabilities) there should be staff members who are specifically assigned to this patron segment and have techniques in how to communicate" (Participant I). "So again, I go back to say, and this piece is how prepared are you as a stadium to evacuate patrons with special needs in the event of a terrorist attack, we need improvement" (Participant Q). "Include the ADA personnel in your training program" (Participant F).

Training and Practice

There is a need for improvement in staff training and practice in stadium evacuation plans. Participant responses included the following: "The staff has to continuously be trained, and the more you train, it becomes just like an athlete who works out" (Participant H). "Routine in-depth training is needed. Also needed is personal training of your command abilities, your interface with law enforcement, your communication capabilities, but most of all, the actual people who would be carrying out

evacuations or stadium security" (Participant D). "Make sure you have a specific team trained in the area of accommodating people with special needs" (Participant T). "I think it is important to do role-play training. You can simulate a situation, but you never know what is going to come about. You need to do different scenarios and do role-playing" (Participant B). "I think staff should have some sort of basic EMS nurse training, which shows them how to lift immobile persons from a sitting or reclined position, so as not to cause further injury to the guests or injury to the staff person" (Participant G).

Preparedness of U.S. Stadiums for Potential Terrorist Attack

U.S. stadiums' response to a potential terrorist attack needs improvement. Participant responses included the following: "Most stadiums are prepared" (Participant B). "I don't think we are prepared" (Participant C). "We are much better than we were" (Participant D). "Most are ill prepared" (Participant E). "Only stadiums in major urban centers are prepared" (Participant G). "Seventy-five percent are prepared" (Participant J). "Some are prepared" (Participant N). "Don't think they are prepared at all" (Participant O). "They are not prepared" (Participant P). "We have a lot of work to do" (Participant Q). "We are not there yet" (Participant T).

Preparedness of U.S. Stadiums to Evacuate Patrons With Special Needs

U.S. stadiums' preparedness to evacuate patrons with special needs in the event of a potential terrorist attack needs improvement. Participant responses included the following: "Modestly prepared; not as prepared as they should be" (Participant D). "They are much better prepared now" (Participant F). "There is room for improvement; we need to continue to train in this area" (Participant L). "Some are prepared" (Participant N).

"Work needs to be done" (Participant Q). "There is room for improvement" (Participant R). "My stadium is fairly prepared; however, not sure what the status is across the US" (Participant S). "We have to do better" (Participant T).

Evidence of Trustworthiness

Credibility

The strategies that I used for addressing credibility as discussed in Chapter 3 were implemented. The purpose of credibility in qualitative research is "to establish confidence that the results (from the perspective of the participants) are true, credible and believable" (Forero et al., 2018, p. 3). Triangulation is the double-checking of data through use of diverse sources (Lincoln & Guba, 1986). The data for this dissertation were the responses to the 10 interview questions from the 20 participants. One source of the collected data was the recorded audio data that I compared to the other source of data, which was the transcript, which was compared to the third source of data, which was the handwritten notes that I took during the interviews. During interviews, on the occasions that I did not take handwritten notes, I keyboarded notes into my computer. My ability to listen to the participants and take notes is a skill practiced through years of going to school. Member checking was used to assure the accuracy of the interview data. A precise description of the framework used in a study contributes to credibility of the study (Wood et al., 2020). I provided a detailed description of the framework, meaning the steps that were used in this dissertation, in Chapter 3.

Transferability

The transferability strategies described in Chapter 3 were implemented. Transferability refers to the degree to which research outcomes may be applicable to other situations or scenarios (Forero et al., 2018; Moon et al., 2016, Stenfors et al., 2020). "Thick description enhances transferability of the study through detailed descriptions of the processes and findings" (Liao & Hitchcock, 2018, as cited in Jirsa, 2020, p. 62). To further show transferability, recruitment and sample selection are based on participants' expert knowledge of the phenomenon being studied (Forero et al., 2018, as cited in Daniels, 2019). Likewise, I recruited participants based on their expert knowledge. Participants had at least 5 years of experience as a stadium operator/consultant, stadium security manager/consultant, or stadium security staff member/consultant.

Dependability

The dependability strategies described in Chapter 3 were implemented. Dependability corresponds to how consistent the findings of a study are when the study is repeated in the same context (Stenfors, 2020). I have included an audit trail of the process and steps taken in the study so that others may replicate the study (Rudestam, 2015). The use of study-specific questions during interviews helped maintain consistency throughout the interview process. Canary (2019) described study-specific interview questions as the questions used for the specific topic that a researcher is analyzing.

Confirmability

The confirmability strategies as described in Chapter 3 were implemented. Confirmability reflects the degree to which other researchers can substantiate or confirm

the results from a study (Forero et al., 2018). As such, the degree to which other researchers can confirm the results from my dissertation would demonstrate confirmability. Confirmability also reflects whether findings from a study accurately represent collected data rather than the preconceived notions of researchers (Elo et al., 2014; Polkki et al., 2012). As such, confirmability reflects whether findings from my dissertation accurately represent collected interview data rather than my own preconceived notions.

Research Results

Each research question is addressed, and data is provided in the form of quotes and paraphrase of quotes from documents and participants interview data. This section of Chapter 4 is organized by research question. The research questions in this dissertation were: What are the organizational deficiencies and best practices of stadium evacuation plans currently in place to respond to terrorist threats? How can situational crime prevention (SCP) help in identification of deficiencies and best practices? What strategic deficiencies exist in current practices regarding the evacuation of special needs populations procedures at major sporting venues?

Research Question 1 Results

Research Question 1: What are the organizational deficiencies and best practices of stadium evacuation plans currently in place to respond to terrorist threats? Research question 1 was answered. The themes are the best practices as defined by the participants responses. Communications is important in stadium evacuations. Planning and procedures are important in stadium evacuations. Patron safety is important in stadium

evacuations. The safety of patrons with special needs to be assured in stadium evacuation plans. Staff training and practice need improvement in stadium evacuation plans. U.S. stadiums response to a potential terrorist attack needs improvement. U.S. stadiums preparedness to evacuate patrons with special needs in the event of a potential terrorist attack needs improvement.

Organizational best practices were identified related to planning, training, and communication. Interviewees provided several examples of best practices to implement as well as best practices that are currently implemented. Participant M said, "So, the first thing is to get a detailed understanding of what's actually happening, and as quickly as possible. "Protect your perimeter with a fence around your property" (Participant Q). Participant A mentioned, "Practice with exercises, and practice with on-site training. Also, a third-party audit would be appropriate." "Practice the emergency evacuation plan with the police officers who are working part time as game day staff in your stadium" (Participant P). "Engage elements such as police, fire, vendors, third party staff, ushers, marketing staff, housekeeping, and food and beverage, in your training program" (Participant L). Participant L stated, "Communication is going to be key during the evacuation process, so keeping radio channels clear for emergency messages only." Participant T said, "Making sure the people they are communicating to understand them, via verbal or signaling." "Most advanced stadiums will have a very comprehensive technical communications package. We call it command, control, and communication (C3). So, have a process in place so you can communicate normally by radios and by PA

announcements" (Participant M). "You can have some coded messages that come up by loudspeaker; we've all heard them" (Participant D).

Best practices included the following: Staff quickly understands the emergency at hand in order to minimize the threat. Staff constantly surveys crowd movement with a focus on counting the number of patrons with special needs. Staff awareness of objects or obstacles that could harm patrons in the event of an emergency. Practice communication practices between staff, law enforcement, fire and rescue, and patrons, and make sure all agencies understand communication practices including verbal or signals. The use of a comprehensive command, control, and communications (C3) system is a best practice. Improved radio communication between staff and management is also a best practice.

The organizational deficiencies were identified related to lack of training; organizations have not provided the needed training to improve the staff skillset. Also, there is a lack of organizational assessment. Participant responses included: "My recommendation for improvement is to dust off the plan, reconstitute the planning team, re-plan, practice the plan, and adjust the plan as we approach the 100% capacity" (Participant A). "So, I would make sure my training protocols are up-to-date" (Participant T). "I would make sure all staff has an understanding of basic first aid" (Participant N). "My observation is training could be better when planning for emergency evacuations" (Participant M). Participant J said, "Realistic exercises. Functional exercises. Full scale exercises, drills, games, and test on a monthly basis." Participant C said, "I think the other thing that needs to be done is a continued quality of assurance testing. When we test the elements, we test our communication. What happens if we have a terroristic threat

and our computer system goes down?" "Second strategy is, we've got to do our risk and vulnerability assessments. Right? Nothing happens unless we do assessments." (Participant A).

Lack of trained staff was one organizational deficiency. Staff needing to know their organizational roles and responsibilities was another organizational deficiency. Staff not updated on protocols was an additional deficiency. Staff not being trained in basic first aid or EMS training was a deficiency. Management not looking at new technologies that can aid in improving deficiencies was a deficiency. Lack of training for an emergency was also a deficiency. Lack of training in the ability to recognize hot zones, medium zones, and cold zones in an emergency was a deficiency. Lack of training on how to keep patrons social distanced was a deficiency during the Covid-19 virus. Lack of preparedness for a terrorist attack was a deficiency. The lack of improved communications among staff and patrons with special needs was a deficiency. The lack of complete risk assessment training was a deficiency. Then lack of coordination between all stakeholders was a deficiency.

Research Question 2 Results

Research Question 2: How can situational crime prevention (SCP) help in the identification of deficiencies and best practices? Research question 2 was answered; Only one interviewee response was linked to SCP and the identification of deficiencies. Participant S said, "Our biggest weakness lies in any type of drone threat; you can load up a drone with nerve gas or other harmful agent." The SCP relationship ties to SCP Pillar 2, Weapons.

Additionally, SCP and the identification of best practices were identified. “Close off one-half mile of the streets in every direction to help curb these terrorist threats” (Participant E). “There was a ring around the stadium with concrete barricades and a fence; everyone coming in was screened with a metal detector wand. There was a no-fly zone above the stadium” (Participant F). “Bomb sniffing dogs could help in more abundance and have metal detectors to enter the streets that are closed off” (Participant E). “You’ve got cameras everywhere, but you want a helicopter as your eye in the sky” (Participant S). “All scrutiny’s need to be revamped such as checking ventilation systems, checking people as they enter, checking for explosives and hazardous materials” (Participant J). “We need to go back to background checks on all game day personnel and suppliers” (Participant C).

Research Question 3 Results

The following results were in response to Research Question 3: What strategic deficiencies exist in current practices regarding the evacuation of special populations procedures at major sporting venues? Research question 3 was answered. Interviewee responses included the following: “But if there are patrons with special needs (autism, hearing, or vision impaired or physical disabilities) there should be staff members who are specifically assigned to this patron segment and techniques in how to communicate best and action these patrons is necessary for success” (Participant I). “And then, you have to see what their special need is, whether it’s physical, whether it’s mental, and make sure you have a specific person trained in that area” (Participant T). Participant A said, “when it comes to special needs, I’m going to say that we need to revisit the

evacuation plans, especially in concern of special needs." Participant C stated, "the response would be, they're not fully prepared; because I don't think we take time to fully expose the personnel at a stadium, arena, or exhibition center to accommodate the various patrons with special needs." Participant Q said, "We need improvement."

Summary

Research Question 1, what are the organizational deficiencies and best practices of stadium evacuation plans currently in place to respond to terrorist threats, was answered. An example of an organizational deficiency is lack of trained staff. An example of a best practice is staff quickly understands the emergency at hand in order to minimize the threat.

Research Question 2 pertaining to SCP and the identification of deficiencies is summarized as follows. The use of drones as a weapon corresponds to SCP Pillar 2, Weapons. Research Question 2 pertaining to SCP and the identification of best practices is summarized as follows. Closing off streets restricts access to the stadiums and reduces opportunities for the threat. Other means of reducing the threat include the use of bomb sniffing dogs in the parking lot and the surrounding perimeter of the facility. The use of cameras increases the risk to the terrorist perpetrator of being identified. The use of helicopters on game day help to reduce the opportunities for the terrorist perpetrator.

Research Question 3 pertaining to deficiencies that exist in current practices regarding the evacuation of special needs population is summarized as follows. There is need for improvement. The main reason was lack of proper training and practice for the staff.

Chapter 5, Discussion, Conclusions, and Recommendations follow. Interpretation of the findings will be provided. Limitations of the study will follow. Recommendations are provided. Implications for positive social change are provided.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of the dissertation was to determine the existing evacuation policies, procedures, and plans in the event of a terrorist attack at stadiums, with a specific focus on evacuation of individuals with disabilities. Additionally, the study was conducted to extend the literature on terror attacks at sporting and entertainment venues and close the gap in the literature regarding best practices, policies, and procedures surrounding terrorist attacks on sporting and entertainment venues.

This dissertation study had a general qualitative design aimed at evaluating the strategic planning quality of stadiums' preparedness efforts for emergencies. Qualitative methods allow researchers to explore situations from the perspectives of individuals who experience a problem (Rudestam & Newton, 2015) and obtain insight into the problem (Tuckerman et al., 2020). Qualitative research begins with specific observations and moves toward identification of general patterns that emerge from studied cases, and qualitative data may consist of detailed descriptions of events, situations, or behaviors (Rudestam & Newton, 2015). The problem that I explored in the dissertation was how to prepare for and respond to potential terrorist attacks on U.S. stadiums. The qualitative data collected consisted of descriptions of cases of terrorist attacks on stadiums.

This study was conducted because of its significance and contribution to social change. Expanded knowledge regarding best practices for the prevention of terrorist attacks at major sports venues would inform owners, law enforcement officers, stadium managers, critical incident professionals, health departments, fire and emergency services, and federal, state, and local governments. The significance of the dissertation

lies in its emphasis of the need for enhanced stadium evacuation plans. The development of enhanced evacuation plans would close gaps in policies, procedures, and plans, which would have a significant positive impact on society. The findings of the dissertation can be used to improve the communication efforts of stadium managers and operators and officials at every level of government**.**

Organizations have not provided the needed training to improve the skillset of their staff. This tells me, as a researcher, that training is lacking, given that the plan has to be "dusted off." Additionally, the need for "up-to-date" protocols tells me as a researcher that training protocols are outdated. Furthermore, there is a need for training using role-playing and based on realistic scenarios. As mentioned previously, there is a lack of organizational assessment. The interviewee responses tell me that testing of the stadium computer systems needs to be done. Testing the operation of the computer systems should be incorporated into the staff training. Moreover, stadium vulnerabilities should be examined and tested. The interviewee responses indicate that one organizational best practice is to identify and include all stakeholders in evacuation training exercises that use the stadium evacuation policy. Further, third party audits to identify stadium security vulnerabilities are important, such as assessments of the adequacy of perimeter fencing. Audio and visual communications are most important. Communications need to be clear, whether via audio or using signage.

Interpretation of Findings

Crowds Communication and Planning

Crowd crushes and stampedes in a stadium are the leading causes of death after an incident such as a bomb scare or a terrorist attack (Ancliffe, 2017; Yogameena & Nagananthini, 2017). Crushes and stampedes occur as the result of lack of training beforehand and lack of communication during and after an incident. Communication is important in managing crowds, such as those found in stadiums (Aradau, 2015), and effective training for disasters that may occur is key (Hsu et al., 2013). Similarly, regarding the importance of communication, Vreugdenhil et al. (2015) asserted that the crowd evacuation process includes communicating the evacuation decision. Yogameena and Nagananthini (2017) said, "Before any mass gathering, it is important to identify at every event the factors which influence the risks which lead to a stampede in a crowd" (p. 96).

Crowd panic during a terrorist attack combined with inadequate procedures for stadium personnel to follow can lead to harm of patrons and damage to property (Coa et al., 2014). In emergency situations, crowds need to evacuate effectively and safely to a secure area; stadium evacuation planning is therefore very important.

As mentioned in Chapter 2, researchers have indicated that communication is important when managing crowds (Aradau, 2015), and that crowd evacuation includes communicating the evacuation decision (Vreugdenhil et al., 2015). The findings confirm this position and correspond to the theme discussed in Chapter 4 that communications are of major importance in stadium evacuation.

The participants conveyed that radio communication is important. In addition, clear and understandable communications are important. If there are no communications, or if there is a breakdown in communication, this will only add chaos to an already chaotic situation. The literature supports this theme of the importance of communication in that researchers have indicated that communication is important when managing crowds, as in stadiums (Aradau, 2015). Furthermore, communication among stakeholders is one of the characteristics required to minimize disaster impacts (NASA, 2021; Sagun et al., 2009).

Patrons With Special Needs

The USDHS (2008) identified key actions and components that stadium evacuation plans should include, such as developing methods for communicating evacuation information to individuals with limited English proficiency or sensory or cognitive disabilities. The USDHS (2008) also indicated that plans should clearly provide for special needs populations and ensure compliance with the Americans with Disabilities Act, the Rehabilitation Act, and the Communications Act when determining accommodations needed for patrons with special needs.

The USDHS (2008) went on to indicate that special needs populations may have additional needs in one or more of the following functional areas before, during, and after evacuation: maintaining independence, communication, transportation, supervision, and medical care. The evacuation plan should also describe where people with special needs should be located; how they should evacuate, relocate, or shelter in place in each area of the stadium; how they should move; and who will assist them (USDHS, 2008). “Best

Practices in Anti-Terrorism Security (BPATS) Tier III Economics of Security and Randomization" (2018) provided information concerning adding randomized protocols to stadium security programs. One option concerned random searches of patrons and suggested that special lanes be created to process disabled patrons (CCICADA, 2018). The findings confirm the need for specific staff training for addressing concerns of attending to patrons with special needs. Also confirmed is the need to have evacuation plans address issues associated with the evacuation of patrons with special needs. Based on what the interviewees said, the safety and well-being of the patron with special needs is paramount. Staff should be trained and prepared to assist special needs. This is supported by the literature. The USDHS (2008) also indicated that plans should clearly provide for special needs populations and ensure compliance with the Americans with Disabilities Act. As stated previously in this dissertation, literature since 2008 has remained silent on the evacuation of patrons with special needs.

Planning and Procedures

The USDHS (2008) identified key actions and components that stadium evacuation plans should include, such as developing methods for communicating evacuation information to individuals with limited English proficiency or sensory or cognitive disabilities. Crowd panic during a terrorist attack combined with inadequate procedures for stadium personnel to follow can lead to harm of patrons and damage to property (Coa et al., 2014). The information obtained from the participants' interviews tells me, as a researcher, that planning and procedures are integral to safety at stadiums. Additionally, training on procedures is critical to stadium emergency evacuations.

Furthermore, there needs to be more than one plan, such as an emergency plan, and communication, in addition to the evacuation plan. This theme of the importance of planning and procedures is supported by the literature. A recommended improvement from the CCICADA (2015) is that stadium evacuation plans need to be efficient and effective. Additionally, inadequate procedures for stadium personnel combined with crowd panic can lead to injured patrons and damaged property (Coa et al., 2014).

Patron Safety

The participant responses echo the importance of patron safety. This tells me that it is important for staff to keep patrons as calm as possible. Further, staff need to help patrons exit quickly and in a safe manner. The literature supports the theme of the importance of patron safety. Crowd crushes and stampedes in a stadium are the leading causes of death after an incident such as a bomb scare or a terrorist attack (Ancliffe, 2017; Yogameena & Nagananthini, 2017).

Training and Practice

Communication is important in managing crowds, such as those found in stadiums (Aradau, 2015), and effective training for disasters that may occur is key (Hsu et al., 2013). Based on the what the interviewees said, training is of paramount importance to the successful implementation of an evacuation plan. Additionally, based on the interviews, there is room for improvement in staff training overall, and specifically in how to assist special needs populations. This is supported by the literature. Effective training for disasters that may occur is key (Hsu et al., 2013). Staff training is one of the

focus areas in “Best Practices in Anti-Terrorism Security (BPATS) Tier II Metrics & Measures of Effectiveness Resource Guide” (2016).

Application of Situational Crime Prevention

According to Hsu and Newman (2016), adapting SCP to explain and prevent terrorism is a unique approach. Based on the interviewee responses, I have identified SCP and the identification of best practices as related to the SCP strategy of increase risk, the SCP technique that includes hard interventions, and SCP Pillar 2, Weapons. As indicated in Chapter 3, SCP involves 25 techniques related to crime prevention grouped into five strategies: (a) increase effort, (b) increase risk, (c) reduce reward, (d) reduce provocation, and (e) remove excuses (Cornish & Clarke, 2003; Freilich et al., 2020; Mandala & Freilich, 2018). The techniques include both hard and soft interventions; hard interventions make it harder to commit a crime (Freilich et al., 2020).

The SCP strategy of increase risk relates to the use of bomb-sniffing dogs to detect bombs and explosives. Increasing the risk also occurs by not passing a staff or vendor background check. Situational Crime Prevention Pillar 2 (Weapons) is related to bombs, explosives, and drones that carry explosives. The SCP techniques using hard interventions are related to barriers at a half-mile perimeter around the stadium, cameras for identification, and no-fly zone above the stadium.

Limitations of the Study

Qualitative research data encompass degrees of trust and internal validity (also known as credibility), external validity (also known as transferability), reliability (also known as dependability), and objectivity (also known as confirmability; Goa et al., 2020).

There were no issues of credibility, transferability, dependability, or confirmability in this dissertation.

The purpose of credibility in qualitative research is "to establish confidence that the results (from the perspective of the participants) are true, credible and believable" (Forero et al., 2018, p. 3; see also Lincoln & Guba, 1986). The results of this dissertation are true, credible, and believable. The participants responded truthfully. Each participant was credible and believable. Triangulation is the double-checking of data through the use of diverse sources (Lincoln & Guba, 1986). I demonstrated triangulation by using different sources to check the data used by comparing the recorded audio data to the transcript. Additionally, I compared the audio and transcript to my handwritten notes and manually typed notes. I interviewed participants at different times; participants were interviewed individually and not in a group setting.

Transferability corresponds to the degree to which research outcomes are applicable to other situations or scenarios (Forero et al., 2018; Lincoln & Guba, 1986; Moon et al., 2016; Stenfors et al., 2020). To demonstrate transferability, a researcher must describe their study with enough detail to permit other researchers to determine whether the study's findings apply elsewhere (Lincoln & Guba, 1986). I cannot know whether the results are transferable to countries outside of the United States. I provided enough details to permit other researchers to decide whether my findings can be used in other areas. To further show transferability, recruitment and sample selection are based on participants' expert knowledge of the phenomenon being studied (Forero et al., 2018, as cited in Daniels, 2019). I selected participants based on their expert knowledge;

participants had at least 5 years of experience as a stadium operator/consultant, stadium security manager/consultant, or stadium security staff member/consultant.

Dependability corresponds to how consistent the findings of a study are when the study is repeated in the same context; there is enough information for the study to be duplicated by another researcher who follows the same steps (Stenfors, 2020). I have provided enough information for this study to be duplicated. Dependability can be influenced by consistency of the research process during participant recruitment, data collection, and reporting of findings. I maintained consistency throughout the research process and documented this process in detail. The use of study-specific questions during interviews helped maintain consistency throughout the interview process. Detailed documentation of each participant selected and detailed documentation of data collection further established dependability.

Confirmability reflects the degree to which other researchers substantiate or confirm the results of a study (Forero et al., 2018). Confirmability also reflects whether study findings accurately represent collected data rather than the preconceived notions of researchers (Elo et al., 2014; Polkki et al., 2012). The data collected for this dissertation came from interviews with the volunteer participants. The choice to include input from stadium workers and exclude input from stadium patrons did impact transferability. A limitation of the dissertation is the inability of stadium operators to run full-scale evacuation drills under the true conditions of a terrorist attack.

Bias is a lack of objectivity, and examples of bias include investigator bias (due to investigators' ideological positions), reactive bias (due to participants' responses), and

confirmation bias (due to preconceptions present during analysis; Roulston & Shelton, 2015). By using study-specific interview questions, I maintained consistency throughout the interview process, and as such, investigator bias was eliminated. In terms of reactive bias, each participant answered the questions based on their own professional experience. The requirement to participate in the study was that the participant had at least 5 years of experience as a stadium operator/consultant, stadium security manager/consultant, or stadium security staff member/consultant. Bias related to the diversity of the participants was eliminated because no demographic information was collected from the participants pertaining to race, age, position title, or gender identification.

Recommendations

There are several recommendations for further study. The recommendations are related to the areas of communications via audio and visual means, crowd evacuation modeling, as well as organizational best practices and organizational deficiencies. Additional recommendations are related to planning and procedures, patron safety, and patrons with special needs. Further recommendations are related to training and practice and using SCP to mitigate the terrorist threat to stadiums.

Communications

A future in-depth study needs to be done on communications. Specific areas to address include how to improve stakeholder communication during a terrorist threat. Stakeholders include stadium management; stadium employees; stadium contractors; stadium vendors; federal, state, and local police; regional fire and emergency organizations; and regional hospitals. Another area for further study involves exploring

and identifying the best means for communication between stadium management and stadium patrons during a terrorist threat. The use and application of advanced technical communications needs to be researched. The best practices for stadium evacuation signage need further research.

Crowd Evacuation Modeling

A future study should be done on traffic control as well as the evacuation strategies for emptying the parking lots faster. This dissertation did not explore traffic control as an evacuation strategy. In the event of a terrorist attack at a U.S. Stadium, having parking lot strategies in place can improve the flow of traffic. An optimal evacuation strategy for parking lots can shorten evacuation times and reduce casualties and economic loss. The impact of dynamic background traffic flows in a road network on the evacuation plan is rarely taken into account in existing approaches (Mao et al., 2019). Also, further study is needed on crowd evacuation models in order to identify deficiencies and areas for improvement. First responders and security personnel face many challenges to safely evacuate crowded environments. This is where modeling and simulation comes into play in providing a risk-free and economical method to practice various evacuation strategies, train first responders, and provide accurate decision-support and emergency guidance (Jafer and Lawler 2016). Stampeding is a concern in crowds during an emergency, so further research is needed to explore the best practices to use via visual and audible communication as well as the use of technology to keeps crowds as calm as possible.

Organizational Practices

Future study is needed to improve identified deficiencies. Lack of trained staff was one organizational deficiency. Staff needing to know their organizational roles and responsibilities is another organizational deficiency. Staff not updated on protocols was an additional deficiency. Staff not being trained in basic first aid or EMS training is a deficiency. Management not looking at new technologies that can aid in improving deficiencies was a deficiency. Lack of training for an emergency was also a deficiency. Lack of training in the ability to recognize hot zones, medium zones, and cold zones in an emergency was a deficiency. Lack of training on how to keep patrons social distanced was a deficiency during the Covid-19 virus. Lack of preparedness for a terrorist attack is a deficiency. The lack of improved communications among staff and patrons with special needs was a deficiency. The lack of complete risk assessment training was a deficiency. Then lack of coordination between all stakeholders was a deficiency.

Future study is needed to enhance best practices. Staff quickly understands the emergency at hand in order to minimize the threat. Staff constantly surveys crowd movement with a focus on counting the number of patrons with special needs. Staff awareness of objects or obstacles that could harm patrons in the event of an emergency. Practice communication practices between staff, law enforcement, fire and rescue, and patrons, and make sure all agencies understand communication practices including verbal or signals. The use of a comprehensive command, control, and communications (C3) system is a best practice. Improved radio communication between staff and management is also a best practice.

Future study is needed to identify additional best practices for addressing potential terrorist attacks. The stadium game day staff is key to a successful evacuation. A future study could be done on stadium management's attitude toward game day staff. Additionally, a study should be done on incentive packages for game day employees to reduce the high turnover rate. A further study should be on background checks of game day staff to eliminate the threat from within. Additionally, study is needed on the adverse effects of the coronavirus as we look to return to 100% stadium capacity, since it is just a matter of time before the next pandemic occurs.

Patron Safety

A future study should be on the ability to use fall back zones whether they are vertical fall back zones or horizontal fall back zones. Also, there should be a future study on training of hot zones, warm zones, and cold zones. Further study is needed which examines the required resources for a safe evacuation. Fallback zones are safe zones areas inside a building, structure, or stadium. These fallback zones can be vertical zones on the same floor or level. The fallback zones can also be horizonal safe zones on the floors or level above or below the immediatism danger. A hot zone or exclusion zone is an area that is contaminated by a unknow gas or dangerous chemical which could have the highest potential for exposure of hazardous material which could lead to serious bodily injury and/or death. A medium zone or reduce contaminated zone is generally used for first responders to be decontaminated after leaving the hot zone. A cold zone is any area that is not contaminated. It is important to train staff on the ability to quickly recognize these areas to reduce illness or loss of life.

Planning and Procedures

Research needs to be done to explore the stadiums which are considered the best in the field to identify the unknowns which still need to be addressed in stadium evacuation plans and procedures. One of the unknowns is if we will be able to get back to 100 percent capacity without another major Covid-19 outbreak. Secondly, how effective are the Covid-19 vaccination on the new strains of Covid-19? Furthermore, how effective are the Covid-19 protocols we currently have in place to prevent an outbreak. Further research is needed which examines the worldwide terrorist attacks on stadiums outside the United States and to determine if there are any applicable weaknesses which need to be addressed in the U.S.

Patrons With Special Needs

A further in-depth study needs to be done on the evacuation of population with special needs which specifically address the post-Covid pandemic improvements to sections of stadium evacuation plans specific to the evacuation of the special needs' population. Stadium evacuation plans have changed the capacity drastically because of the Covid-19 pandemic. Stadiums are now using fixed seating levels. The reduction of patrons and social distancing Covid-19 measures have generally changed the amount of people gathering in large places. Additionally, further study is needed to explore the perceptions of the special needs population on what stadium amenities are most beneficial to them if there is a need to evacuate.

Training and Practice

Further research is needed which explores the training programs for game day staff in the stadiums which are considered the best in the field. Additionally, research should be done in which the demographic population is specific to game day staff with the objective of improving the high turnover in game day staff.

Situational Crime Prevention

Further study needs to explore how SCP could have been applied to help prevent historical terrorist attacks. Further study could apply SCP to European stadiums that have been attacked with a focus on what techniques were used to address the SCP strategy of "reduce reward." A further study should be done to address the threat of drone attacks on stadiums. As related to SCP, drones are an example of Pillar 2, "Weapons." Drones could deliver nerve gas or other harmful agents inside the stadium with very little effort. A drone can be launched from the parking lot or street outside the venue. A further study could be done examining the impact of using helicopters to protect stadium patrons. As related to SCP, the use of helicopters to protect patrons is an example of the SCP strategy of 'reduce reward.' Further study could exclusively use patrons with special needs as participants in the interviews focused on their perception of stadium preparedness to assist them in the event of a terrorist attack. Further study could explore whether U.S. stadiums are more attractive targets due to having a contingent of patrons with special needs who would need to be evacuated in the event of a terrorist attack. As related to SCP, the stadium is an example of the SCP Pillar 1, "Target."

Implications

The findings transfer to major sports stadiums throughout the United States, Canada, and Western Europe, due to the cultural similarities between these places. Expanding knowledge regarding best practices for the prevention of terrorist attacks at major sports venues would inform owners, law enforcement officers, stadium managers, critical incident professionals, health departments, fire and emergency services, and state and local governments. The significance of the dissertation lies in its emphasis of the need for enhanced stadium evacuation plans. Development of enhanced evacuation plans would close gaps in policies, procedures, and plans which have a significant positive impact on society. It is important to increase situational awareness among all stakeholders. The findings of the dissertation can be used to improve the communication efforts of stadium managers and operators and officials at every level of government.

The findings of the dissertation can be used to enhance relationships of individuals, communities, organizations, institutions, societies, religions, and cultures. The study also uncovered important factors which designers of new stadiums can integrate into their plans to create safe environments.

These findings of the study can be used to improve working relationships between law enforcement officers, intelligence officers, and workers in the public and private sectors using knowledge and communication to speed up response times in the event of a terrorist attack. The use of advanced technology can enhance and improve crowd evacuation and traffic management during normal and emergency situations.

Improvement of evacuation times during terrorist attacks, natural disasters, or other emergencies will have a great impact on society worldwide.

Positive Social Change

Potential implications for positive social change consistent with, and bounded by, the scope of the dissertation include improvement in the readiness of U.S. stadiums to address potential terrorist attacks. Improvement in readiness would increase the safety of stadium patrons. The findings of the dissertation can be used to enhance relationships of individuals, communities, organizations, institutions, societies, religions, and cultures.

Positive Social Change at the Individual and Family Level

Positive social change at the individual level is seen when a person is able to feel comfortable in a stadium knowing that an effective plan is in place in the event of a terrorist attack. This also transcends to the family level in that one can feel comfortable taking their family to an event at a stadium knowing there is a plan in place in the event of a potential terrorist attack. In addition, if the family member has a member who is a special needs person there is a comfort level in knowing that their evacuation needs will be assured.

Positive Social Change at the Organizational Level

Positive social change at the organizational level is realized when organizations make improvements to their evacuation plans. In addition, positive social change at the organizational level is realized when an effective evacuation plan aids in reducing lives lost during a terrorist attack. Furthermore, positive change in the organization is seen

when training programs are put in place for stadium staff. By being properly trained, the stadium staff can appropriately respond to terrorist attach situations.

Positive Social Change at the Societal/Policy Level

Potential implications for positive social change consistent with, and bounded by, the scope of the dissertation include improvement in the readiness of U.S. stadiums to address potential terrorist attacks. Improvement in readiness would increase the safety of stadium patrons. The findings of the dissertation can be used to enhance relationships of individuals, communities, organizations, institutions, societies, religions, and cultures. This dissertation also uncovered important factors that designers of new stadiums can integrate into their plans to create safe environments.

Theoretical Implications

The theoretical significance of the dissertation lies in its contribution to advancing knowledge of the application of SCP to terrorism. The study relies on applying SCP in a relatively novel way: Few researchers have studied SCP in connection with terrorism; "only nine qualitative studies of SCP and terrorism have been done, there have only been 17 quantitative studies of SCP and terrorism, and only 1 study that used mixed-method" (Freilich et al., 2018).

Recommendations for Practice

The potential contribution of this study to practice is the advancement of knowledge of the discipline of stadium evacuation in the event of a terrorist attack, including identification of gaps and inadequacies in existing stadium evacuation policies, procedures, and plans. This advancement of knowledge would lead to improvement of

stadium evacuation policies, procedures, and plans. Potential implications for positive social change consistent with, and bounded by, the scope of the dissertation include improvement in the readiness of U.S. stadiums to address potential terrorist attacks. Improvement in readiness would increase the safety of stadium patrons.

Conclusions

Organizational deficiencies in stadium practices have been identified. Current practices regarding the evacuation of persons with special needs warrant improvement by stadium organizations. Recommendations for future study should be pursued expeditiously. Situational Crime Prevention (SCP) theory was applied and aligned with this dissertation results and findings. Further study applying SCP is warranted.

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Appendix A: Qualitative Interview Questions

1. What improvements would you recommend be made to stadium emergency evacuation planning processes?
2. What training strategies should be used to train staff members in assisting special needs patrons during terrorist attacks?
3. How prepared are U.S. stadiums to respond to a potential terrorist attack?
4. How prepared are U.S. stadiums to evacuate patrons with special needs in the event of a potential terrorist attack?
5. How would you establish and organize a stadium evacuation team?
6. What are the major considerations in a stadium evacuation?
7. How do stadium operators, stadium security managers, and stadium security members communicate during an emergency?
8. What happens to patrons who do not want to leave the stadium during an evacuation?
9. What resources should be in place to safely evacuate a stadium in a terrorism crisis?
10. What strategies should stadium operators include in their stadium terrorist response evacuation plan?