8-22-2025

Crime Prevention Professionals' Perspectives on Using CPTED to Mitigate Targeted Violence on K-12 School Campuses

Bridgit C. Didier
Walden University

Walden University

College of Psychology and Community Services

This is to certify that the doctoral dissertation by

Bridgit Clark Didier

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Jessica Hart, Committee Chairperson, Psychology Faculty
Dr. Wayne Wallace, Committee Member, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2025

Abstract

Crime Prevention Professionals' Perspectives on Using CPTED to Mitigate Targeted Violence on K-12 School Campuses

by

Bridgit Clark Didier

MA, Regis University, 2015

BS, University of Louisiana at Lafayette, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Forensic Psychology

Walden University

August 2025

Abstract

Targeted violence in K-12 schools across the United States is a serious concern. These incidents not only endanger students and staff, but also cause lasting trauma and erode trust in schools. While existing measures may deter some violence, questions remain regarding their overall effectiveness. This study involved exploring perspectives of crime prevention experts on using Crime Prevention Through Environmental Design (CPTED) strategies to mitigate violence in K-12 schools. Although CPTED is recognized as effective in terms of reducing crime, research on its use in schools, especially from the perspective of crime prevention professionals, is limited. This generic qualitative study involved examining how CPTED strategies can be used to address school violence. Using the situational crime prevention theory, which links physical environment, human behavior, and violence, the research includes insights about reducing school violence through design strategies. Semi-structured interviews were conducted with ten crime prevention professionals, each with over five years of experience in safety and security. These discussions explored their views on school violence, experience with current measures, and challenges and opportunities of implementing CPTED. Through Braun and Clarke's reflexive thematic analysis, three key themes emerged: current security measures fail to address the unique needs of K-12 schools, a critical need for proactive and comprehensive strategies to combat school violence, and CPTED as the foundation of school violence prevention efforts. This study contributed to positive social change by highlighting insights of crime prevention professionals and practical recommendations for school administrators, security teams, and policymakers to enhance school safety.

Crime Prevention Professionals' Perspectives on Using CPTED to Mitigate Targeted Violence on K-12 School Campuses

by

Bridgit Clark Didier

MA, Regis University, 2015

BS, University of Louisiana at Lafayette, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Forensic Psychology

Walden University

August 2025

Dedication

This dissertation is dedicated to the courageous students, committed educators, and vigilant parents who navigate the challenging realities of school safety in a world where classrooms are no longer guaranteed safe from violence. I hope this work will help contribute to creating safer, more nurturing environments for all children to learn and grow.

For my husband, Derryl, who has been my partner in every sense of the word. Thank you for your quiet understanding on late nights and long weekends, for taking the lead when my mind and body could go no further, and for your unwavering and overpowering belief in me, especially during the moments when I struggled to believe in myself. And to our daughter, Lola, whose presence has been a guiding light in shaping who I am and everything I do. You have taught me more than anyone or anything ever could. My hope for you is that you always chase your own curiosities with passion and courage.

This work is dedicated to you both, my greatest loves and sources of inspiration.

Acknowledgments

First, I would like to sincerely thank the professionals who generously shared their time, knowledge, and expertise for this research. Their insights and thoughtful conversations shaped its direction and depth. Without their contributions, this work would have stayed a collection of vaguely interesting ideas in a notebook. I am deeply grateful for their support and patience, especially with my many follow-up questions.

Next, I would like to extend my heartfelt appreciation to my committee members, Dr. Jessica Hart and Dr. Wayne Wallace. Their guidance, encouragement, and feedback have been instrumental in helping me reach the finish line. Thank you for teaching me how to think critically and recognize the brilliance in the process. A special shout-out to my Chair, Dr. Hart, who had the uncanny ability to know exactly how to support me and guide me through my over-explaining, helping me produce the best possible work.

To my family, thank you for sticking with me through my marathon work sessions, mood swings that could rival a rollercoaster, and endless research rants (seriously, how many times can one person discuss the same topic?). Your patience and support have been the MVPs of this entire journey, and I truly could not have done it without you!

And, perhaps, I should acknowledge myself for having the stubborn persistence through late nights and early mornings, for ultimately believing in this project when the path forward was anything but clear, and for only having a *minor* existential crisis twice a week. We made it.

Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Targeted violence in K-12 schools across the United States has become an increasingly pressing concern. Schools are meant to be safe havens where children can learn, grow, and develop socially and emotionally. Yet, this ideal is shattered when acts of targeted violence breach these spaces. While overall school safety has improved, isolated incidents of violence continue to disrupt educational environments and instill fear in students, teachers, and parents (Cornell & Mayer, 2010; Mayer & Furlong, 2010). The consequences of school violence extend far beyond the immediate victims and can have lasting effects on the entire school community, including psychological trauma, decreased academic performance, and a general sense of insecurity (Cordova et al., 2019; Daniels et al., 2009).

The persistent threat of school violence has spurred significant investment in security measures and safety protocols. However, many of these interventions are reactive, focusing on responding to incidents after they occur, rather than proactively preventing them. There is a growing recognition that a more comprehensive and preventative approach is needed to address root causes of school violence and create safer learning environments. One such approach gaining traction is Crime Prevention Through Environmental Design (CPTED), which involves modifying physical environments to deter potential offenders and enhance safety.

This qualitative study involved exploring perspectives and experiences of crime prevention professionals in terms of applying CPTED principles to reduce the risk of targeted violence in K-12 schools. These professionals, including law enforcement,

architects, and security specialists, have a unique understanding of how environmental design can influence safety outcomes. By examining their insights, I aimed to identify best practices, challenges, and opportunities for implementing CPTED strategies in the context of school safety. This chapter includes an overview of the study, including the research problem, purpose, significance, and research questions.

Background

Targeted violence on K-12 school campuses has become a deeply concerning issue, with incidents rising at an alarming rate in recent years. Schools, meant to be safe havens for learning and development, are increasingly turning into the scenes of tragic events. Data shows that a significant number of these attacks are premeditated, fueling the sharp increase in violent episodes on school grounds (Alathari et al., 2019; Mayer & Furlong, 2010). This trend has become even more pronounced since the Columbine High School shooting in 1999, which marked a turning point in terms of how the nation viewed school safety and security. Data reveals 18% of K-12 students in the United States during the 2022-23 academic year faced threats of physical violence, 13% endured physical attacks, and 11% experienced at least one serious violent incident on school grounds. Although these percentages might not appear alarming at first glance, they represent thousands of students experiencing violence and trauma in spaces that should be safe and supportive.

Targeted violence involves deliberate and premeditated attacks where an identified perpetrator selects a specific target before acting (Alathari et al., 2019). These incidents often lead to severe casualties and have profound and lasting impacts on

schools and communities, triggering widespread trauma and emotional distress. Beyond the immediate human toll, such acts lead to significant social and economic repercussions, including heightened security expenses, reduced property values, and decline in community morale (Smarrelli et al., 2024; Turanovic & Siennick, 2022). In response, schools have adopted various security measures, including metal detectors, surveillance cameras, and armed security personnel to fortify their campuses (Lamoreaux & L. Sulkowski, 2019). While these measures can enhance physical security, they may also negatively impact school climate, student wellbeing, and academic performance (Lamoreaux & Sulkowski, 2019).

Rooted in situational crime prevention theory, which emphasizes how the design and management of spaces influence human behavior, CPTED has emerged as a highly effective and versatile strategy for reducing crime across various settings (Cozens & Love, 2015; Freilich & Greene-Colozzi, 2024). This approach acknowledges the significant impact of environmental factors on criminal behavior and seeks to decrease opportunities for crime and enhance perceptions of safety by strategically designing and managing the physical environment. While research has demonstrated the effectiveness of CPTED in terms of reducing crime and enhancing safety in residential and commercial settings, its application within K-12 schools has not been thoroughly explored. This lack of focus represents a significant gap in the current body of knowledge. Recent research has focused on understanding and evaluating CPTED principles within school environments, emphasizing the need for further exploration regarding how these principles can be adapted and implemented to address unique challenges of school

settings. I addressed a crucial gap in current research by examining how strategic application of CPTED principles can enhance safety in K-12 schools. By drawing on real-world experiences and expertise of crime prevention professionals, the research offers valuable insights regarding this topic.

Problem Statement

This study involved examining the critical issue of targeted violence in K-12 schools across the United States, which is a growing and urgent concern. Such traumatic events not only disrupt learning environments, but also compromise safety and wellbeing of students and staff, ultimately destroying confidence in the security of schools (Crowe & Sorensen, 2012; Lamoreaux & Sulkowski, 2020). Although accurately measuring the prevalence of these incidents is difficult due to factors such as underreporting and inconsistent data collection methods, available evidence indicates an increased frequency of targeted attacks on school campuses (Leone et al., 2017; Silva & Greene-Colozzi, 2022). These incidents often result in significant harm, underscoring the pressing need for proactive and evidence-based strategies to create safer and more secure learning environments.

To enhance safety, schools have implemented a range of security measures, including the addition of metal detectors, locked entrances, surveillance systems, and security personnel (Lamoreaux & Edelstein, 2020). While these security enhancements may provide an immediate response and offer some sense of security, they frequently result in a fortress-like environment that negatively impacts atmospheres of schools, raises expenses, and does little to address underlying causes of violence (Cornell &

Mayer, 2010; Highberger et al., 2022). This creates a counterproductive cycle, where heightened security measures fail to prevent recurring incidents of violence. To break this cycle, researchers and practitioners are exploring alternative strategies such as CPTED an innovative approach that offers a proactive and comprehensive framework for improving safety in K-12 schools.

Purpose of the Study

This study involved exploring perspectives of crime prevention professionals regarding implementation of CPTED strategies to address and reduce targeted violence in K-12 schools. I sought to understand how these strategies can be effectively integrated into school environments to enhance safety and security. CPTED is a multidisciplinary approach that is aimed at reducing criminal behaviors and alleviating fear of crime by strategically applying environmental design principles to physical spaces such as building layouts, lighting, and landscaping features (Cozens et al., 2005). I aimed to highlight best practices, challenges, and opportunities for leveraging CPTED principles to create safer educational settings for students and staff. Additionally, I addressed a critical knowledge gap by investigating how CPTED principles can be adapted to meet the unique needs of schools, thereby reducing opportunities for violence, enhancing security, and fostering positive and safe school climates.

Research Questions

The following research questions were developed to address the identified research gap:

RQ1: How do crime prevention professionals perceive the effectiveness of using CPTED to mitigate targeted violence in K-12 schools?

RQ2: What challenges do crime prevention professionals perceive when using CPTED to mitigate targeted violence in K-12 schools?

Theoretical Framework for the Study

The situational crime prevention (SCP) theory, a key criminological theory for preventing violence, was the theoretical framework for this study. Developed in the 1970s, the SCP was widely adopted as a crime deterrence strategy to "increase the risks and challenges of committing crime while reducing its potential rewards" (Clarke, 1995, p. 91). Grounded in rational choice and routine activities theories, it involves taking a pragmatic approach to understanding criminal behavior. Modifying physical environments can effectively influence and guide individual decisions and actions (Cozens et al., 2005). Understanding the connection between the physical environment, human behavior, and targeted violence is crucial for assessing how CPTED strategies can help reduce violence on school campuses. The core principles of the SCP theory, target hardening, access control, natural surveillance, and territoriality, closely align with foundational concepts of CPTED, making it an ideal theoretical foundation for this study. Chapter 2 includes a more comprehensive analysis of the SCP theory.

Nature of the Study

A generic qualitative research design was used to explore crime prevention professionals' perceptions regarding the use of CPTED to reduce targeted violence in K-12 schools. This methodological approach was chosen for its capacity to facilitate an in-

depth examination of participants' perspectives, experiences, and insights. In contrast to more structured qualitative methods, such as phenomenology or grounded theory, the generic qualitative design was adaptable to comprehensively investigate the research problem without being constrained by rigid procedural frameworks. This flexibility was particularly valuable considering the limited body of existing research.

To address the research questions, data were collected through semi-structured, questionnaire-guided interviews with a purposeful snowball sample of 10 crime prevention professionals with at least 5 years of experience with crime prevention, safety, or security. This provided an opportunity to gather rich and detailed data from participants, allowing for a deeper understanding of their perspectives and experiences. This approach also provided flexibility during the questioning process, allowing follow-up questions based on responses. Interview transcripts were analyzed using Braun and Clarke's reflexive thematic analysis, which is designed to systematically identify, analyze, and interpret patterns within data.

Definitions

Access Control: Strategies and design elements that regulate, control, and guide the flow of people into, out of, and within a given environment. This can include features such as fences, gates, locks, and other physical barriers, as well as more subtle design elements that influence how people move through and use the space (International Crime Prevention Through Environmental Design Association, n.d.).

Activity Support: Conscious effort to foster community engagement, social interaction, and a sense of collective responsibility within designated areas (International Crime Prevention Through Environmental Design Association, n.d.).

C*rime Prevention Through Environmental Design (CPTED):* A multidisciplinary approach to deterring criminal behavior and reducing the fear of crime by strategically applying environmental design principles to the built environment (Jeffery, 1971).

Maintenance: The ongoing upkeep and management of the physical environment to convey a sense of order, ownership, and active management, thereby discouraging criminal activity (Jeffery, 1971).

Natural Surveillance: Arranging physical features, activities, and people in ways that maximize the ability to observe and monitor activities in public spaces. This can include lighting, clear sightlines, and placement of windows and entrances (Amiri et al., 2019).

Targeted Violence: Attacks or threats of violence that are perpetrated in schools and other environments driven by an attacker's motives, grievances, or ideology (Alathari et al., 2019).

Territoriality: Strategies that cultivate a sense of ownership, responsibility, and control over a space in order to discourage criminal behavior and encourage prosocial actions among legitimate users of that environment. This can be accomplished through symbolic and physical boundary markers (Cozens et al., 2019).

Assumptions

This study involved a few key assumptions. First, it was assumed that the participants were experts in safety and security initiatives, such as CPTED, making them uniquely qualified to provide insights regarding relevance, feasibility, and potential challenges of CPTED in K-12 schools. Their subject matter expertise positioned them to contribute meaningful perspectives to research. Second, it was assumed that participants provided honest, thoughtful, and unbiased responses, sharing their experiences and opinions openly. Lastly, it was assumed that the data reflected broader perceptions of crime prevention professionals. These assumptions were vital to the study, as they underscored the critical role of these specialists in terms of shaping and informing research objectives through their expertise and knowledge.

Scope, Delimitations, and Limitations

This study aimed to fill a critical knowledge gap by examining perceptions of crime prevention professionals regarding the use of CPTED principles to reduce targeted violence in K-12 schools. By focusing on perspectives of experienced professionals, I aimed to leverage their expertise and practical insights. To ensure relevance and depth of findings, participants had a minimum of 5 years of experience with crime prevention, safety, or security. Their perspectives provide valuable guidance for future research, policy decisions, and implementation strategies to enhance school safety through the strategic application of CPTED principles.

This study had certain limitations primarily arising due to the inherent subjectivity of qualitative data collection and analysis, which may have led to researcher bias. While

qualitative research invariably involves interpretation, in order to maintain objectivity, it is important to acknowledge the potential influence of my perspective as a researcher on the analysis. To mitigate this, I consciously differentiated my role as a researcher from my professional expertise with CPTED, ensuring prior knowledge or assumptions did not influence the findings. Furthermore, the study's reliance on self-reported data introduced potential biases, such as social desirability bias (participants skew their responses to present a more favorable image) or recall bias (participants' ability to remember or recount past experiences accurately). These factors could have impacted the accuracy, completeness, and reliability of the data. Strategies were implemented to strengthen the study's validity, including triangulating data with additional sources and maintaining transparency throughout the analytical process. However, these limitations should be taken into account when interpreting findings and drawing broader conclusions.

Additionally, the relatively small sample size may limit the generalizability of findings to the broader population of crime prevention professionals, as a limited number of participants may not fully represent diverse experiences and opinions across the field. I focused exclusively on perspectives of crime prevention professionals, which may not fully capture views or concerns of other key stakeholders such as educators, school administrators, students, and parents. Each of these groups brings unique perspectives and experiences that could contribute to a more comprehensive understanding of the topic. It is also important to note that findings may not apply to other school settings or countries, as differences involving cultural norms, legal frameworks, educational systems, and societal values can significantly influence the nature and effectiveness of

crime prevention strategies. These contextual factors highlight the need for further research to explore how such strategies may vary and adapt across different environments.

Significance

This study offers significant benefits in terms of crime prevention, education, and community safety. First, it fills a gap in existing literature by examining perspectives of crime prevention professionals regarding CPTED implementation in K-12 schools. This offers insights regarding how CPTED principles can be applied in school environments. Next, findings enhance understanding of challenges and opportunities associated with implementing CPTED principles in K-12 schools to prevent targeted violence. By identifying best practices, research contributes to the development of more effective strategies for fostering safer school environments, reducing risks of violent incidents, and promoting the well-being of students and staff. Additionally, the study helps bridge the gap between theory and practice by offering practical guidance on adapting CPTED principles to the specific needs of K-12 schools. Findings have the potential to shape local, state, and national policy decisions, supporting evidence-based resource allocation and creation of targeted interventions.

Summary

Targeted violence in K-12 schools remains a critical concern, and current solutions are not adequate to address this complex issue. CPTED strategies, which focus on modifying physical environments to reduce crime and fear, have shown promise in various settings. However, research on CPTED's effectiveness in schools, particularly

regarding targeted violence, is limited. Using a generic qualitative research design, I examined the views of crime prevention professionals regarding the use of CPTED strategies to reduce incidents of targeted violence in K-12 schools. By examining perceptions of experts, I aimed to provide practical guidance that can be used to make schools safer.

Chapter 2 includes an in-depth review of literature, focusing on key themes that are central to this study. I explore the issue of targeted violence in K-12 schools, core principles and strategies of CPTED, and implementation within educational environments. Additionally, I identify notable gaps and limitations in research. Chapter 3 includes an outline of the study methodology, research design, participant selection process, data collection methods, and data analysis techniques. I explain the rationale for the chosen approach, ethical considerations, and steps to ensure accuracy and validity during the research process.

Chapter 4 includes an in-depth analysis of the study's findings, including a detailed examination of key themes that emerged from interviews and observations. I explore participants' perceptions, personal experiences, and insights, revealing valuable perspectives regarding the complexities of issues. In Chapter 5, I synthesize key themes to draw meaningful conclusions and critically examine how they relate to current literature and broader implications. I emphasize how these insights can inform policy decisions and practical interventions, particularly in terms of crime prevention and school safety. Special attention is given to applying these findings to create safer school

environments and develop more effective strategies to address crime and its impacts on communities.

Chapter 2: Literature Review

Since 2005, the frequency and severity of targeted violence in K-12 schools have risen significantly, becoming a critical concern for educators, law enforcement, and the general public (Turanovic & Siennick, 2022). While comprehensive data on these incidents is often delayed and incomplete, recent findings from sources such as the National Center for Education Statistics (NCES), the K-12 School Shooting Database, and other government reports shed light on the complexity of this growing issue. For instance, the latest NCES data show that during the 2021-2022school year, 75% of public schools reported at least one violent incident, with 29% experiencing serious violent crimes such as rape, sexual assault, robbery, and aggravated assault. Additionally, 3% reported at least one incident related to hate crimes (Burr et al., 2024). During 2023, 350 incidents were reported on K-12 campuses, resulting in 249 injuries and fatalities. Numbers for 2024 included 332 incidents, resulting in 267 injuries and fatalities. In just the first 6 months of 2025, there have already been 119 incidents (Riedman, 2025). These statistics highlight the diverse forms of violence that occur on K-12 school campuses, emphasizing the urgent need for more effective prevention strategies and a deeper exploration of underlying factors driving school violence.

Targeted violence incidents shatter perceptions that schools are safe, leaving students, parents, and educators feeling vulnerable, anxious, and scared. Often, the immediate and resounding response is to intensify school security with target-hardening measures, such as locking buildings, installing metal detectors and security cameras, employing armed security officers, having children carry bulletproof backpacks, and even

having teachers carry firearms (Lamoreaux & Sulkowski, 2020). While these approaches may offer an immediate response and create a perceived sense of security, the effectiveness of these measures in terms of preventing targeted school violence remains debated. A recurring theme in the literature highlights that physical target-hardening security measures often negatively impact school environments. In some cases, these measures have even been linked to rises in school crime and violence (Lamoreaux & Sulkowski, 2019). Researchers and practitioners have called for more comprehensive and evidence-based approaches to school safety and violence prevention, shifting the focus from target-hardening to emphasizing both physical and psychological aspects of safety.

Addressing school violence is a complex challenge that requires holistic, comprehensive, and evidence-based strategies for both prevention and intervention. CPTED has gained recognition as a highly effective approach to reducing crime in various settings. Using practical and proactive tactics, such as enhancing natural surveillance, limiting access control, and maintaining spaces, CPTED involves modifying built environments to reduce opportunities for criminal and violent behaviors (Shariati, 2021). CPTED has successfully reduced crime in various settings, including residential areas, public spaces, commercial and government buildings, and college campuses (Armitage & Monchuk, 2017; Shariati, 2021). However, there is a notable gap in studies exploring the implementation and effectiveness of CPTED strategies within the specific context of K-12 schools, particularly in terms of addressing targeted acts of violence (Lee et al., 2023; Vagi et al., 2018).

This chapter includes a thorough analysis and synthesis of existing research on targeted violence in K-12 schools, strategies for prevention, and the role of CPTED as both an alternative and complementary approach to enhancing school safety. I outline the literature search methodology, steps to identify and evaluate relevant studies, and the theoretical framework. By integrating insights from prior research with a focus on practical applications, I seek to contribute meaningfully to ongoing efforts to create safer and more secure learning environments.

Literature Search Strategy

Information was gathered through a comprehensive review of peer-reviewed journal articles, government and industry reports, and other academic publications. I used the following keywords: *K-12 school violence*, *school shootings*, *targeted violence*, *targeted acts of violence*, *school crime*, *school security*, *school safety*, *crime prevention*, *environmental design*, *crime prevention through environmental design*, and *CPTED*. I used the following databases: ProQuest Central, Criminal Justice, PsycINFO, Taylor and Francis Online, SAGE Journals, ERIC, Thoreau via the Walden University Library, and Google Scholar.

I searched for sources that were published between 2021 and 2025, emphasizing the most recent and relevant scholarly work. However, given the critical nature of the subject, older sources were also included if they were highly influential and relevant to the field. Due to limited research on directly applying CPTED in K-12 school settings, a key strategy for the literature search involved analyzing reference lists of sources. Each source was rigorously evaluated for quality, validity, and reliability, with careful

consideration of research methodologies, sampling techniques, and data analysis methods.

Theoretical Foundation

Theoretical frameworks form the cornerstone of any research study, providing logical and evidence-based explanations for real-world phenomena. They help structure events, uncover underlying causes, predict future outcomes, and reveal deeper insights into their nature and significance (Grant & Osanloo, 2015). As such, the theoretical foundation of a study is crucial in informing research design and methodology, guiding data collection and analysis, and interpreting findings. This comprehensive literature review is grounded in the Situational Crime Prevention Theory (SCP), which serves as the primary theoretical framework for applying CPTED in K-12 school settings to prevent targeted violence.

Situational crime prevention (SCP) is a crime reduction strategy that "seeks to reduce opportunities for specific categories of crime by increasing the associated risks and difficulties and reducing the rewards" (Clarke, 1995, p. 91). According to Clarke (1995), SCP differs from other criminological perspectives, in that it focuses on the situational aspects of the environment, rather than the characteristics of the offender. Drawing upon rational choice and routine activities theories, SCP posits that crime is neither random nor solely the result of deep-seated social causes (Freilich & Greene-Colozzi, 2024). Instead, crime occurs when motivated offenders encounter suitable targets in the absence of capable guardians. Thus, SCP strategies aim to modify the physical environment to make criminal acts more difficult and less rewarding, ultimately

discouraging potential offenders. The foundation of CPTED rests on the belief that the design and management of the built environment can influence human behavior and reduce the likelihood of crime (Cozens & Love, 2015).

The SCP theory originated in research conducted by the British Government's Criminological Research Department in the 1970s (Lee, 2010). This research revealed that many crimes were opportunistic and influenced by immediate situational factors, rather than being the result of broader social or psychological conditions (Freilich & Greene-Colozzi, 2024). Ronald Clarke, a renowned criminologist, is widely recognized for introducing the term "situational crime prevention" in the early 1980s, a concept that gained momentum as evidence accumulated supporting its effectiveness in reducing various types of crime. This approach eventually paved the way for the development of CPTED, as subsequent research built on Clarke's work demonstrated that modifying the physical environment through strategies such as enhanced surveillance, access control, and territorial reinforcement can significantly lower crime rates across different contexts (Lee et al., 2023; Shariati, 2021; Shariati & Guerette, 2019).

The situational crime prevention theory provides essential insights into applying CPTED principles in K-12 schools to reduce the risk of targeted violence. By understanding how environmental factors influence the occurrence of targeted acts, school administrators and security personnel can implement proactive measures to deter potential offenders and create safer learning environments. Restricting access to school buildings through controlled entry points, upgrading surveillance systems to detect suspicious activity, and clearly defining territorial boundaries can significantly reduce

opportunities for violence while increasing the perceived risk for potential offenders (Sakina, 2020). Research indicates that modifying the physical environment, such as strategically placing windows to enhance natural surveillance, improving lighting to boost visibility, and designing landscaping to eliminate hiding spots, can foster a stronger sense of safety and effectively deter potential attackers (Cozens et al., 2005; Lee, 2010).

Although limited, the existing literature on applying environmental design principles to prevent crime and targeted violence in schools suggests that these strategies can significantly enhance safety and security within educational settings (Chiu et al., 2020; Lee, 2010; Tilley & Sidebottom, 2014). These principles, often categorized under CPTED, involve careful planning and management of the physical environment to reduce opportunities for harmful behavior while fostering a sense of control and community. By examining the design and management of school buildings, grounds, and surrounding areas, researchers and educators can identify environmental factors that may contribute to or mitigate the risk of targeted violence (Lamoreaux & Sulkowski, 2019, 2020). For example, ensuring clear sightlines, controlling access points, maintaining well-lit spaces, and promoting natural surveillance are key strategies that can deter potential threats and create safer school environments. As schools continue to prioritize student safety, understanding and implementing these design principles become increasingly critical in addressing risks proactively (Lee et al., 2023).

Literature Review Related to Key Concepts

Understanding Targeted Violence in K-12 Schools

K-12 schools encounter a wide range of challenging behaviors throughout the academic year, including bullying, theft, vandalism, physical assaults, gang activity, and incidents involving weapons (Mayer & Astor, 2022). Among these concerns, targeted violence emerges as a particularly critical issue that demands dedicated attention. As a specific subset of school violence, targeted violence includes severe acts, such as issuing serious threats against students, staff, or the broader school community, bringing weapons onto school grounds, committing aggravated assaults, and carrying out school shootings (U.S. Secret Service National Threat Assessment Center, 2021). According to the U.S. Secret Service National Threat Assessment Center (2021), these incidents are premeditated, intentional acts of violence or harm directed toward specific individuals, groups, or communities, such as a school campus. While targeted violence on school campuses is relatively rare (Turaknovic & Siennick, 2022), research reveals that they have steadily risen over the past 50 years (Joseph et al., 2024).

This troubling trend highlights the pressing need for educators, researchers, and policymakers to thoroughly examine the root causes of these violent acts and implement effective, evidence-based solutions to address this urgent issue. The impact of such incidents is far-reaching, sending shock waves through school communities with devastating consequences. They instill fear, cause deep emotional trauma, and severely disrupt the learning environment. These challenges weigh heavily on students, teachers, and administrators as they strive to maintain a safe and supportive learning environment

(Nickerson et al., 2021). Although these events are relatively rare, their far-reaching and lasting impact underscores the critical importance of a comprehensive and multifaceted strategy to prevent and address targeted violence in K-12 schools.

Understanding the factors that contribute to targeted violence in K-12 schools is crucial for developing effective prevention and intervention strategies. Research highlights that individuals responsible for such acts often display various risk factors, including trauma, exposure to violence, mental health challenges, and insufficient access to appropriate support systems and resources (Eisenbraun, 2007; Reddy et al., 2001; Turanovic & Siennick, 2022; Verlinden et al., 2000). Additionally, feelings of social isolation, personal grievances, rejection, or marginalization can significantly contribute to an individual's propensity for violence (Murakami et al., 2006; O'Toole, 2020; Reddy et al., 2013). A recent report from the National Institute of Justice highlights that delinquent and antisocial behavior is the strongest indicator of school violence, followed closely by mental health challenges and peer rejection (Turanovic & Siennick, 2022). These risk factors can increase an individual's likelihood of engaging in targeted acts of violence, particularly when combined with additional social and environmental influences.

An additional factor that can contribute to targeted violence is the school's climate and culture. The literature indicates that schools characterized by high levels of bullying, discrimination, and a lack of inclusivity may inadvertently create environments that escalate tensions and provide a breeding ground for potential violence (Cox-Wingo & Poirier, 2019). According to studies conducted by Jonson et al. (2018) and Nickerson et al. (2021), schools with negative climates and cultures often struggle with issues such

as student and staff disrespect, inadequate conflict resolution, and a general lack of support for students' emotional and social needs. These factors can further isolate vulnerable students and increase their likelihood of resorting to violence as a means of addressing their grievances or seeking attention. Furthermore, schools located in disadvantaged and high-crime areas tend to exhibit higher rates of serious violence (Turanovic & Siennick, 2022).

On the other hand, research shows that school environments that promote a positive, supportive, and inclusive environment, characterized by respectful relationships, effective communication, and strong mental health support, can act as a protective factor and reduce the likelihood of targeted violence (Bradshaw & Cohen, 2021; Jonson et al., 2018; Turanovic & Siennick, 2022). A study conducted by Bradshaw and Cohen (2021) found that schools that actively cultivate a positive climate experience lower rates of violence, bullying, and other forms of antisocial behavior. When students feel connected, supported, and valued within their school community, they are less likely to experience feelings of isolation or marginalization that may contribute to violent behavior. Moreover, when schools prioritize proactive measures, such as implementing anti-bullying programs, promoting diversity and inclusion, and offering comprehensive mental health services, they create a safer and more supportive environment for all students (Favre et al., 2024).

Research on targeted violence in K-12 schools highlights the importance of understanding the complex causes and risk factors behind such incidents. While these acts of violence may be rare, they are rarely simple, stemming from a combination of

individual, social, and environmental influences (Turanovic & Siennick, 2022). Effectively addressing this issue requires a deeper, more nuanced approach that considers its interconnected elements to craft a comprehensive solution. This approach should extend beyond immediate physical security concerns to prioritize the broader social and emotional well-being of students. Moreover, strategies must be tailored to the unique needs of each school and community, addressing specific risk factors while fostering positive, supportive school environments (Lenhardt et al., 2010; Maring & Koblinsky, 2013).

Current Strategies to Manage School-Based Violence

To combat the threat of targeted violence in K-12 schools, a range of strategies have been adopted to enhance safety and prevent incidents. These measures include strengthening physical security with locks, surveillance systems, and controlled access points; deploying security personnel, such as school resource officers, to monitor campuses; implementing both zero-tolerance policies and positive behavioral intervention programs; utilizing threat assessment tools and reporting systems to identify risks early; and conducting regular safety drills; and emergency preparedness training for students and staff (Cornell et al., 2021). Arming school personnel has also been proposed, but remains a divisive and controversial topic (Jackson et al., 2023). Each of these strategies seeks to foster a safer school environment. However, according to the literature, their effectiveness and impact on students' well-being continue to be closely examined and debated (Cornell et al., 2021; Nickerson et al., 2021).

Physical Security Measures

Enhancing physical security, also known as “target hardening,” is a common strategy employed by schools to prevent violence and other threats. This involves implementing measures that make it more difficult for potential aggressors to access school buildings and carry out attacks (Green, 2020). Some of the most common physical security measures include controlling access, installing surveillance technology, using metal detectors, and implementing emergency alert systems. Target hardening measures are designed to deter potential attackers, delay or prevent their entry into the school, and improve the ability of school staff and law enforcement to respond effectively in the event of an incident (Moore et al., 2021). While these measures can help deter some threats and provide a sense of security, researchers have raised significant concerns about their overall effectiveness and unintended consequences.

Two significant studies have explored the effectiveness of physical security measures in schools. Jennings et al. (2011) conducted a nationwide study involving 954 U.S. high schools to evaluate whether measures like surveillance cameras, closed-circuit television systems, metal detectors, and access control devices effectively reduced violence on campus. Their results revealed that these physical security measures had minimal to no impact on mitigating school crime or targeted violence. Similarly, Tanner-Smith et al. (2018) analyzed data from the School Survey on Crime and Safety to assess the influence of visible security tools, such as surveillance cameras, metal detectors, and security personnel, on students' exposure to violence. While these measures may offer a

sense of security, the study found they had little to no effect on actually reducing incidents of school violence, including targeted attacks.

Researchers, including Flannery et al. (2021) and Lamoreaux and Sulkowski (2019, 2020), warn that relying too heavily on physical security measures in schools, such as metal detectors, surveillance cameras, and armed guards, can create a false sense of security. While these tools may deter some threats, they often fail to address the underlying issues that contribute to school violence. This overemphasis on physical safety can lead to complacency in other critical areas, such as investing in mental health support, student counseling services, and comprehensive violence prevention programs that focus on early intervention. Without a balanced approach that prioritizes both physical and emotional safety, schools risk neglecting the root causes of violence, such as bullying, social isolation, and mental health struggles, leaving students vulnerable despite the presence of visible security measures (Brissett et al., 2025; Lamoreaux & L. Sulkowski, 2019; Robinson et al., 2025).

Physical security measures in schools can also have an unintentional negative impact on students, staff, and the overall school atmosphere (Steiner et al., 2021). While some students and school staff have reported feeling safer with security measures, such as locked doors and perimeter fencing (Mowen & Freng, 2018), excessive use of target hardening measures can create a punitive, fortress-like environment that can create anxiety and fear among students and staff (Lamoreaux & Sulkowski, 2019). In such environments, students may feel isolated, monitored, and mistrusted. This, in turn, undermines the sense of community that is essential for fostering a positive and

supportive school climate (Lamoreaux & Sulkowski, 2020). Perumean-Chaney and Sutton (2013), using data from the National Longitudinal Study of Adolescent Health, explored how highly visible security measures influence students' perceptions of safety and fear of victimization. Their findings revealed that the presence of large locking mechanisms on doors, metal detectors, and security officers on patrol heightened students' concerns about safety, an issue exacerbated by the prevalence of other visible security measures within the school environment (Mowen & Freng, 2018).

Security Personnel

The presence of security personnel in schools, particularly school resource officers (SROs), has become increasingly prevalent in recent years, sparking ongoing debate and scrutiny regarding their role and impact. SROs are sworn law enforcement officers assigned to schools, responsible for maintaining order, preventing crime, and ensuring the safety of students and staff (Paige & Bushway, 2024). Their primary goal is to deter potential threats and respond swiftly and effectively to incidents as they arise. However, the literature has produced mixed findings regarding the impact of SROs on school safety and student well-being (Cornell et al., 2021; Edwards & Edwards, 2024).

Some studies have found that security personnel can help reduce disruptive behaviors and lower the incidence of violent incidents on school campuses (Highberger et al., 2022). By establishing a visible presence, SROs may deter potential offenders and provide a sense of security for students and staff. Jonson and her colleagues (2018) found that security officers were related to an increased perception of safety among students in middle and high schools. Additionally, SROs can serve as valuable resources for students

and school staff, providing guidance, mentorship, and support in addressing conflicts and behavioral issues (Gottfredson et al., 2020). However, other research suggests that the presence of SROs may not always lead to improved school safety outcomes.

While the presence of SROs may offer certain benefits, such as deterring potential threats and providing rapid response capabilities, it is essential to consider the potential drawbacks and unintended consequences associated with their presence in schools. Critics argue that SROs have little to no effect on the overall safety and security of school environments and may even contribute to a heightened sense of fear and anxiety (Mowen & Freng, 2018). Paige and Bushway (2024) and Gottfredson et al. (2020) explored the impact of SROs on exclusionary disciplinary practices. Their findings reveal that schools with SROs experience higher rates of student suspensions and expulsions compared to those managed solely by school administrators. An additional concern is that the presence of SROs in schools can disproportionately affect students from marginalized communities, leading to increased rates of disciplinary actions and involvement in the juvenile justice system (Edwards & Edwards, 2024; Gottfredson et al., 2020).

Arming School Personnel

Following the 2018 Marjory Stoneman Douglas High School shooting, a public commission investigating the tragedy recommended arming teachers (Romo, 2019). The proposal suggests that training and authorizing teachers or school staff to carry concealed firearms on campus could serve as both a deterrent and a means to swiftly respond to active shooter incidents. Proponents of this approach argue that armed teachers can act as immediate responders, potentially saving lives during a crisis when law enforcement

response times may be delayed. In fact, twenty-eight states now permit school security officers to carry firearms, and at least 466 school districts in 19 states allow teachers or staff members to be armed (Jonson et al., 2021).

Critics have raised serious concerns about the concept of arming school staff, warning that introducing more firearms into schools could heighten the risk of accidents, unintentional shootings, and the escalation of minor conflicts into deadly incidents (Flannery et al., 2021; Jonson et al., 2021). Opponents argue that expecting teachers, who are already burdened with numerous responsibilities, to undergo extensive training and maintain the skills required to safely manage firearms during an active shooter situation, is both impractical and unreasonable (Jonson et al., 2021; Jackson et al., 2023). Furthermore, they point out that accidental discharges, mishandling of firearms, and the potential for weapons to fall into the wrong hands pose significant dangers in a school environment (Jonson et al., 2021).

Security Drills

Since the tragic Columbine High School shooting in 1999, security drills have become an integral part of school safety protocols. The Columbine Review Commission credited lockdown procedures with saving the lives of students and teachers during the incident, highlighting their critical role in crisis situations (Schildkraut et al., 2023). Today, over 95% of U.S. public K-12 schools incorporate these drills into their preparedness strategies, aiming to protect students and staff from active shooter scenarios, natural disasters, and other threats (Nickerson et al., 2021; Schildkraut et al., 2023). These drills focus on practicing lockdowns, evacuation routes, and other

emergency responses to ensure a higher level of readiness in the event of an actual incident.

Research shows that lockdown drills and emergency training are vital for equipping students and school staff to handle crises such as lockdowns, evacuations, and shelter-in-place situations. Regular practice helps participants internalize safety protocols, leading to quicker and more effective responses during real emergencies (ElSherief et al., 2021; Schildkraut et al., 2023). In their study, Schildkraut et al. (2023) examined the effects of lockdowns and security drills on school safety and preparedness. The results revealed that schools with well-implemented drills saw significantly improved emergency outcomes, including a 60% reduction in casualties. However, research also suggests that the effectiveness of lockdowns and other security drills can vary considerably depending on the nature and specifics of the incident (Jonson et al., 2018; Schildkraut & Nickerson, 2020). Therefore, it is essential for schools to regularly review, update, and adapt their emergency plans and drills based on lessons learned and evolving best practices.

There are growing concerns that school safety drills, while well-intentioned, may inadvertently have negative effects on students and staff, potentially increasing anxiety and fear (Schildkraut et al., 2019). For instance, at Franklin High School in Ohio, law enforcement officers fired a shotgun and rifle multiple times inside the building to simulate a real-world scenario, compelling students and staff to respond accordingly (Richter, 2019). In another case in Indiana, teachers were shot with plastic pellets during a training exercise (Zraick, 2019). Such excessively realistic drills have sparked criticism,

with some arguing they may do more harm than good by traumatizing participants. While drills and training are undoubtedly crucial for enhancing school safety, their design and execution must be carefully evaluated to balance preparedness with the well-being of those involved.

Zero-Tolerance Policies

In response to growing concerns about school violence, many schools implement zero-tolerance policies. Initially created in the 1990s to combat drug use and weapon possession on campuses, zero-tolerance policies have been broadened to cover a variety of incidents and involve strict disciplinary actions for any behavior deemed threatening or disruptive (Magor-Blatch, 2011). While proponents argue these policies send a clear message that violence and misbehavior will not be tolerated, critics are worried about their potential for being overly punitive and harmful. These policies impose predetermined punishments without considering context or intent, often resulting in increased suspensions, expulsions, and involvement with the juvenile justice system (Green, 2020).

Cornell, Mayer, and Sulkowski (2021), among other critics, argue that such harsh punishments can have serious consequences, including increased behavioral issues, lower academic achievement, and a higher risk of school dropout. In one instance highlighted by the American Psychological Association's 2008 report, a 10-year-old girl discovered a small knife in her lunchbox, which her mother had placed there to cut an apple. Although she promptly handed the knife to her teacher, she was expelled for possessing a weapon on school grounds. In another case, a teenager was expelled for breaking school rules by

using a cell phone to speak with his mother. His mother, a deployed soldier in Iraq, had not spoken to him in 30 days. Such instances highlight the rigidity and potential unfairness of zero-tolerance policies, raising questions about their effectiveness and impact on student well-being (Farberman, 2006).

Positive Behavioral Interventions and Supports (PBIS)

PBIS is a proactive framework designed to promote positive behavior and prevent problematic behaviors in schools (Girvan et al., 2021). According to the Center on PBIS (2025), PBIS is a comprehensive approach that uses data-driven decision-making to create school-wide systems that support the academic, social, emotional, and behavioral success of all students. This approach focuses on teaching and reinforcing desired behaviors, providing tiered interventions based on individual student needs, and promoting social-emotional learning. Recognized as a more effective and constructive alternative to traditional zero-tolerance policies, PBIS has been widely adopted by schools seeking to foster healthier learning environments (Girvan et al., 2021; Green, 2020).

Unlike zero-tolerance approaches, which often impose strict punishments, PBIS takes a more thoughtful and supportive approach to addressing student misbehavior. By focusing on root causes and offering preventive support, it helps reduce future incidents while encouraging lasting positive change (Casella, 2003; Cornell et al., 2021). Studies have demonstrated the effectiveness of PBIS in improving school climate, enhancing academic performance, reducing disciplinary incidents, and fostering a more positive learning environment (Lee & Gage, 2020; Nickerson et al., 2021). Lee and Gage (2020)

conducted a meta-analysis using randomized controlled trials and found that schools implementing PBIS experienced an average of 20% fewer office discipline referrals and a 15% decrease in suspensions. Additionally, McIntosh and his colleagues (2021) conducted a quasi-experimental study on school-wide PBIS implementation, finding statistically significant improvements in school outcomes, including a decrease in exclusionary discipline, improved ratings of school climate, and increased perceptions of school safety.

Behavioral Threat Assessment and Reporting Systems

Behavioral threat assessment and reporting systems are increasingly being implemented in schools alongside the PBIS approach. Both approaches allow for the identification and evaluation of potential threats, while connecting students who display concerning behaviors to appropriate interventions and support services, significantly reducing the likelihood of violence (Bartlett, 2023; Cornell, 2023). Shortly after the Parkland school shooting in 2018, the U.S. Secret Service National Threat Assessment Center (NTAC), in partnership with the U.S. Department of Education, released the guide Enhancing School Safety Using a Threat Assessment Model. This comprehensive resource outlines an 8-step process for creating an effective targeted violence prevention plan. Key elements include forming a multidisciplinary threat assessment team, identifying concerning behaviors, and implementing tailored intervention and management strategies to address each student's unique needs (NTAC, 2018).

A recent report by the NTAC (2023) presents findings from an extensive five-year study examining 173 targeted attacks that took place between 2016 and 2020 in public or

semi-public spaces across the U.S., including businesses, schools, houses of worship, and open public areas. The analysis revealed that nearly 90% of attackers exhibited concerning behaviors before their actions, while over 75% had documented histories of criminal charges, mental health struggles, or substance abuse issues (NTAC, 2023). These findings underscore the importance of proactive behavioral threat assessments in identifying and mitigating potential threats before they escalate into acts of violence. However, the literature also highlights criticisms of threat assessment systems, particularly in terms of equity and potential for discriminatory practices, increased law enforcement involvement, and negative impacts on school climate (Conwell & Elam, 2024; Silva & Madfis, 2025). Such criticism underscores the importance of thoughtful implementation, ongoing evaluation, and a commitment to equity and fairness in these systems.

Implications of Targeted Violence at K-12 Schools

Research demonstrates that targeted violence on K-12 school campuses has profound, far-reaching, and lasting impacts. Beyond the immediate physical harm, such incidents can severely disrupt the learning environment, heighten anxiety and fear among students and staff, and undermine the overall sense of safety and security (Moore et al., 2021). Studies by Mayer and Astor (2022) and Flannery et al. (2021) reveal that students often experience heightened levels of anxiety, depression, and post-traumatic stress following violent events like school shootings. These incidents also contribute to a decline in academic performance and student engagement. For school personnel, the aftermath of violence can bring significant challenges, including emotional distress,

increased workloads, burnout, and ongoing fears about their ability to protect both themselves and their students (Cuellar, 2016; Highberger et al., 2022; Silva & Greene-Colozzi, 2022).

In addition, the economic costs of school violence are substantial, encompassing a wide range of expenses, including investments in security measures, such as surveillance systems, metal detectors, and additional personnel, to ensure campus safety (Cornell et al., 2021; Moore et al., 2021). Costs also include increased mental health services and counseling for affected students, staff, and families, as well as any legal proceedings related to incidents that occur on school grounds. Furthermore, the broader economic impact extends into the surrounding community, where school violence can lead to decreased property values and reduced economic activity (Glover, 2023; Turanovic & Siennick, 2022). Families may become reluctant to send their children to schools in affected areas, and local businesses may suffer as community members become less inclined to frequent establishments near troubled schools. This ripple effect underscores the profound and far-reaching impact of school violence, affecting both individual lives and the broader well-being of communities (Smarrelli et al., 2024).

Over the past two decades, school systems nationwide have widely adopted the safety and security measures discussed. However, their effectiveness and potential unintended consequences remain subjects of ongoing debate. Research by Conwell and Elam (2024), Flannery et al. (2021), and Steiner et al. (2024) all suggest that many security measures employed in K-12 schools lack empirical evaluation or yield inconsistent and contradictory results. For example, while measures like controlled access

to buildings and active shooter drills are intended to enhance safety, critics argue they can also contribute to a heightened sense of fear and anxiety among students, creating a punitive and unwelcoming school climate (Fisher et al., 2018). Moreover, research indicates that the presence of security officers in schools does not necessarily deter school shootings or reduce violence (Nickerson et al., 2021). Despite the lack of conclusive evidence supporting the effectiveness of many school security measures, schools have continued to substantially invest in them (Mowen & Freng, 2018).

Further research is crucial to assess and enhance these measures through evidence-based strategies that ensure school safety is addressed comprehensively and effectively. These strategies must address the complex and multifaceted nature of school violence, including prevention, intervention, and response efforts (Cornell et al., 2021; Mayer et al., 2021; Nickerson et al., 2021). The literature emphasizes the importance of adopting a holistic, comprehensive approach that combines strong and reliable physical security measures with proactive prevention strategies aimed at addressing underlying issues that contribute to violence (Cornell et al., 2021; Mayer & Astor, 2023; Mowen & Freng, 2018).

Exploring Crime Prevention Through Environmental Design

Crime prevention through environmental design, or CPTED, is a strategy that focuses on designing and managing the physical environment in ways that deter crime and promote safety. Rooted in situational crime prevention theory, which posits that crime is not simply the result of social factors, but also of opportunities presented by the environment, CPTED aims to reduce these opportunities by manipulating the built

environment (Armitage & Monchuk, 2017; Cozens et al., 2005). This approach recognizes the interplay between human behavior and the physical environment, seeking to create spaces that are both functional and secure through strategies such as enhancing natural surveillance, strengthening territoriality, controlling access, and improving target hardening (Cozens et al., 2005). The core principles of CPTED have gained global recognition as an increasingly popular crime prevention strategy, supported by governments across Europe, North America, and Australia (Cozens & Love, 2015; International CPTED Association, 2022).

CPTED Origins and Evolution

The origins of CPTED can be traced back to the work of urban planners, architects, and criminologists in the 1960s, who began to recognize the influence of urban design and the physical environment on crime rates and public safety (Cozens & Love, 2015). These professionals began exploring methods to design and organize the built environment in ways that would deter criminal activities and enhance the quality of life for both individuals and the community. Early pioneers, such as Jane Jacobs (1961), through her influential book, *The Death and Life of Great American Cities*, underscored the importance of dynamic, mixed-use neighborhoods featuring lively community engagement. Jacobs (1961) believed these elements foster natural surveillance, also known as the "eyes on the street," which can effectively deter crime and promote community safety.

C. Ray Jeffery, an American criminologist, is credited with coining the term "crime prevention through environmental design" in his 1971 book, *Crime Prevention*

Through Environmental Design. Jeffery (1971) argued that traditional crime prevention methods were inadequate because they focused primarily on law enforcement and punishment. He suggested that more consideration should be given to how the physical environment influences criminal behavior, so the environment could be modified to actually prevent crime. Jeffery (1971) believed that modifications to the environment, which fostered natural surveillance, controlled access, and reinforced territoriality, would create spaces less conducive to crime, thereby enhancing the perception of safety and community ownership. These pioneering insights laid the groundwork for what is now known as first-generation CPTED (Cozens et al., 2005).

Building on Jeffery's work, architect and urban planner Oscar Newman (1973) introduced the influential concept of "Defensible Space" in his book, *Defensible Space*. Newman's theory underscores how physical design can foster a sense of ownership and territorial control among residents, thereby deterring crime. He suggested that crime could be reduced by creating environments that residents could easily defend, through features such as clearly defined property lines, natural surveillance opportunities, and strategically located gathering spaces that encouraged interaction and a sense of community (Newman, 1973). Wilson and Kelling (1982) further contributed to the discussion on crime and the influence of the environment through their "Broken Windows" theory. This theory uses the analogy to illustrate how ignoring small problems, such as a broken window, graffiti on a building, or overflowing trash, can create an environment that encourages further crime and antisocial behavior (Lee et al., 2023; Vasquez et al., 2021).

Over the decades, CPTED's principles and applications have evolved, expanding from an initial focus on the physical environment to incorporate a more holistic and comprehensive understanding of the interplay among social, psychological, and physical factors (Cozens & Love, 2015; Johnson et al., 2014). First-generation CPTED primarily focused on manipulating the physical design and layout of the built environment to reduce both the fear of crime and actual opportunities for crime (Cozens & Love, 2015). This was accomplished by designing or enhancing the physical environment to increase visibility or natural observation, using physical or design elements to define and control access, and creating a sense of ownership and territoriality. This first generation thought process established what has become the core principles of the CPTED approach: natural surveillance, access control, territorial reinforcement, space management, and activity support. These principles provide a foundational framework for reducing criminal opportunities by modifying the physical environment (National Crime Prevention Council, 2003).

Second-generation CPTED emerged as a response to the limitations of the first-generation approach, which was criticized for placing too much emphasis on physical design and neglecting the social contexts in which crime occurs (Armitage & Ekblom, 2019; Cozens & Love, 2015). Second-generation CPTED acknowledges that crime is influenced not only by environmental factors, but also by social factors such as poverty, unemployment, and social isolation (International CPTED Association, 2022). Therefore, it is vital to integrate social factors, such as community culture and engagement, social cohesion, and place management, into CPTED strategies (Cozens et al., 2005; Mihinjac

& Saville, 2019). In a systematic review of CPTED and its impact on quality of life, Songole (2024) emphasized the importance of recognizing that second-generation CPTED should be viewed as a supplement to first-generation CPTED, not a replacement, thereby creating a more comprehensive approach. The rise of second-generation CPTED reflects a growing awareness that the physical environment is just one piece of the puzzle when it comes to preventing crime (Mihinjac & Saville, 2019).

More recently, the concept of third-generation CPTED has emerged, focusing on a more holistic view that incorporates broader aspects of sustainability, including environmental, public health, economic, and social considerations, as well as their impact on crime and safety (Gibson, 2016; Mihinjac & Saville, 2019). This generation of CPTED recognizes that issues such as poverty, urban sprawl, housing, transportation, and a lack of resources can contribute to crime and should be addressed within the framework of crime prevention strategies (Mihinjac & Saville, 2019; Zhang et al., 2023). Third-generation CPTED also acknowledges the potential of technologies such as surveillance cameras, smart lighting, and data analytics to enhance crime prevention efforts. Furthermore, it underscores the importance of creating environmentally sustainable and resilient communities through strategies such as green infrastructure and energy-efficient building designs (Cozens et al., 2015; Mihinjac & Saville, 2019; Zhang et al., 2023).

CPTED Principles and Strategies

CPTED has undergone significant evolution over three generations, expanding its focus to encompass a diverse range of social, physical, and psychological factors that influence crime and safety. While it began with an emphasis on physical design, CPTED

now integrates strategies that promote community well-being, enhance perceptions of safety, and strengthen social connections within shared spaces. Despite this progression, its foundational principles remain unchanged, serving as the cornerstone of its success. These five core principles, natural surveillance, access control, territorial reinforcement, management, and activity support, provide a clear framework for designing environments that deter crime. Together, they make CPTED a dynamic and adaptable tool for fostering safer, more connected communities (International CPTED Association, 2022).

Natural Surveillance

Natural surveillance, a key principle of CPTED, focuses on creating spaces where activities can be easily observed without relying on specialized security systems. Jeffery (2013) suggests that spaces that are designed to prioritize natural surveillance can effectively deter potential offenders. By strategically placing windows and doors, ensuring adequate lighting, and maintaining clear sightlines, designs can enhance visibility, eliminate blind spots, and ultimately reduce opportunities for crime (Liu et al., 2025). While the concept of natural surveillance initially focused on the ability of legitimate users of a space to observe their surroundings, it has expanded to encompass formal and mechanical methods of surveillance, such as CCTV security cameras. When integrated thoughtfully with natural surveillance strategies, technology can serve as a powerful force multiplier, extending the reach and effectiveness of traditional methods (Amiri & Crain, 2019; Seifi et al., 2019).

Natural surveillance plays a crucial role in fostering a sense of safety and security for legitimate users of public and shared spaces. When individuals feel secure in their

surroundings, they are more likely to actively participate in community activities, creating a lively presence that inherently discourages criminal behavior. This concept aligns with Jacobs' "eyes on the street" theory (Bako et al., 2020; Seifi et al., 2019), which highlights the significance of active observation in public spaces as a means of maintaining order and safety. Research highlights natural surveillance as one of the most effective crime prevention strategies, with numerous studies demonstrating that areas designed for visibility and community engagement tend to experience lower crime rates (Amiri & Crain, 2019; Seifi et al., 2019; Lee et al., 2016). The mere perception of being seen acts as a powerful psychological deterrent for potential offenders, reducing their likelihood of engaging in unlawful acts (Bako et al., 2020; Seifi et al., 2019; Shariati, 2021).

Casteel and Peek-Asa (2000) found that natural surveillance measures in commercial convenience stores, such as well-lit public areas, unobstructed views into the store, and strategic placement of the cash register, were linked to lower rates of robbery and assault. A study by Lee et al. (2023) investigated the impact of enhanced street lighting on property crime rates in residential areas, yielding notable findings. The research revealed that improving visibility in public spaces by enhancing the lighting, significantly reduced crime in that area. These findings highlight how thoughtful environmental design, specifically in relation to keeping "eyes on the street," can substantially contribute to the deterrence of criminal behavior. However, the implementation of natural surveillance must be approached thoughtfully to maintain a balance between safety and privacy. Excessive surveillance can foster an environment of

constant scrutiny and heightened fear, ultimately impacting residents' quality of life (Cozens & Love, 2017).

Access Control

Access control is the practice of regulating and managing who can enter or access a specific space. By preventing unauthorized entry, it not only deters crime but also ensures that legitimate users can navigate the area freely (Jeffery, 1971). However, access control goes beyond simply keeping intruders out; it also involves managing the flow of people and activities within the space (National Crime Prevention Council, 2003). Effective strategies include the strategic placement of entrances and exits, the use of physical barriers such as fences, gates, and locks, as well as purposeful landscaping to guide movement. Additional measures, such as deploying security personnel, implementing key card systems, and installing alarms, further strengthen security and control (National Crime Prevention Council, 2003; Seifi et al., 2019). By carefully managing access points and the flow of legitimate users, these methods increase the effort and risk for potential offenders, thereby reducing opportunities for crime (Vasquez et al., 2021).

Newman (1973) was a strong advocate of access control, arguing that it plays a fundamental role in creating “defensible spaces” that promote safety and security. He suggested that by clearly defining boundaries and regulating entry points, communities can foster a sense of ownership and responsibility over their environment (Newman, 1973). This sense of ownership not only discourages unwanted activity but also empowers residents to take an active role in maintaining the space, thereby enhancing

safety and security. The effectiveness of access control strategies in reducing crime is well-supported by research. Studies by Lindenbergh et al. (2020) and Seifi et al. (2019) highlight that implementing controlled access points in areas such as residential neighborhoods or commercial properties significantly reduces criminal activity. By limiting access to potential targets and increasing the perceived risk of detection, these measures act as a powerful deterrent to crime.

A study by Hodgkinson et al. (2019) found a notable decrease in police service calls following the demolition and reconstruction of a public housing site that was designed with access control measures from the outset. The introduction of a perimeter fence, entrance gate, and proactive property management effectively regulated entry and minimized the presence of unauthorized visitors, contributing to the improved safety of the site. While access control is crucial for preventing crime and ensuring safety, overly restrictive measures can create an unwelcoming environment and alienate the people they aim to protect. Thus, it is essential to implement access control measures thoughtfully to preserve privacy, maintain mobility, and foster community interaction while still ensuring security (Cozens & Love, 2017; Reynald, 2010).

Territorial Reinforcement

Territorial reinforcement enhances security by creating a clear distinction between areas intended for public use and those considered private (Cozens et al., 2005). According to Crowe and Sorenson (2012), territorial reinforcement is based on the idea that clearly defined boundaries help establish a sense of ownership, which can deter unauthorized access and promote responsible behavior. Territorial boundaries can be

marked using both physical barriers, such as fences, walls, or landscaping, as well as symbolic cues like signage, lighting, or changes in pavement texture. Making spaces visibly defined and recognizable not only improves security but also fosters a sense of safety and control for those who use or occupy the area (National Crime Prevention Council, 2003).

The literature supports the assertion that enhancing the sense of territoriality can lead to decreased crime rates and improved community safety. Studies reveal that well-maintained properties with clearly defined boundaries are less likely to attract criminal activity (Cozens et al., 2005; National Crime Prevention Council, 2003; Seifi et al., 2019). For instance, Branas et al. (2018) demonstrated that simple interventions, such as adding fencing and landscaping to establish clear territorial boundaries, resulted in significant reductions in crime. Design elements and consistent upkeep convey a powerful message that a space is well-maintained and actively monitored, deterring potential offenders (Cozens et al., 2019; Sakip et al., 2023). Furthermore, when residents feel a strong sense of ownership over their environment, they are more inclined to protect it. This may include actions such as reporting suspicious behavior, maintaining property appearance, or addressing minor offenses directly (Lee et al., 2016; Sakip et al., 2023). The relationship between territoriality and safety underscores the importance of community involvement and thoughtful design in crime prevention.

Territorial reinforcement strategies must be carefully tailored to the needs and context of each space. Overly aggressive or exclusionary approaches can promote social isolation and harm community cohesion (Vangara & Krishna, 2023). While effective in

deterring crime, these strategies can create vulnerabilities (National Crime Prevention Council, 2003). High walls or fences that define private property can also isolate residents, limit natural surveillance, and inadvertently increase the perception of being in an unsafe environment (Seifi et al., 2019). Similarly, poorly designed spaces may facilitate crime by obstructing visibility or blocking escape routes (Cozens & Love, 2017; Seifi et al., 2019). To prevent crime effectively while preserving social cohesion and community well-being, a balanced approach to leveraging territoriality is crucial (Cozens et al., 2005).

Management

The management of a space is crucial to CPTED, as it ensures the long-term effectiveness of security measures and fosters a sense of community pride and ownership. Cozens et al. (2005) emphasized that effective maintenance and management are essential because well-kept spaces project a sense of care and attentiveness, discouraging potential criminals. Regular upkeep, such as making prompt repairs, maintaining landscaping, and cleanliness, signals that the area is being cared for and valued. This sends a message to potential offenders that illicit activities are likely to be noticed and addressed, which can deter them. These concepts align with the “broken windows theory”, which suggests that visible signs of neglect and disorder can foster more severe crime and antisocial behavior (Reynald, 2010).

Management practices also play a significant role in fostering community engagement and cooperation. When residents feel connected to their neighborhood and have a sense of collective responsibility, they are more likely to participate in efforts to

maintain and protect their community. Alderden et al. (2023) propose that a strong sense of collective efficacy, an inherent feeling of shared responsibility among neighbors, empowers communities to actively address issues such as vandalism, noise complaints, and suspicious activities. Initiatives such as community watch programs, neighborhood associations, and volunteer efforts further strengthen this sense of shared ownership, promoting social cohesion and contributing to crime reduction.

In addition to managing and maintaining the physical space, proper maintenance and management of physical security devices are essential to ensuring their effectiveness and reliability. Access control systems, surveillance cameras, and alarms are critical components of a secure environment, but they require regular inspections, testing, and upkeep to perform optimally. Neglecting these essential maintenance tasks can result in malfunctions, false alarms, or security gaps, leaving the space vulnerable to exploitation by unauthorized individuals or other threats. Proactive management and a scheduled maintenance plan can significantly reduce these risks, ensuring the security system operates as intended and provides peace of mind (Seifi et al., 2019).

Activity Support

Activity support focuses on designing spaces that intentionally encourage legitimate and positive activities. As defined by Jeffery (1971), it involves the strategic placement of amenities and features that engage people, fostering increased usage and meaningful interactions. The principle is simple: by promoting positive activities, more people are drawn to a location, enhancing natural surveillance and discouraging potential criminal behavior (Cozens et al., 2005; Lee et al., 2016). This concept employs a variety

of strategies to create dynamic, connected communities. Hosting events like farmers' markets, festivals, and concerts can draw crowds and infuse spaces with energy. Similarly, well-placed recreational areas, such as parks, playgrounds, bus stops, benches, and picnic tables, invite people to spend time outdoors, interact with others, and strengthen social bonds (Vasquez et al., 2021). By prioritizing thoughtful design and engagement, activity support transforms spaces into vibrant hubs of community life, aligning with the assertion that busy streets are safer streets (Browning & Jackson, 2013).

Practical Application of CPTED

CPTED can be widely applied across diverse settings, from residential neighborhoods to commercial districts and public spaces, showcasing its versatility and effectiveness in reducing crime (Cozens & Love, 2015). In residential areas, CPTED strategies can transform neighborhoods by not only enhancing safety and security but also fostering livability and stronger community connections (Armitage & Tompson, 2022; Sakip et al., 2023). For instance, Cheng (2014) explored the redesign of a small neighborhood in China using CPTED principles. Improvements such as better lighting, clearly defined boundaries, enhanced landscaping, and optimized road layouts not only lowered crime rates but also significantly increased residents' sense of security. Similarly, Casteel and Peek-Asa (2020) found that key CPTED elements, including improved lighting, natural surveillance, and access control, effectively reduced opportunities for robberies within residential areas. These findings highlight the crucial role that thoughtful environmental design strategies play in enhancing residential safety.

Commercial properties can also significantly benefit from implementing CPTED strategies to enhance safety and security. By adopting CPTED principles, businesses can protect their assets, ensure the safety of their employees, and create a welcoming environment for customers. This proactive approach not only minimizes risks but also enhances the customer experience, ultimately contributing to the long-term success and reputation of the property (Andrews, 2024; Atlas, 2013). For example, maintaining clear sightlines in and around the property helps ensure visibility, making it difficult for potential offenders to operate unnoticed. Installing adequate lighting in parking lots, walkways, and entrances further increases visibility and reduces the risk of criminal activity, especially during nighttime hours. Thoughtful landscaping, such as trimming shrubs and avoiding dense foliage near windows or entry points, eliminates potential hiding spots. Additionally, controlling access to the building through measures such as secure entry points, key card systems, and security personnel can prevent unauthorized individuals from entering the premises (Atlas, 2013; Vasquez et al., 2021).

CPTED strategies can also be effectively applied in public spaces such as parks, museums, libraries, sports arenas, and transportation hubs. By applying strategies such as incorporating well-lit pathways to deter criminal activity, ensuring clear sightlines to increase visibility, and strategically placing seating areas to encourage social interaction and natural surveillance, these spaces can become not only safer but also more functional and enjoyable for the community (Abade et al., 2024). Furthermore, the inclusion of amenities that draw people to these spaces, such as playgrounds, community gardens, and public art installations, can further enhance their appeal, fostering a sense of ownership

and pride among users and reducing the likelihood of vandalism and other crimes (Lee et al., 2023; Sakip et al., 2023).

Benefits of CPTED

There are many notable advantages of adopting CPTED strategies in the design of a space. While the main benefit is enhancing safety and security, CPTED strategies also foster stronger community bonds, enhance quality of life, and offer economic benefits. The literature supports the effectiveness of CPTED as a practical and proactive approach to enhancing safety and reducing crime rates in various environments, including residential areas, public spaces, and commercial districts (Cozens et al., 2015; Jeffery, 1971; Sakip et al., 2023). Through methods such as improving natural surveillance, controlling access, and enhancing territorial reinforcement, CPTED has been shown to effectively deter prospective offenders and reduce the likelihood of crime (Sakina, 2020).

Chalfin and Parker's (2021) novel experimental study revealed that improved street lighting reduced outdoor nighttime crime by 36% in public housing developments across New York City. Similarly, Kyaagba et al. (2024) demonstrated that CPTED strategies, such as natural surveillance, access control, and territorial reinforcement, significantly lowered crime rates in Nigerian tourist areas affected by terrorism-related security concerns. Additionally, Rupp et al. (2025) found that community-driven CPTED initiatives, including maintaining landscaping, mowing vacant lots, and repairing abandoned buildings, led to a remarkable 40% decrease in gun violence and assaults on street segments in Flint, Michigan, where consistent upkeep was practiced. These studies

demonstrate that targeted environmental design changes can significantly improve public safety and lower crime.

In addition to reducing crime, CPTED strategies also enhance the quality of life for legitimate users of a space. By creating safer and more welcoming environments, CPTED can encourage people to spend more time outdoors, interact with their neighbors, and participate in community activities, fostering a stronger sense of community. Interestingly, research suggests that the fear of crime can profoundly affect an individual's life, sometimes more significantly than the actual consequences of crime (Greve et al., 2018; Warr, 2000). Cozens and Sun (2019) and Lee et al. (2016) found that as people feel safe and more comfortable in their surroundings, they are more likely to engage in social activities and use public spaces, which promotes social interaction and cohesion. They are also more likely to take ownership of their community and work together to address issues that affect their quality of life, creating a self-reinforcing cycle of improved safety and community empowerment (Sakip et al., 2023).

A study conducted in January 2025 examined how CPTED principles, specifically natural surveillance and territorial reinforcement, influence the fear of crime in public spaces. It was found that people feel safer in public spaces when they can easily see and be seen by others, and when there are clear signs indicating that the space is well-maintained and cared for (Senna et al., 2025). Cozens and Sun (2019) examined how campus design and layout influence students' perceptions of personal safety at an Australian university. Students were asked to identify areas of the campus they considered safe and unsafe, and to explain their reasons for those perceptions. The study

identified several physical design features associated with feelings of safety, including well-lit pathways, clear sightlines, distance between buildings, and the presence of security cameras. The findings underscore the importance of thoughtful design choices, such as enhancing visibility and fostering a sense of ownership, in mitigating the fear of crime. These strategies can deliver long-term benefits, enhancing both individual well-being and the overall quality of life within communities (Fennelly & Perry, 2023; Komal & Radhika, 2023).

Crime Prevention Through Environmental Design is a highly cost-effective strategy that delivers substantial financial benefits to individuals, businesses, municipalities, and entire communities (Cozens, 2008; Vangara & Krishna, 2023). By proactively reducing opportunities for crime, CPTED helps prevent the significant expenses associated with criminal activity. These costs can include property damage, theft of cash or merchandise, medical bills for victims, lost productivity, and the resources required for law enforcement and judicial processes. Beyond the direct savings from crime reduction, CPTED has broader economic benefits. By creating safer, more appealing spaces, it enhances public perceptions of safety, attracts businesses, boosts property values, lowers insurance premiums, and drives economic growth (Cozens & Love, 2015).

Additionally, CPTED is often a more economical approach than other crime prevention measures. Due to its focus on enhancing existing infrastructure and leveraging natural surveillance, CPTED approaches can be implemented at a relatively low cost compared to more intensive security measures, such as employing additional security

personnel or installing high-tech surveillance systems (Cozens et al., 2005). The literature supports the notion that simple improvements, such as adequate lighting and well-maintained landscaping, can significantly reduce crime and the fear of crime, making CPTED an affordable and effective solution for communities seeking to enhance their safety and economic well-being (Vangara & Krishna, 2023; Wen et al., 2024). Furthermore, CPTED can be tailored to meet the specific needs and resources of each community, making it a flexible and adaptable tool in diverse settings (Armitage & Monchuk, 2017; Liu, 2014; Sakip et al., 2023; Wen et al., 2024).

Challenges and Criticisms of CPTED

While CPTED has achieved notable successes in reducing crime and improving community safety, it is not without its critics or challenges. Implementing its principles requires thoughtful consideration and careful application. One of the most significant issues is that CPTED is frequently misunderstood and misused as a generic, "one-size-fits-all" checklist, rather than a nuanced, context-specific approach tailored to the unique needs of each environment (Cozens & Love, 2015). This oversimplified application can create a false sense of security, leading individuals to believe that crime prevention has been adequately addressed when, in reality, the measures may be ineffective or even counterproductive. In some cases, poorly implemented CPTED strategies can lead to limited reductions in crime, an increase in certain types of crime, or even the displacement of crime to nearby areas (Cozens & Love, 2015, 2017). Achieving meaningful results with CPTED depends on a thorough understanding of the local

context, active collaboration with the community, and continuous evaluation to ensure its principles are properly implemented.

However, researchers such as Cozens et al. (2005) highlight the challenges of proving CPTED's effectiveness. These challenges are largely attributed to the absence of a universally accepted framework, resulting in significant inconsistencies in its application and assessment. Cozens and Love (2017) and Ekblom (2011) suggested that this lack of a solid framework leads to varied interpretations among practitioners, making it difficult to compare results, prove effectiveness, and establish best practices. However, a significant step forward was made in 2021 when the International Organization for Standardization (ISO, 2021) released guidelines that provide a more systematic and standardized foundation for CPTED principles, elements, and strategies. These guidelines are expected to help address the lack of a coherent theoretical framework and contribute to more consistent and reliable evaluations of CPTED's impact on crime prevention and community wellbeing.

Another major challenge highlighted in literature is that CPTED strategies sometimes have unintended consequences, such as facilitating criminal activities, producing exclusionary spaces, and compromising the overall quality of life for the community (Cozens & Love, 2015, 2017). For example, increased lighting, a common CPTED strategy to enhance natural surveillance, can sometimes facilitate criminal activity by making targets more visible to offenders. Similarly, criminals can co-opt features intended for security. This concept, known as "offensible space," occurs when criminals use CPTED features like high fences or controlled-access gates to shield their

illegal activities (Armitage & Monchuk, 2017; Cozens et al., 2022; Vasquez et al., 2021). Atlas (1991) conducted a study of known crime sites in the South Florida area and found that CPTED strategies used to enhance security, such as territoriality, surveillance, and access control, were actually used by criminal gangs and drug dealers to protect their illegal activities.

The overemphasis of physical security measures, or “target hardening”, another CPTED strategy, has been criticized for its ability to create a fortress-like environment that may inadvertently enhance fear and suspicion, discouraging residents from freely using and enjoying the common spaces meant to bring a community together (Cozens et al., 2022). Lamoreaux and Sulkowski (2020) suggested that overemphasizing security through CPTED strategies, such as installing barriers, locked gates, and surveillance cameras, may lead to unintended consequences, such as increased fear, social isolation, and exclusion. Senna et al. (2025), Benedict (2019), and Zhu (2022) observed that these types of strategies can create "hostile architecture," which may deter crime, but can also alienate vulnerable populations, such as people with disabilities, the homeless, those from lower socioeconomic backgrounds, or other marginalized groups, by restricting access to public spaces and resources.

Implementing and sustaining effective CPTED strategies also comes with notable challenges. Considerations such as cost-effectiveness, aesthetic preferences, and regulatory requirements often overshadow the importance of crime prevention through environmental design. Limited budgets frequently hinder the adoption of CPTED measures, many of which can be resource-intensive to design, implement, and manage

(Hannah et al., 2015; Wen et al., 2024). Additionally, Cozens and Love (2015) note that the lack of collaboration between architects, urban planners, law enforcement, security experts, and community stakeholders can lead to uncoordinated efforts, resulting in fragmented or ineffective CPTED implementation. While CPTED principles are relatively simple to understand, integrating them effectively into complex urban and architectural projects requires careful planning and execution, which requires a holistic approach that goes beyond the simple addition of security measures.

CPTED in K-12 Schools

The issue of violence in K-12 schools is deeply troubling, driving significant focus on innovative strategies to improve school security. Lamoreaux and Sulkowski (2019) and Shariati and Guerette (2019) highlight the difficulties schools face when trying to foster an environment that is both engaging and inclusive, promotes effective learning, and prioritizes safety and security. Many safety and security measures used in schools focus on intensifying physical security, often through target hardening, to make them more resistant to potential attacks (Lamoreaux & Sulkowski, 2019). While these efforts are essential components, the literature argues that the most effective prevention strategies adopt a more comprehensive and holistic approach, one that prioritizes not only physical safety, but also the overall well-being of students and staff (Jeffery, 1971; Mayer et al., 2021). CPTED has emerged as a promising framework for achieving this balance.

Benefits of Using CPTED in K-12 Schools

CPTED is a multidisciplinary approach that aims to reduce crime and enhance safety through the intentional design of the environment. Applying CPTED principles in

the design of school facilities, such as controlling access points, enhancing natural surveillance, and improving lighting within and around the campus, aims to create safer environments (Lee et al., 2023; Liu et al., 2025; Wahab et al., 2018). By designing school environments that feel safe, secure, and welcoming, students will feel more comfortable and be better able to focus on their academic and personal growth (Lamoreaux & L. Sulkowski, 2019). In turn, this can lead to a better school climate, less stress among students and teachers, and reduced crime and violence, all of which are critically important for student success and well-being (Lamoreaux & Sulkowski, 2020; Luo et al., 2023; Mubita et al., 2023).

Research on the use of CPTED in K-12 schools remains relatively limited, but its potential benefits are gaining attention. One notable study conducted in Atlanta-area middle schools examined the impact of applying CPTED principles, such as natural surveillance and access control, on students' perceptions and violence-related behaviors (Vagi et al., 2018). Vagi et al.'s (2018) study revealed that students felt safer and less at risk when their schools incorporated CPTED principles, confirming that the physical design of educational environments can affect student behavior. Similarly, Lamoreaux and Sulkowski (2020) found students preferred low-security environments that used strategies such as natural surveillance, access control, territoriality, and maintenance over high-security measures, including armed guards, metal detectors, and security fences. These findings highlight the growing preference for more thoughtful, design-driven approaches to school safety.

Researchers highlight that CPTED strategies can meet the need for "an effective, and ideally inspiring, learning environment" (Atlas, 2008, p. 507). These design approaches not only enhance safety but also foster a positive school climate and culture (Wike & Fräser, 2009; Shariati & Guerette, 2019). When students feel safe and secure in their surroundings, they are more engaged in their learning, attend school more consistently, actively participate in extracurricular activities, and build stronger relationships with peers and staff (Mayer et al., 2021; Nickerson et al., 2021). Research strongly supports these findings, with studies showing that students who perceive their school as a safe environment tend to excel academically (Lamoreaux & Sulkowski, 2020), exhibit lower rates of delinquent behavior (Perumean-Chaney & Sutton, 2013), and attend school more consistently (Fisher et al., 2018). The evidence consistently highlights that CPTED strategies in school design not only enhance safety but also foster spaces where students feel secure, comfortable, and motivated to succeed (Lamoreaux & Sulkowski, 2020).

Implementation of CPTED in K-12 Schools

Implementing CPTED in schools begins with a comprehensive assessment to identify potential safety and security vulnerabilities. This evaluation should carefully analyze key factors, such as building layout and use, pedestrian and vehicular traffic patterns, lighting, and landscaping. Equally important is considering how the school's design influences students' sense of security and psychological well-being (Lamoreaux & Sulkowski, 2020). Collaboration with all stakeholders is also vital to this process. As Lee et al. (2023) emphasize, successful implementation requires input from educational

organizations, security professionals, and community stakeholders. This can involve planning sessions that bring together teachers, administrators, parents, and local law enforcement to ensure that the strategies address the school's specific needs and context. Based on the assessment findings, targeted CPTED measures can then be strategically applied to resolve identified issues, creating a safer and more supportive environment for students and staff.

The International CPTED Association (2022) proposed a comprehensive, three-pronged strategy to address the multifaceted issue of targeted violence in K-12 schools. This approach emphasizes addressing physical, social, and psycho-emotional factors simultaneously and in an ongoing, cyclical manner (ICA, 2022). Addressing physical aspects focuses on optimizing the school environment through practices such as strategically placing access points to control entry and exit, using signage to guide movement around campus, leveraging natural elements like landscaping and building layouts to enhance surveillance, ensuring adequate lighting to improve visibility, and incorporating security technology like surveillance cameras and access control systems (Langman, 2023; Shariati, 2021). CPTED strategies also encompass social dynamics by fostering a more connected and inclusive school community. This can involve opportunities for students to engage in extracurricular activities and develop a sense of belonging, as well as implementing practices to address conflicts and repair harm within the school community (Flannery et al., 2021). Addressing the psycho-emotional well-being of students and staff requires cultivating a supportive and inclusive school environment where they feel valued and empowered. This can include programs

promoting mental health services, trauma-informed care, and positive behavior interventions (Mayer et al., 2021; Mayer & Astor, 2022).

The Broward County School Demonstration Project in Florida was among the first significant empirical studies to examine the effects of CPTED strategies on reducing crime and fear within schools (Wallis & Ford, 1980). Conducted in the 1970s, this experimental initiative implemented a comprehensive CPTED approach, combining physical modifications to the school's environment, such as improved lighting, strategic landscaping, and controlled access, with increased security presence and strengthened collaboration between school administrators, teachers, and student organizations. The findings showed a significant decrease in incidents of theft and assault during the evaluation period. This project demonstrated that fostering collaboration among stakeholders, combined with environmental and security improvements, effectively reduced the fear of crime among students and staff (Wallis & Ford, 1980).

A compelling case study example of CPTED in a K-12 setting is the reconstruction of Sandy Hook Elementary School in Newtown, Connecticut. Following the devastating 2012 mass shooting, the original building was demolished and replaced with a new structure designed with CPTED principles at its core. Starting with an advisory board that included students, parents, teachers, school personnel, community members, security specialists, and design experts, the project aimed to establish a school that not only kept its occupants safe, but also avoided the feeling of a prison (Hall, 2021; Sisson, 2018). A footbridge leads to the main entrance, creating a natural buffer and preventing direct access to the building. The layout prioritizes visibility, with classrooms

arranged along a central corridor, and clear sightlines throughout. Floor-to-ceiling, impact-resistant windows not only enhance protection against potential threats, but also promote natural surveillance. Additional security measures include a controlled perimeter with limited access points and strategically placed security cameras. While no design can completely eliminate the risk of school violence, Sandy Hook Elementary demonstrates how CPTED principles can be seamlessly integrated into school architecture to create a safer, more secure environment for students and staff.

Challenges of Using CPTED in K12 Schools

While CPTED offers significant benefits for enhancing safety and security, its implementation in K-12 schools can be challenging due to several constraints. One major hurdle is the lack of awareness and understanding of CPTED principles among school administrators, staff, and design professionals, which can prevent the effective application of these strategies. Additionally, schools often face competing priorities, such as academic performance, extracurricular programs, and staff retention, which can push security measures to the sidelines. Financial limitations further complicate the situation, as many schools struggle with tight budgets, which make it challenging to allocate resources for security-focused design enhancements (Steiner et al., 2021). These challenges can make it difficult for schools to fully adopt and integrate CPTED strategies into their environments, despite the potential for these measures to create safer, more welcoming spaces for students and staff.

One of the key challenges is limited knowledge and awareness among key stakeholders. The success of any safety and security initiative relies heavily on the

understanding and support of those involved, whether they are school administrators, architects, or security professionals. However, a recurring theme in the literature highlights that many stakeholders may not fully grasp what CPTED entails or how it can positively impact school safety. For example, Lamoreaux & Sulkowski (2019, 2020) and Steiner et al. (2021) emphasize that a lack of training and education can prevent decision-makers from recognizing the value CPTED adds to their schools. Without this foundational knowledge, stakeholders may overlook opportunities to integrate CPTED strategies during school design, renovation, or safety planning. The lack of training and awareness of CPTED can lead to the implementation of ineffective or even counterproductive measures (Komal & Radhika, 2023; Shariati, 2021). One of the most substantial benefits of CPTED is that it can be tailored to the unique needs, context, and culture of each school, addressing its specific risks and vulnerabilities. Without considering critical factors such as student demographics, school size, and the characteristics of the surrounding community, there is a risk of unintentionally harming student morale, diminishing engagement, and negatively impacting the overall school climate (Lamoreaux & Sulkowski, 2019).

According to the literature, one of the most significant obstacles to improving school safety and security is the lack of funding and resources allocated to this critical area (Cozens et al., 2005; Steiner et al., 2021). Most school districts operate on limited budgets, which are often stretched thin by competing priorities, such as academic programs, teacher salaries, and infrastructure maintenance. As a result, investments in safety and security measures, including those related to CPTED, tend to be neglected or

postponed (Lamoreaux & L. Sulkowski, 2019). The research indicates that implementing a comprehensive security strategy, such as CPTED, requires substantial investment, including essential site modifications, advanced security technology, and continuous training and professional development for staff and faculty (Lamoreaux & Sulkowski, 2019; Nickerson et al., 2021). Additionally, there is an ongoing need to maintain and update these strategies and systems to ensure their effectiveness over time and adapt to potential new threats. Without proper funding, the comprehensive approach necessary to create a safe and secure learning environment for students and staff becomes challenging (Armitage & Monchuk, 2017; Cozens & Love, 2015).

Despite the challenges, research highlights CPTED as a promising strategy for improving school safety and security. Addressing these obstacles will require focused efforts to educate stakeholders on CPTED principles and their benefits, as well as advocating for adequate funding and resources to support comprehensive safety initiatives. By tackling these barriers, schools can harness the potential of CPTED to create safer and more secure learning environments. Although empirical studies on CPTED's effectiveness in educational settings remain limited, the existing evidence offers a solid foundation for further exploration and the broader adoption of these strategies in K-12 schools.

Summary and Conclusions

School safety remains a critical concern for researchers, policymakers, and the public (Nickerson et al., 2021). With rising incidents of school violence, the focus on creating a safer and secure school environment has intensified. The research supports

CPTED as a practical and effective method for preventing crime and improving safety across various settings (Casteel & Peek-Asa, 2000; Cozens et al., 2005; Wahab et al., 2018). The research reviewed highlights that CPTED strategies, such as natural surveillance, access control, territorial reinforcement, and activity support, are not only effective in deterring crime, but also enhance the overall quality of life for legitimate users of the space (Sakip et al., 2023; Vangara & Krishna, 2023; Wen et al., 2024). Although much of the research on CPTED has focused on its effectiveness in residential, commercial, and urban settings, a growing body of work has begun to explore its potential applications in K-12 schools (Komal & Radhika, 2023). This emerging research highlights how CPTED principles can contribute to creating safer educational environments. However, further research is needed to fully understand its impact and effectiveness on reducing targeted violence in K-12 school campuses.

This study aimed to deepen the understanding of how CPTED principles can enhance safety in K-12 schools and mitigate incidents of targeted violence. By focusing on the design and use of physical spaces to reduce crime and improve safety, CPTED provides a strategic approach to creating secure learning environments. This research explored the perspectives of crime prevention professionals on the relevance, effectiveness, and challenges of implementing CPTED in school settings, including its integration with existing safety measures and its adaptability to various school layouts and community contexts. By analyzing these insights, the study offers valuable guidance for future research, policy development, and practical initiatives aimed at strengthening

school safety and fostering a sense of security for students, staff, and the broader community.

Chapter 3: Research Method

This study explored how crime prevention professionals perceive the relevance, effectiveness, and challenges of using CPTED in K-12 schools to mitigate targeted violence. This chapter details the research methodology, providing a comprehensive explanation of the study's design, purpose, and overall approach. A generic qualitative approach was used to allow for an in-depth exploration of the real-world experiences, insights, and perspectives of crime prevention professionals. This approach was chosen to ensure that the study captures the nuanced and diverse viewpoints of professionals in the field. The chapter further elaborates on the participant selection process, including the criteria used to identify and recruit participants, as well as the specific sampling strategies used to ensure a diverse pool of participants. Additionally, it provides a detailed overview of the data collection and analysis process, including the steps taken to code, categorize, and interpret the data to uncover key themes and insights.

Research Design and Rationale

A generic qualitative approach was employed to explore the perceptions and experiences of crime prevention professionals regarding the application of Crime Prevention Through Environmental Design strategies in K-12 schools to mitigate targeted violence. The study was designed to answer the following questions:

RQ1: How do crime prevention professionals perceive effectiveness of using CPTED to mitigate targeted violence in K-12 schools?

RQ2: What challenges do crime prevention professionals perceive when using CPTED to mitigate targeted violence in K-12 schools?

The research philosophy underlying this study is interpretivism, which posits that reality is socially constructed, and that individuals' subjective experiences and interpretations shape their understanding of the world (Pervin & Mokhtar, 2022). Focusing on participants' viewpoints helped create detailed narratives that revealed their behaviors and perceptions. Grounding these insights in their lived experiences within unique social contexts added depth and relevance to the findings (Gichuru, 2017). This philosophy aligns with the study's goal of understanding how crime prevention professionals perceive and make sense of their experiences with CPTED in the context of school safety.

A generic qualitative approach was selected for this study, as it aligned with the exploratory nature of the research and provided the flexibility required to capture the complexity and nuances inherent in the experiences and perceptions of participants, without imposing predefined frameworks or structured analytical procedures (Kahlke, 2014). This approach allowed for a more open and inductive exploration of the data, enabling the identification of emergent themes and patterns that might not have been uncovered using more structured qualitative methods. Qualitative research is particularly well-suited for exploring complex social phenomena and gaining in-depth insights into people's attitudes, behaviors, and motivations (Bingham, 2023; Kahlke, 2014). Unlike quantitative research, which seeks to measure and quantify variables, qualitative research aims to understand the meaning and significance of human experiences. This flexibility was essential to the study’s success, allowing for a comprehensive and nuanced

examination of the practical implications, challenges, and advantages of applying CPTED in the context of K-12 school safety and security.

Role of the Researcher

As a researcher in this study, I undertook several key responsibilities to ensure that the research process and its findings were both credible and reliable. My primary role was to design and execute the study with rigor and ethical integrity, adhering to established principles of qualitative research. This involved formulating clear research questions, selecting suitable data collection methods, and establishing well-defined protocols for analyzing and interpreting the data. A critical aspect of my role was addressing ethical considerations, with a strong focus on safeguarding participants' rights, privacy, and overall well-being throughout the research process (Johnson et al., 2020; Sutton & Austin, 2015).

As a researcher, I adopted the role of a participant-observer, actively engaging with participants while carefully listening, observing, and gathering data (Creswell, 1994). Serving as the primary tool for data collection and analysis, I played a pivotal role in shaping the research process and guiding the interpretation of the findings. Therefore, maintaining reflexivity throughout the research process was crucial, requiring me to acknowledge and address my own biases, assumptions, and preconceptions that could potentially influence the research findings. In this study, potential biases stem from my professional background, familiarity with CPTED principles, and personal beliefs about the effectiveness of crime prevention strategies in school settings. Additionally, my

active involvement in several organizations used to recruit participants for this research may inadvertently influence their responses.

Several strategies were used to mitigate the influence of researcher biases. First, a detailed research protocol was developed to guide the interview process, ensuring that questions were asked consistently and without leading participants. A semi-structured interview format was chosen to minimize researcher bias. This method fosters the collection of rich, nuanced data that can be supported or challenged through empirical evidence, rather than relying solely on subjective opinions or assumptions (Ahmed, 2024; Kallio et al., 2016). Where necessary, follow-up questions and prompts were used to clarify responses or encourage participants to elaborate further. Participants also had the chance to review and provide feedback on the preliminary findings through verbal member checking. This process enabled them to confirm the accuracy of the data and suggest alternative interpretations, ensuring a more comprehensive understanding of the results.

Reflective journaling was used as a key strategy to reduce researcher bias and ensure a more objective approach to the study. A detailed research journal was maintained to document the researcher's thoughts, emotions, observations, and decision-making processes throughout the study. This practice encouraged ongoing self-reflection, helping the researcher remain aware of potential biases that could influence the interpretation of data or outcomes (Ahmed, 2024; Saldaña, 2018). By fostering transparency and accountability, reflexive journaling not only supported the researcher's

critical thinking, but also contributed to the study's overall credibility and trustworthiness, ensuring that the findings were as robust and impartial as possible.

Methodology

Sample Population and Selection Rationale

This study used purposive snowball sampling techniques to engage crime prevention professionals with specialized expertise in safety, security, and the application of CPTED principles. Given the niche focus of the topic and the need for participants with hands-on, practical experience, purposive sampling proved to be the most effective approach. This method enabled the deliberate selection of participants from diverse backgrounds, roles, and perspectives within crime prevention, ensuring a comprehensive examination of the subject (Campbell et al., 2020). To further broaden the participant pool, snowball sampling was employed, allowing initial participants to refer others with relevant expertise. Together, these complementary methods provided a rich and varied dataset, enhancing the depth and quality of the study’s findings.

Inclusion Criteria

The selection criteria for participants were designed to ensure expertise and relevance. To qualify, participants had to meet two key requirements: (1) they must be active members of a recognized crime prevention or security organization, and (2) they must have at least five years of professional experience in crime prevention, safety, or security. These criteria were established to ensure that participants possess both the theoretical knowledge and practical experience necessary to provide meaningful insights.

Requiring organizational membership ensures participants are actively engaged professionals in the field. At the same time, the five-year experience minimum reflects the belief that this period provides sufficient exposure to the complexities and challenges of implementing CPTED strategies. To maintain accuracy and adherence to these criteria, the selection process used publicly available membership directories from relevant organizations to verify eligibility.

Sample Size and Saturation

The sample size for this study was based on data saturation, which is reached when no new themes or insights emerge from the data (Hennink & Kaiser, 2021). Data saturation in qualitative research ensures that findings are both comprehensive and representative, effectively addressing the research questions (Hennink & Kaiser, 2021). It signifies that the data has successfully captured the full diversity and complexity of the phenomenon under investigation. Due to the specialized focus of the study and the need to recruit participants with specific expertise, the target sample size was set between 8 and 15 individuals. This range is consistent with typical qualitative research, which often relies on in-depth interviews with subject matter experts (Campbell et al., 2020). While a larger sample could potentially uncover additional insights, the sample size will be sufficient once no new themes or information emerge, ensuring the data has reached saturation and provides a comprehensive understanding of the subject.

The sampling strategy was implemented through the following steps: (1) A comprehensive list of target professional organizations was compiled, and suitable communication channels, including social media platforms and listservs, were identified

to invite participation, (2) Invitations were posted on social media channels and sent via email to potential participants, with a detailed description of the study's objectives, the selection criteria, and the expected time commitment, (3) Potential participants were asked to contact the researcher to express their interest and confirm their eligibility based on the established criteria, (4) A brief screening process was conducted for each interested participant to confirm their professional affiliation and years of experience, and interviews were scheduled with those who met the selection criteria, (5) interviews continued until no new significant themes or insights emerged from the data, indicating that data saturation was reached.

Instrumentation

The primary data collection method for this study was semi-structured interviews, a widely recognized approach in qualitative research for its flexibility and conversational nature. Semi-structured interviews were particularly fitting for this research, as their interactive nature allows the researcher to explore specific areas of interest and further investigate compelling responses, while allowing participants to express themselves freely and elaborate on topics (Kallio et al., 2016). The questionnaire used in this study was specifically developed by the researcher (see Appendix A) to align with the study's objectives. The questionnaire was carefully designed based on a thorough review of relevant literature and insights from the sources provided. It features open-ended questions designed to explore participants' knowledge, experiences, and perspectives on CPTED strategies within school environments.

Procedures for Recruitment, Participation, and Data Collection

Participant Recruitment

Participants were recruited through social media platforms like Facebook and LinkedIn, as well as through the listservs of professional organizations relevant to the target population. As an active member of these organizations, the researcher leveraged access to membership directories, which included detailed contact information and professional profiles of potential participants. This insider access streamlined the recruitment and screening of eligibility. Eligible participants received a thorough informed consent form outlining the study's purpose, procedures, potential risks and benefits, and their rights as participants. Once consent was secured, interviews were scheduled at times convenient for each participant.

Data Collection

The researcher conducted virtual interviews using Zoom, with each session lasting 60 to 90 minutes. In recent years, Zoom has emerged as a preferred platform for qualitative data collection, praised for its convenience, intuitive interface, robust security features, and interactive capabilities (Archibald et al., 2019). With participants' explicit consent, the interviews were audio-recorded using Zoom's built-in recording feature. After each interview, a verbal member-checking process was conducted to confirm the accuracy and completeness of the data before proceeding to formal analysis and coding. Audio recordings were transcribed using Zoom's transcription service, ensuring the captured information was both precise and complete. To enrich the data, detailed notes were recorded during the interviews, capturing nonverbal cues, contextual nuances, and

emerging insights. This iterative process provided a deeper understanding of participants' experiences and perspectives, ensuring that the data accurately represented the complex dynamics of safety and security on K-12 school campuses, as well as the practical application of CPTED principles.

Data Analysis Plan

This study employed Braun and Clarke's (2019) reflexive thematic analysis approach for data analysis. Unlike traditional thematic analysis, which often emphasizes a rigid, positivist focus on coding reliability, Braun and Clarke's method prioritizes a more flexible, reflective, and organic process. This approach encourages researchers to engage deeply and thoughtfully with the data, resulting in the development of richer, more nuanced themes. The initial stage of data analysis involved a careful review of interview transcripts to fully immerse oneself in the data. Key statements, sentences, and quotes that revealed valuable insights into the participants' experiences and perspectives were identified and marked for deeper analysis. This meticulous review allowed the researcher to extract rich, detailed insights directly from the participants' words, forming a robust foundation for qualitative analysis (Castleberry & Nolen, 2018).

Following the familiarization stage, initial codes were generated to begin organizing and interpreting the data. The initial phase of coding used an inductive, open coding approach, allowing the analysis to remain flexible and driven by the data itself. This method aimed to identify and categorize overarching concepts, key ideas, and recurring themes that naturally emerged from the data, without being constrained by pre-existing theories or frameworks (Bingham, 2023; Braun & Clarke, 2019). By adopting

this approach, the coding process ensured that the findings were grounded in the experiences and perspectives of the participants, providing a rich and nuanced understanding of the data (Richards & Hemphill, 2017). The next step involved axial coding to identify relationships, connections, and overarching themes that captured the essence of participants' experiences and addressed the research questions. This process offered a deeper, more nuanced understanding of the data, highlighting patterns and insights that connected various concepts (Saldaña, 2018).

An iterative approach guided the analysis, with codes and categories continuously refined as new insights surfaced. This process of ongoing refinement allowed for a more thorough and nuanced interpretation of the data (Naeem et al., 2023). Through a thorough analysis, themes were finalized, clearly named, and carefully defined. This crucial step not only organized the findings but also refined the key concepts, capturing the most impactful insights. The resulting themes provide a comprehensive understanding of participants' experiences, clarifying their thoughts, preferences, and challenges.

Issues of Trustworthiness

Lincoln and Guba (1985) contended that traditional quantitative measures of validity and reliability do not align with the nature and principles of qualitative research. To address this gap, they proposed the concept of trustworthiness, supported by four key criteria: credibility, dependability, transferability, and confirmability. These elements provide a framework for ensuring rigor in qualitative studies. Credibility, the foundation of trustworthiness, reflects the level of confidence in the accuracy and truth of research findings (Ahmed, 2024). To enhance credibility, this study employed a carefully designed

research framework grounded in relevant literature and established qualitative methodologies. A systematic approach guided both data collection and analysis, further strengthened by member checking to validate participants' experiences and ensure precision. Triangulation was also used, incorporating diverse participants with varied backgrounds, experiences, and roles in crime prevention, safety, and security, to provide a more comprehensive and reliable perspective.

Transferability refers to the extent to which findings from one context can be applied to another (Johnson et al., 2020). While qualitative research often focuses on unique individual experiences, which can make transferability more challenging, this study took deliberate steps to address this. A diverse sample of participants from various backgrounds and contexts was included to enhance the applicability of the findings. Additionally, the study provides rich, detailed descriptions of the context, methods, and procedures, offering a comprehensive account of the participants, setting, and data collection processes. These efforts allow readers to evaluate the relevance and applicability of the findings in their own contexts.

Dependability, or reliability, refers to the consistency and stability of a research process, ensuring that similar results can be reproduced if the study is repeated (Ahmed, 2024). To uphold reliability, the methodology was meticulously followed, with any adjustments and modifications carefully documented to ensure transparency and accountability throughout the process. This attention to detail ensures that other researchers can understand and replicate the procedures followed. An audit trail was also established, providing a comprehensive and detailed record of the entire research process.

From data collection to data analysis and interpretation, the audit trail offers a transparent and traceable framework for the study, which enables external reviewers to assess the integrity and dependability of the study (Ahmed, 2024).

Confirmability addresses the objectivity of the research findings, ensuring they are derived from the data, rather than the researcher's biases or preconceived notions. Confirmability enhances the practical value of the findings, making them more relevant and trustworthy for informing practice, policy, and future studies (Elo et al., 2014). To address this, the study employed member checking, allowing participants to review and validate their responses, ensuring that their voices were accurately reflected in the final results. Additionally, reflective journaling was also used to document the researcher's thoughts and biases throughout the study, allowing for a transparent examination of potential influences on the findings.

Ethical Procedures

Ethical conduct is the cornerstone of qualitative research, ensuring the protection of participants' rights, dignity, and well-being throughout the study (Johnson et al., 2020; Taquette & Souza, 2022). Fundamental practices, such as obtaining informed consent, safeguarding confidentiality, and maintaining transparency about the study's purpose and methods, are critical for fostering trust between researchers and participants. This trust is essential for gathering honest, reliable data (Nowell et al., 2017). Moreover, upholding ethical standards not only strengthens the credibility and integrity of the research, but also enhances its validity and acceptance within academic communities and the wider public (Bouter, 2023).

This study maintained the highest ethical standards by adhering to strict guidelines and procedures: (1) Secured approval from the institutional review board (IRB) before commencing any research activities, (2) Clearly outlined the study's purpose, procedures, and potential risks and benefits to participants, ensuring they provided fully informed and voluntary consent, (3) Protected participants' confidentiality and privacy through pseudonyms, secure data storage, and limited access to identifying information, and (4) Promoted transparency by maintaining open communication with participants throughout the research process, sharing findings, and offering them the opportunity to review and validate interpretations.

Summary

This qualitative study explored the perspectives of crime prevention professionals on the application of CPTED strategies to address and mitigate targeted violence in K-12 schools. This chapter provides a comprehensive overview of the study's methodology, beginning with a discussion of the research design and the rationale for adopting a qualitative approach to gain an in-depth understanding of subject matter expert insights. The chapter details the participant selection process, which focused on identifying professionals with substantial experience in crime prevention and school safety. It also describes the use of semi-structured interviews as the primary method for data collection, allowing flexibility in exploring participants' unique experiences and perspectives. Furthermore, the chapter explains the data analysis methods used, including coding and thematic analysis of the data. By offering a detailed and transparent account of the

research process, including the measures taken to ensure rigor and validity, this chapter enhances both the credibility and reliability of the study.

Chapter 4 provides a comprehensive overview of the study's findings, uncovering key themes and insights through meticulous data analysis. The results are meticulously categorized, with each section supported by concrete examples and evidence that vividly illustrate the key ideas. Chapter 5 builds on these findings by offering an insightful discussion that places the results within the broader context of existing research. This chapter also critically examines the study's strengths and limitations, presenting thoughtful recommendations for future research and practical applications of the insights gained.

Chapter 4: Results

This study employed a generic qualitative research design to explore the perspectives of crime prevention professionals on using CPTED strategies in K-12 schools to reduce the risk of targeted violence. The research focused on three primary objectives: first, to evaluate these professionals' perspectives on current safety and security measures in addressing targeted violence within K-12 schools; second, to examine their views on what is needed to improve upon school safety, and third, to explore their perception of the potential effectiveness and challenges of CPTED strategies in these environments. The following research questions guided the study:

RQ1: How do crime prevention professionals perceive effectiveness of using CPTED to mitigate targeted violence in K-12 schools?

RQ2: What challenges do crime prevention professionals perceive when using CPTED to mitigate targeted violence in K-12 schools?

This chapter highlights the key findings of the research, starting with an overview of the study's context. It details the settings and participants involved, and a brief summary of the demographic characteristics relevant to the research objectives. A comprehensive explanation of the data collection and analysis methodologies is provided, accompanied by the strategies employed to ensure the reliability and validity of the results. The chapter then transitions into a comprehensive presentation of the findings, carefully structured around the central themes that emerged from the data.

Setting

This study was conducted virtually, offering participants both flexibility and convenience. Scheduling became more efficient, and disruptions to daily routines were minimized. Data collection was conducted through semi-structured Zoom interviews, allowing participants to keep their cameras on or off, thereby creating a comfortable and accommodating environment. Before each session, participants were provided with clear and detailed information about the interview's purpose, the voluntary nature of their participation, their right to withdraw at any time, and the confidentiality measures in place to protect their privacy.

Demographics

This study involved interviews with ten participants, nine men and one woman, conducted over an eight-week period. All were highly experienced professionals in crime prevention, with careers spanning 20 to 30 years, and some contributing as much as five decades to the field. Participants came from diverse backgrounds, including security, architecture, law enforcement, and military service, each bringing valuable perspectives to the discussion. Their insights shed light on the complexities of implementing CPTED strategies in K-12 schools, offering a rich, multidimensional understanding of the challenges and potential solutions in this critical area.

Data Collection

The recruitment process began after receiving IRB approval in January 2025 (IRB protocol #01-06-25-0598235). Invitations were posted on social media platforms (i.e., Facebook, LinkedIn) for the following organizations: the National Institute of Crime

Prevention, the International CPTED Association, ASIS International, the International Society of Crime Prevention Practitioners, and the Academy of Criminal Justice Sciences. Potential participants were encouraged to send a direct message or email if they felt they met the study requirements and were interested in participating. Twenty people expressed interest in participating, and consent forms were emailed to them. Of the 20 participants who expressed interest, 15 returned the consent forms. Of the 15 participants who returned the consent forms, 10 responded to scheduling requests. All individuals who expressed interest in participating in the study met the requirements.

The primary data of this study were collected through semi-structured interviews, conducted using a thoughtfully crafted framework of open-ended questions. The complete set of questions is available in Appendix A. Conducted via Zoom, the interviews ran from January to February 2025, with each session lasting 60 to 90 minutes. Before each session, participants were thoroughly briefed on the study's purpose, their rights, and the measures to protect their confidentiality. To ensure confidentiality, pseudonyms were assigned to participants, and all identifying information was removed from the data. All interviews were conducted with participants' explicit consent and audio-recorded to ensure accuracy. Each recording was transcribed verbatim, capturing every detail of the conversations. All materials, including audio files, transcripts, and notes, were securely stored on password-protected computers and encrypted cloud platforms to uphold ethical standards and ensure strong data protection.

Data Analysis

Data analysis was conducted using Braun and Clarke's (2019) reflexive thematic analysis, a widely respected method known for its flexibility and systematic approach. This technique provides a clear and comprehensive approach to identifying, organizing, and interpreting meaningful patterns within qualitative data. The analysis began with an in-depth familiarization phase, which involved repeatedly reading the interview transcripts while cross-referencing them with audio recordings. This step not only ensured accuracy, but also facilitated a deeper immersion into the participants' narratives and perspectives. During this phase, detailed notes were meticulously recorded to capture initial observations, emerging codes, and the researcher’s reflective interpretations. These notes became an invaluable resource, providing critical insights for further analysis and refinement of themes.

The next step focused on generating initial codes using an inductive coding approach. This bottom-up method allowed the data itself to guide the coding process, ensuring that the codes authentically reflected participants' experiences and perspectives. Descriptive codes were directly derived from the transcripts, capturing the essence of the data as described by Braun and Clarke (2019). These codes emphasized participants' unique insights, preserving the depth and richness of their stories. For example, codes such as holistic, comprehensive, target hardening, access control, natural surveillance, and stakeholder collaboration were chosen to stay true to participants' language, bringing their narratives to life.

After completing the initial coding phase, the next step was to organize the codes into broader, more cohesive themes. This iterative process involved meticulously grouping, reviewing, and refining the codes to reveal overarching patterns and meaningful connections. Mind mapping proved invaluable in visually mapping the relationships between codes and emerging themes. This approach ensured the themes were clear, distinct, and faithful to the data. For instance, codes such as reactive, ineffective, expensive, and punitive were consolidated under the theme Challenges of Traditional Security Measures, while proactive, comprehensive, collaborative, and sustainable were grouped to form the theme Benefits of CPTED Strategies.

Each thematic cluster underwent a meticulous review, refinement, and revision process to ensure it accurately represented the data and maintained internal consistency. This involved systematically cross-checking each theme against the coded data to ensure it authentically captured the essence of the participants' narratives. Once finalized, the themes were thoughtfully named and clearly defined to reflect their core meaning and scope. The final phase of analysis focused on weaving these findings into a cohesive and compelling narrative that directly addressed the research questions and objectives. This synthesis highlighted key insights, emerging trends, and potential implications, offering valuable direction for future research and practice.

The analysis revealed three central themes: the inadequacy of current school safety measures, the necessary steps to enhance safety and security, and the critical role of CPTED as a foundation for school safety plans. These themes are summarized in Table 1. Data saturation was achieved after five interviews, as participants consistently

identified similar patterns throughout the study. However, five additional interviews were conducted to ensure comprehensiveness. While outliers were carefully scrutinized during the analysis, participants demonstrated striking consistency in their responses, underscoring the reliability of the findings. This uniformity likely reflects the shared expertise of the participants, all of whom are seasoned professionals in crime prevention. However, this consistency also highlights a limitation: the lack of diverse perspectives may constrain the breadth and generalizability of the results. To address this, future research should consider alternative strategies to incorporate a broader range of viewpoints, thereby enriching the depth and applicability of the insights.

Table 1

Themes, Subthemes, and Illustrative Coded Words and Excerpts Regarding School Safety Measures and CPTED

Theme	Subtheme	Illustrative Coded Words/Excerpts
Theme 1: Current School Safety Measures are Inadequate	Subtheme 1: Strategic Planning and Resource Optimization	Reactive, response to incidents, Inadequate, Temporary Fixes, Costly, Lack of expert input, Lack of input from stakeholders, Misallocation of resources, Lack of process since Columbine, Cookie-cutter approaches, Lack of training
	Subtheme 2: Overemphasis on Active Shooters and Physical Security Measures	Does not address all forms of violence, too much focus on physical security, too much focus on active shooters, Desensitization, Physical security measures do not really deter threats, Internal Threats, Security Theater, Misrepresentation of risk, False sense of security, Liability/Negligence
	Subtheme 3: Adverse Effects on Well-being and School Environment	Prison-like environment, Authoritarian, can cause trauma, Lack of training, Lack of awareness, Teachers and administration unprepared, Lack of concern for how measures impact student and staff well-being, Affects grades and attendance
Theme 2: Enhancing Safety and Security on K-	Subtheme 1: Proactive Design and Integrated Security Planning	Holistic, Comprehensive, Proactive, Design with safety and security in mind from the beginning, Focus on insider

12 School Campuses		and external threats, Security framework, Threat assessments
	Subtheme 2: Fostering a Positive School Climate and Culture	Sense of belonging, Inclusivity, not just physical security, Security Culture, Culture of care, Situational Awareness
	Subtheme 3: Collaboration and Community Engagement	Training on how to use measures, Awareness, Holistic, Collaborative, Needs Assessment, Tailored Strategies, Involve Stakeholders (students, parents, maintenance), Expert Input (architects, security specialists), Security village
Theme 3: CPTED: The Essential Foundation for School Security Plans	Subtheme 1: A Proactive and Practical Approach to Crime and Violence Prevention	Proactive, Practical, Effective, Sustainable, Interaction with Environment, Cost-Effective, Adaptable
	Subtheme 2: Integration with Other Security Measures	Adaptable, Comprehensive, Maximize the impact of physical measures, Synergy
	Subtheme 3: Benefits and Challenges of Using CPTED to Enhance School Safety	Enhance safety, enhance environment, Social togetherness, improve student engagement, academics, Cost-Effective, ROI, improve perception of safety, aesthetically pleasing, Lack of awareness and training, Lack of buy-in and support, Lack of money

Evidence of Trustworthiness

This study employed several strategies to ensure its trustworthiness throughout the data collection, analysis, and interpretation process. As discussed and outlined in Chapter 3, this research adhered to Lincoln and Guba's widely recognized framework for evaluating the rigor of qualitative studies. This framework emphasizes four key components: credibility, transferability, dependability, and confirmability.

Credibility was strengthened through extended engagement, thorough triangulation, member validation, and reflective practices. First, the selection process began by identifying seasoned crime prevention professionals and subject matter experts to take part. Their extensive practical experience and theoretical knowledge added depth and credibility to the findings. Through prolonged engagement, the researcher built trust,

established rapport, and gathered rich, detailed insights. To ensure accuracy, verbal member-checking discussions were conducted after each interview, allowing participants to validate their responses. Triangulation further enhanced the study's rigor by comparing participant insights with existing literature, ensuring the findings were both comprehensive and well-supported. Throughout the research process, a reflective journal was carefully maintained, allowing the researcher to critically examine their own biases, assumptions, and perspectives to understand how these might influence the outcomes and interpretations.

To enhance the study's transferability, a rich and detailed account of the research context, participants, and data collection process was provided. The research context offers a comprehensive overview of the study's environment, enabling readers to fully grasp the conditions that shaped the findings. Participant details, including demographics, roles, and relevant experiences, were outlined to provide a clearer understanding of those involved. Furthermore, a step-by-step explanation of the data collection process, detailing the tools and methods used, ensures both transparency and reliability. This meticulous approach empowers researchers and practitioners to assess the relevance of the findings to their own contexts and make informed decisions about their applicability (Ahmed, 2024).

To ensure the study's dependability, every step of the research process was carefully documented through a comprehensive audit trail. This trail included detailed records of raw data, interview transcripts, coding frameworks, analytical notes, and decision logs, all systematically organized and preserved. By maintaining such thorough

documentation, the study ensures transparency, enabling external reviewers or researchers to assess the methodology, trace key decisions, and evaluate the credibility of the findings. While peer debriefing was considered in Chapter Three, it was ultimately deemed unnecessary due to the clarity and robustness of the results.

Confirmability was enhanced through a meticulous approach to data analysis and interpretation, with deliberate efforts to minimize researcher bias. Consistency and relevance were maintained during data collection through the use of pre-designed interview questions. Verbal member-checking discussions were conducted after each interview, allowing participants to validate their responses. The analysis incorporated verbatim quotes, providing concrete evidence of participants' perspectives and experiences. These quotes not only enhance transparency, but also provide readers with valuable context, enabling a deeper understanding of the researchers' interpretations and conclusions (Ahmed, 2024). Additionally, reflective journaling was used to document thoughts, biases, and reflections, fostering objectivity and transparency throughout the research process.

Results

The study aimed to explore the perspectives of crime prevention professionals regarding the use of CPTED in mitigating targeted violence on K-12 school campuses. The study focused on three key objectives: evaluating perceptions of existing safety measures, pinpointing areas in need of improvement, and exploring how CPTED principles can be effectively incorporated into school safety strategies. A comprehensive thematic analysis revealed three central themes, providing valuable insights into the

perspectives of crime prevention professionals, and highlighting the transformative impact of CPTED on enhancing school security. The first key theme reveals widespread agreement that current safety measures in K-12 schools are inadequate to meet the complex challenge of creating secure yet nurturing learning environments. The second theme emphasizes the urgent need for proactive and holistic strategies that go beyond basic physical security improvements, advocating for a more comprehensive approach to school safety. Finally, the third theme emphasizes the pivotal role of CPTED principles in school safety protocols, highlighting their unique ability to create safer and more supportive environments. The findings are structured around three main themes, each accompanied by related subthemes, providing a clear and well-organized framework for interpreting the results.

Theme 1: Current School Safety Measures are Inadequate

The overwhelming consensus was that existing safety measures in K-12 schools fall short of addressing the complex challenges of today's evolving security landscape. Participants identified a recurring issue of reactive decision-making, often driven by high-profile incidents or public pressure, rather than a proactive, strategic, well-informed strategy. This crisis-driven approach was widely criticized for yielding ineffective, costly, and short-term solutions that fail to address long-term threats. Participants likened this reactive approach to "putting band-aids on bullet wounds," emphasizing its inadequacy in addressing deeper issues. They pointed out that school districts often focus on simply "checking the box" to comply with regulations, rather than implementing truly effective safety measures. A common mindset of "It won't happen here" further undermines

proactive efforts. As one participant noted, "People say, 'That would never happen here.' But eventually, it does. And by then, you're already more than five steps behind."

In the face of rising mental health challenges, escalating gun violence, and increasing liability concerns, participants stressed that underestimating potential risks can leave schools vulnerable to significant legal and financial repercussions. Participants emphasized that schools have a clear legal duty of care, and failing to identify and address potential threats or implement reasonable safety measures can lead to negligence claims. Five participants, all experienced as expert witnesses in security-related negligence cases, highlighted that disregarding or downplaying risks exposes school districts to liability, potentially leading to lawsuits alleging negligence. These observations underscore the pressing need to reimagine school security strategies with a more innovative, proactive, and holistic approach that emphasizes both prevention and preparedness.

This theme is further categorized into three sub-themes, each designed to provide a detailed framework for analyzing and addressing the challenges related to school safety. These sub-themes aim to highlight the perceived shortcomings of current practices, including one-size-fits-all approaches, insufficient resources, and lack of expert input. By breaking down the broader theme into more specific areas, it becomes easier to identify actionable opportunities and implement targeted improvements that can enhance overall safety measures within schools.

Strategic Planning and Resource Optimization

Participants highlight that school safety strategies are often implemented without proper strategic planning, resulting in inefficient use of resources and reduced effectiveness. They criticized the over-reliance on generic, one-size-fits-all solutions that do not consider each school's unique environment, demographics, and safety needs. One participant stated, "They're just throwing money at things without a clear plan or understanding of what works." This approach often results in the purchase of expensive, state-of-the-art technologies that are poorly integrated into existing infrastructure and protocols, and are frequently rendered useless. A participant with K-12 security experience noted, "We've seen cases where schools don't know where to begin, so they simply copy security plans from other districts, and resort to purchasing the latest technology, and following whatever security trend is popular at that time."

Participants identified the absence of input from stakeholders and experts, especially in the planning stages, as a key deficiency in current school safety planning. In many school districts, administrators largely handle security planning, excluding vital perspectives from educators, students, architects, security consultants, law enforcement, and mental health professionals. A participant noted, "It's difficult to fully grasp all the possible issues without input from the people who are there every day." A participant, who is both a licensed architect and a security expert, stated, "We're frequently brought in after the fact to fix security flaws that could have been easily prevented during the design phase." Addressing an issue after it has occurred often leads to solutions that are both impractical and ineffective, as they are often rushed and lack proper planning. Without a

proactive approach, these reactive fixes tend to temporarily patch the problem, and in some instances, can even create new security vulnerabilities.

Another critical aspect of strategic planning involves effectively allocating and optimizing resources to maximize the impact of safety measures. Participants emphasized that schools often struggle to secure adequate funding to cover even basic educational needs, leaving little capacity for investing in security measures. Limited budgets often force schools to prioritize immediate, short-term needs over critical, long-term safety initiatives. Participants acknowledged that while options like surveillance systems, heavy-duty locking systems, and weapon detection technologies may offer a sense of immediate reassurance, they are often costly, and can be rendered ineffective if not implemented as part of a broader, well-thought-out strategy.

A participant with extensive experience in the military, law enforcement, and security shared an insight: “Metal detectors at entrances might catch 90% of weapons, but it’s the remaining 10% that pose the real danger.” He illustrated this with a recent example from a middle school, where newly installed metal detectors failed to prevent a violent incident. A student, standing just steps from the detectors, retrieved a knife from their backpack and stabbed a classmate before even approaching the screening area. This incident underscores the shortcomings of relying solely on quick, reactive security measures. It also emphasizes the value of practical, proactive, and cost-effective strategies that foster lasting safety by enhancing the overall school environment and culture.

Lack of funding and resources is also perceived as a contributing factor to the lack of comprehensive training and preparedness programs. Every participant emphasized the need for all personnel, including teachers, administrators, support staff, and students, to receive training on security protocols, emergency procedures, and basic self-defense techniques. Failing to address this can leave a critical gap in school preparedness, potentially undermining the effectiveness of safety measures during emergencies. Participants emphasized that simply adopting security technologies is not enough. Thorough training is essential to ensure that these tools are used to their full potential. Without proper training, these tools risk being misused, ignored, or bypassed entirely. Participants who have conducted security threat assessments at K-12 schools frequently encountered instances where emergency doors are propped open, security cameras have obstructed views or dead batteries, and access control systems are left disabled because it is more convenient for staff.

Participants emphasized the vital importance of fostering a security culture across the entire school community. They considered a security culture to be a collective mindset that prioritizes safety and encourages everyone, including students, parents, teachers, administrators, and maintenance personnel, to play an active role in maintaining a secure environment. An experienced security consultant with over 30 years in the field explained, "A secure school isn’t just about locks, cameras, and alarms. It’s about creating a culture of awareness and accountability, where everyone actively works to protect themselves and each other." To create such a culture, participants emphasized the need for open communication channels, trust-building activities, and collaborative

problem-solving approaches. They stressed that when members of the school community feel heard, supported, and empowered, they are more likely to take responsibility for their safety and the safety of others.

To cultivate a security culture, participants suggested that integrating security awareness into the school's core values and daily routines, rather than viewing it as a separate set of protocols, is essential. They recommended regular training and drills for students and staff on emergency procedures, as well as discussions about the importance of personal responsibility in maintaining a safe environment. Involving students, staff, and parents in the decision-making process when implementing security measures was also stressed. This empowers them to take ownership of their own safety and encourages them to be more vigilant in identifying potential threats. Participants further argued that even the most sophisticated security systems are only as effective as those using them. A strong security culture, rooted in awareness, vigilance, and shared responsibility, remains essential to ensuring lasting safety and preparedness.

Overemphasis on Active Shooters and Physical Security Measures

Many participants noted that current school safety strategies often prioritize active shooter scenarios, sometimes at the expense of addressing more common and pressing risks. This focus is largely driven by high-profile incidents, media coverage, and public pressure to "harden" schools with physical security measures such as metal detectors, security cameras, and armed personnel. While these measures are intended to protect against extreme acts of violence, they often lead to an imbalance in resource allocation, with an excessive emphasis on physical security rather than addressing broader safety

concerns. For example, issues like bullying, mental health support, and emergency preparedness for natural disasters often receive less attention and funding. Participants acknowledged the importance of preparing for tragic incidents like school shootings. However, they emphasized that these events, while devastating, represent only a small fraction of the safety challenges schools face on a daily basis.

Participants suggested that focusing solely on preventing active shooter events can lead to a "one-size-fits-all" approach that neglects other, more common everyday threats like bullying, vandalism, drug-related violence, and mental health crises. While less sensationalized, these everyday threats have a significant impact on the school environment and the well-being of both students and staff, which cannot be overlooked. A seasoned law enforcement professional with over 20 years of experience, who now specializes in active shooter response training for businesses and organizations, highlighted a common issue in school safety protocols. “Schools often place a disproportionate focus on active shooter drills. These scenarios are heavily emphasized, which is why they’re the ones most frequently tested and practiced,” they explained. While acknowledging the importance of preparing for such events, they cautioned against making it the sole priority. “We must not overlook the everyday threats that also require thorough testing, drills, and practice,” they added. All participants advocated for a more holistic approach to school safety, one that balances preparation for rare incidents with proactive measures to address the everyday well-being of students and staff.

The focus on high-profile incidents often perpetuates the belief that physical security measures are the ultimate solution to such threats, leading to an overreliance on

target hardening strategies. These incidents are widely publicized, creating a sense of urgency and fear that can overshadow well-rounded, evidence-based approaches to safety. This climate of fear and anxiety often pressures schools to "take action" after a tragedy, even when those actions may not be the most effective or appropriate solutions. Participants cited examples of institutions investing heavily in measures such as metal detectors, surveillance cameras, and reinforced doors, which they referred to as the “security theater” approach. This approach involves implementing highly visible physical security measures designed to reassure stakeholders and create the impression of safety and security. However, according to participants, these measures often contribute little to enhancing safety and may divert resources away from more impactful strategies, such as mental health programs, environmental initiatives, or fostering a supportive school culture that addresses underlying issues.

Participants acknowledged that physical security measures play a valuable role in deterring threats and enhancing response capabilities. However, they emphasized the importance of avoiding overreliance on these measures and treating them as a standalone solution to complex safety challenges. While these measures may deter certain threats, participants stressed they are not foolproof and can lead to more critical aspects of safety and security being overlooked. Participants also warn against relying too heavily on physical security measures, such as security systems or barriers, which can create a false sense of safety. A participant, with expertise in facility security and threat assessments, shared a telling experience:

> We assessed a site equipped with standard physical security features, metal detectors, massive door locks, and even had advanced technology like facial recognition. My team was able to breach their security in just ten seconds and reach the executive offices, which were on the third floor. Before they even realized where we were in the building, we were right there looking at them looking for us on the camera screens.

This story highlights a crucial truth that even the most advanced physical security measures are not immune to human error or deliberate circumvention. This is particularly concerning, as many threats often originate within the school community itself, rather than external intruders. Participants highlighted that violence often stems from internal issues, such as unresolved conflicts, bullying, and mental health challenges. Participant 3 said:

> When a student faces relentless bullying, frustration and anger can build to a breaking point, potentially leading to violence. They know precisely where the cameras are and when the school resource officer isn't around. These are deeply complex issues that cannot be addressed by hardware alone.

These insights underscore the crucial need for schools to adopt a comprehensive, integrated approach to safety, one that extends beyond relying solely on physical security measures. Participant 5 noted, "A hardened school is not necessarily a safer school. You can turn a school into a fortress, but that doesn't address the underlying issues that lead to violence." This highlights the importance of addressing the root causes of potential threats, rather than focusing exclusively on visible security measures.

Adverse Effects on Wellbeing and School Environment

Participants acknowledged that physical security measures can create a sense of safety for some. Still, they expressed concerns about their potential negative impact on student well-being and the broader school environment. They emphasized that prioritizing security without considering its effects on students and staff undermines the critical human element essential to effective safety planning. Many warned that excessive security measures risk fostering a harsh, authoritarian atmosphere, eroding trust between students and teachers. Participants highlighted that when schools resemble prisons, students may hesitate to seek help or report concerns, ultimately undermining their sense of safety. This lack of support can leave them feeling isolated, forcing some to cope with challenges on their own or avoid attending school altogether. Participant 1 said:

> When you over-police a place, the kids feel like they are in prison. Now, think about a prison, the ultimate target-hardening environment, right? Designed for maximum security, but do the inmates or staff feel safe? No, they don't. And it leads to more violence, not less.

The participants emphasized that creating a safe school environment requires more than just addressing physical threats; it also requires cultivating a positive and supportive atmosphere. Many voiced concerns about the overreliance on target hardening measures, warning that such strategies could inadvertently perpetuate a culture of fear and violence. They highlighted how security measures, such as excessive surveillance, weapon detection systems, controlled access, and visible security personnel, might foster

a tense environment, thereby increasing students' anxiety about their safety. Participant 7 said:

> When students see all these massive security features everywhere, they are constantly reminded of potential threats. It can make them feel less safe and more stressed. How can you expect them to focus on learning when they are worried and anxious all the time?

Additionally, they warned that conducting frequent drills could unintentionally desensitize students and staff, making them less likely to take the exercises seriously over time. This reduced sense of urgency might diminish their ability to recognize and respond effectively to genuine threats, potentially putting their safety at greater risk in real emergency situations. Some participants have noted that certain active shooter drills can be traumatic, particularly when they simulate intense scenarios using elements like fake blood, rubber bullets, or by making the drill feel like a real attack. Rather than enhancing safety, such measures could inadvertently undermine their effectiveness and the development of a positive school culture.

Creating a supportive environment is key to ensuring both safety and academic success for students. By prioritizing prevention over punishment, schools can foster a more positive and productive learning space. This means tackling important issues like bullying, mental health challenges, and social exclusion head-on, building a foundation where every student can thrive. A participant highlighted the significance of these interventions, expressing: "I don’t want my childhood memories to include being at school, having to walk through a scanner to check if I’m carrying a gun, or needing to

wear a bulletproof backpack." They continued, "If my school's backyard was surrounded by barbed wire, my mind would think 'prison camp,' and that's exactly what it is." This perception highlights the negative psychological impact of purely physical, punitive-looking security. It also further emphasizes the importance of a balanced approach to school safety that integrates both physical and psychological considerations.

Some participants highlighted that excessively punitive measures could unfairly impact students from marginalized communities, many of whom may already experience feelings of alienation or distrust toward authority. They emphasized that such measures could target behaviors, such as defiance or disrespect, further isolating these students. Additionally, they cautioned that implementing overly strict security measures could exacerbate existing inequities, creating an environment of fear and exclusion. This, in turn, could lead to higher rates of disproportionate disciplinary actions, such as suspensions or expulsions, and even increased involvement in the juvenile justice system, further leading to the school-to-prison pipeline.

Participants consistently emphasized the importance of creating a safe and supportive environment where students feel secure, connected, valued, and empowered to express their concerns. They criticized current safety and security measures used in K-12 schools, citing an over-reliance on generic, one-size-fits-all solutions that do not consider each school's unique environment, demographics, and safety needs. They expressed concern that schools focus too much on physical security measures and tend to overlook the impact these measures have on students, staff, and the overall school environment.

Theme 2 focuses on the key strategies that participants identified for addressing violence and improving safety in K-12 schools.

Theme 2: Enhancing Safety and Security on K-12 School Campuses

The second theme highlights the shared perception that improving safety and security in K-12 schools requires a proactive, holistic, and comprehensive approach. This involves a multifaceted strategy that combines environmental design, physical safety measures, detailed protocols, emergency response plans, and accessible mental health resources. Participants emphasized the importance of cultivating a culture of safety that prioritizes both the physical and psychological well-being of students and staff. They also emphasized the importance of collaboration, open communication, and shared responsibility among all stakeholders, including administrators, teachers, staff, students, families, and community partners. As one seasoned security consultant with three decades of experience explained, "A safe school isn't just about cameras and locks. It's about creating an environment where everyone, but especially students, feels supported, respected, and empowered to speak up."

This theme is divided into three core subthemes, each representing key areas identified by participants as vital to enhancing safety and security on K-12 school campuses. These subthemes underscore the complex nature of school safety, highlighting the need for holistic, well-designed strategies that prioritize both physical security and psychological well-being.

Proactive Design and Integrated Security Planning

Participants unanimously emphasized the urgent need to adopt proactive measures to ensure school safety. They emphasized that schools should actively anticipate potential threats, and address vulnerabilities and risks beforehand, rather than merely respond to incidents after they occur. Proactive thinking enables schools to anticipate and address potential threats, thereby enhancing their readiness and resilience, and reducing the likelihood of incidents occurring. Participants stressed that school safety must be an ongoing, dynamic process grounded in regular evaluations, strategic planning, and proactive measures. One participant explained, "Reacting to incidents after they occur isn't enough. We need to identify potential threats and vulnerabilities in advance and take steps to address those risks before they escalate into actual problems." Another participant noted, "a comprehensive risk assessment that considers various factors, such as security vulnerabilities, mental health concerns, and potential internal and external threats, is the foundation of a proactive safety strategy."

Participants stress the need to prioritize safety by incorporating it into the design of school buildings and grounds from the very beginning. They highlight the importance of "building security from the ground up," ensuring that safety measures are seamlessly integrated into the planning and construction process. They argue this approach is far more effective than addressing security concerns later, as an afterthought, when changes can be more costly, disruptive, and less efficient. By considering factors such as controlled access points, clear sightlines, strategically placed lighting, and secure perimeters early on, schools can create environments that are both welcoming and

protective for students and staff. Two licensed architects, who are also certified CPTED practitioners, emphasized the importance of designing physical spaces with safety as a priority from the outset. They emphasized the importance of proactively incorporating safety-focused design principles at an early stage in the process. Doing so can save substantial time, money, and effort that would otherwise be spent on costly, reactive measures or future redesigns.

Along with proactive design strategies, participants emphasized the importance of comprehensive security planning that integrates various aspects of safety, including physical security measures, emergency response protocols, and mental health resources. Integrated security plans should involve collaboration and coordination between school administrators, staff, students, parents, and local law enforcement agencies to create a seamless and coordinated security framework. This includes developing comprehensive emergency response plans, implementing clear communication protocols, and ensuring that all students and staff members are properly trained to respond to various potential threats and emergencies, including those beyond active shooters. A participant with experience in emergency management stated, “It’s not enough to just have a plan on paper; you need to practice it regularly and make sure everyone knows what to do.”

It is also essential to regularly review and update safety and security protocols to ensure alignment with best practices and the evolving threat landscape. Participants emphasized that security planning should be a continuous process of assessment, adaptation, and improvement. Conducting routine risk assessments, vulnerability audits, and security drills enables schools to identify potential weaknesses, refine safety

strategies, and respond more effectively to emergencies. This highlights that school safety is a dynamic and evolving process, requiring constant evaluation and enhancement to effectively address new threats and vulnerabilities.

Fostering a Positive School Climate and Culture

This subtheme emphasizes the critical role of school climate and culture in promoting safety and security. Participants emphasized the importance of fostering a positive school environment that promotes respect, inclusivity, and support for all students, faculty, and staff, believing this approach is just as crucial as physical security measures. According to participants, fostering positive relationships between students and staff is essential for creating a supportive school environment. They expressed concern over the heavy reliance on physical, target-hardening measures, such as increased security, metal detectors, and controlled access points, arguing that such strategies may unintentionally foster an environment of fear and distrust, which can negatively impact students' well-being. A participant with a background in law enforcement and who served as a school resource officer for over ten years, stated, "School safety isn't just about hardware; it's about building a culture of respect, support, and empowerment where students feel secure and engaged."

Rather than focusing exclusively on physical barriers and security measures, participants suggest that schools adopt holistic strategies to address the underlying causes of violence and cultivate positive school environments. These strategies could include improving the physical design of school spaces, fostering open communication and trust between students and staff, and ensuring accessible mental health support for both

students and faculty. Participants agree that a positive, inclusive school climate can help prevent incidents by addressing potential issues before they escalate. One participant noted, "If students don't feel connected to their school and community, they're more likely to disengage and potentially act out in harmful ways."

Participants emphasize that schools can foster a sense of community and safety that goes beyond physical security measures by creating a positive environment rooted in strong relationships, a sense of belonging, and emotional support. By proactively addressing potential issues, schools can provide a more holistic approach to security. As one participant noted, “It’s not just about physical security, it’s about understanding the needs of the students and addressing those needs before they manifest into more serious problems”. These insights highlight that creating a positive school climate that promotes diversity, inclusion, and respect is just as crucial as physical security measures in ensuring school safety and security.

Collaboration and Community Engagement

The third subtheme highlights the vital role of community engagement and collaboration in fostering and maintaining safe school environments. Participants emphasized that building a secure and supportive atmosphere requires the active involvement of all stakeholders, including school administrators, staff, students, parents, local law enforcement, and community organizations. These partnerships are crucial for developing a comprehensive, well-coordinated safety strategy tailored to the unique needs, challenges, and resources of each school. Without the insights and contributions of these key individuals, schools risk implementing “generic, one-size-fits-all solutions” that

may fail to address their specific circumstances effectively. Participants also underscored the importance of considering external factors such as geography, landscape design, population density, and local crime rates to craft a balanced and impactful safety plan.

As one participant noted, "What works in one school might not work in another. Each school has its own unique circumstances, and it's all about identifying what works best for your community to create a truly effective safety plan." This perspective reinforces the importance of tailoring safety approaches to reflect the distinct dynamics of each school community.

One of the key aspects of effective collaboration is maintaining open and transparent communication among schools, students, and their families. Participants emphasized that schools should actively involve students and their families in safety planning efforts, working together to create strategies that enhance the overall well-being of everyone involved. Schools should not only provide resources and support to address safety concerns, but also establish clear channels for sharing vital information. One participant highlighted the unique role of families and students in identifying potential concerns by stating, "Students and parents are the eyes and ears in the school community. They typically know what is going on before the school administration does, and can provide valuable insights into potential threats." Empowering them to share their observations and concerns can lead to quicker responses and more proactive measures to ensure safety.

Participants highlighted the importance of extending collaboration beyond the school community, to include partnerships with law enforcement, security professionals,

architects, and other local organizations. Such collaborations were viewed as essential for developing evidence-based, integrated approaches to school safety, enhancing communication and coordination, and utilizing specialized resources and expertise. Architects can help design school campuses that incorporate proactive and practical safety and security principles. Security professionals can provide valuable guidance on security protocols, and local law enforcement can serve as valuable resources for incident response and prevention, as well as offer training. Additionally, partnerships with mental health professionals were emphasized as vital for providing support services to students and staff. A participant who specializes in school security design stated, “Schools do not function in a bubble, so the best plans, the most effective school safety plans, are those developed in partnership with everyone, all stakeholders. Security is a shared responsibility."

This theme highlights the perspectives of crime prevention professionals on how schools can enhance campus safety and security. The resounding consensus is that schools must be proactive in their approach to safety. Designing the school environment with safety in mind from the outset was identified as a critical priority. Equally important is the development of tailored safety plans that take into account each school’s unique circumstances, culture, and resources. In addition, fostering a positive school climate and building strong, collaborative relationships among all stakeholders were also deemed essential elements of effective safety strategies.

Theme 3: CPTED as the Essential Foundation for School Security Plans

The study's third key theme highlighted the critical importance of CPTED as a cornerstone of an effective school safety plan. All participants unanimously regarded CPTED as an essential, cost-efficient strategy for enhancing safety and security on K-12 campuses. While they acknowledged that CPTED alone cannot address every school safety challenge, they praised its proactive and practical nature, as well as its seamless integration with other security measures. Participants highlight that CPTED is far more than a set of design principles; it is a holistic approach to school safety. By combining physical design, security technology, and community involvement, CPTED seeks to create secure yet welcoming learning environments. Unlike traditional "target hardening" methods, such as fences, metal detectors, and surveillance cameras, CPTED emphasizes strategic approaches, such as improving natural surveillance through maintaining the landscape and window placement, controlling access through building design and limiting entry points, and promoting territoriality through clear signage and well-maintained grounds. Through simple design, CPTED can enhance safety and security on K-12 campuses.

One participant explained, “CPTED isn’t just about adding fences or security cameras, it’s about designing spaces that naturally promote safety through thoughtful planning and effective management.” Participants most often highlighted natural surveillance, access control, territorial reinforcement, and maintenance as key CPTED strategies. These design principles aim to reduce the likelihood, visibility, and attractiveness of criminal activity, fostering environments that are not only safer, but also

welcoming for students, staff, and visitors. A participant with over 50 years of experience in architecture and criminology highlighted the transformative role of CPTED in school safety. He stated, “CPTED has a profound impact because it focuses on creating spaces that are not only safe, but also positive. It addresses the physical, social, and psychological elements of a space to enhance security and foster a sense of safety.”

This theme is further divided into three subthemes, each addressing critical elements of implementing CPTED in schools: (1) positioning CPTED as a proactive and practical approach, (2) its seamless integration with other security measures, and (3) the benefits it offers alongside the challenges it presents.

Proactive and Practical Approach to Crime and Violence Prevention

The first subtheme highlights CPTED as a highly effective, proactive, and practical approach to preventing crime and violence in schools. This approach focuses on designing and managing the physical environment to reduce opportunities for crime, promote positive behavior, and enhance safety. Participants unanimously agreed that proactive strategies, such as CPTED, provide greater impact and long-term sustainability than reactive measures, such as heightened physical security or stricter enforcement policies. By addressing potential risks upfront through thoughtful design, CPTED can help create safer, more welcoming school environments that benefit both students and staff. One participant explained, "CPTED is about more than just design; it's about understanding how people interact with their environment and using that knowledge to create safer, more secure spaces." Another echoed this sentiment, stating, "It's not just

about putting up fences and cameras; it's about creating a sense of community and ownership among the entire school community."

Participants emphasized that beyond enhancing safety and reducing crime, CPTED has the potential to significantly influence behavior and contribute to a healthier school environment. Thoughtfully designed spaces that promote social interaction and foster a welcoming atmosphere help build a stronger sense of community and belonging among students. This sense of connection can enhance relationships between students and staff, while also reducing instances of bullying and other negative behaviors. One participant, a seasoned school resource officer, noted that incorporating CPTED principles can also instill a sense of ownership and accountability in students. For example, he described how a well-maintained school garden not only beautified the campus, but also fostered a sense of pride among the students who tended to it. They were protective of the space because they maintained it.

Participants highlighted the practicality and cost-efficiency of using CPTED principles to reduce crime and violence in schools. By rethinking the layout and design of school spaces, CPTED provides a sustainable and effective alternative to traditional, expensive "target hardening" methods. These strategies can seamlessly integrate into daily school routines and activities. For instance, placing lockers in open, highly visible areas or creating designated drop-off and pick-up zones for parents can enhance security while minimizing opportunities for crime. According to a participant, "CPTED is about creating spaces that are inherently safe, which reduces the need for expensive security measures.” They highlighted the cost-effectiveness of strategies such as trimming

shrubbery to improve visibility, enhancing lighting in and around the campus, controlling access through designated entry points, and ensuring everything is maintained, which can significantly enhance safety without requiring substantial financial investment.

Integration with Other Safety Measures

This subtheme highlights the participants' view that CPTED should be a fundamental element of all school safety programs, due to its unique ability to integrate seamlessly into any environment and complement other security measures. According to participants, CPTED offers a strong foundation for safety, but they stressed that CPTED should not be treated as a one-size-fits-all or standalone approach. Instead, it should be strategically implemented alongside other safety measures, such as security cameras, alarms, security personnel, visitor management systems, and mental health support services. This not only ensures a more comprehensive safety framework, but also increases its overall effectiveness. Participant 10 said:

> Incorporating CPTED principles on a school campus should include things like designing open sightlines to eliminate blind spots, planting bushes or trees to define boundaries, making sure there is one way in and one way out to prevent easy access, and clear and visible signage directing visitors to the main office for check-in upon arrival. These are simple and practical measures, right? And when they are paired with the more traditional security stuff, like security cameras, locks on the doors, and maybe an SRO, it creates this synergistic effect that can really change the entire atmosphere of the school, creating a safer and supportive learning environment.

Several participants mentioned this “synergy” between CPTED and other safety measures, citing how CPTED strategies can amplify the effectiveness of traditional security measures. For example, one participant discussed how security cameras are more effective when strategically placed in areas with clear sightlines, ensuring optimal visibility and minimizing blind spots. Another shared their experience of implementing CPTED principles when upgrading their school's security system, which involved relocating security cameras to strategic locations based on the new layout of the campus. These insights highlight the importance of integrating CPTED with other safety measures in a coordinated manner to maximize effectiveness and create safer school environments.

Benefits and Challenges of Using CPTED to Enhance School Safety

This subtheme explores the advantages and challenges of implementing CPTED to improve school safety. Participants universally recognized the significant benefits that CPTED can offer. CPTED strategies are designed to deter crime and reduce opportunities for violence, while enhancing the aesthetics and functionality of the environment. Participants believe that by prioritizing intentional design, these approaches not only improve safety and security but also create a more positive, welcoming, and supportive atmosphere for both students and staff. They highlighted examples, such as enhancing sightlines to minimize blind spots, allowing staff to monitor activities more effectively, and improving lighting in key areas, including hallways, parking lots, and entrances. This not only deters unwanted behavior, but also fosters a sense of security, even during after-hours events. Participant eight said:

> The primary goal of CPTED is to create a safe and nurturing environment where students feel genuinely safe, where they can focus on learning and simply being a kid, without having to live in fear or worry of being hurt or killed while at school.

Additionally, participants discussed the use of CPTED principles to promote a sense of community and social cohesion within the school. According to participants, when individuals feel connected to and invested in their environment, they are more likely to intervene if they witness suspicious activities, thereby contributing to a safer and more secure community. Examples highlighted included the use of public art displays, community gardens, and open courtyards or outdoor seating areas to create welcoming spaces. Pointing out that these measures can make the campus more visually appealing, practical, accessible, and safe for everyone who uses the space.

Another benefit participants identified is that CPTED is a practical, cost-effective strategy with a strong return on investment. Participants who are certified CPTED practitioners emphasized the approach's value, highlighting its versatility and ease of implementation. These strategies can be seamlessly integrated into both new construction and renovation projects, requiring minimal financial investment while delivering significant benefits. Beyond enhancing security, CPTED also improves the functionality and aesthetics of spaces, creating environments that feel safe, welcoming, and efficient. By leveraging practical and thoughtful design principles, such as natural surveillance, access control, and territorial reinforcement, schools can reduce the need to rely heavily on more punitive or reactive security measures. Measures such as metal detectors, surveillance cameras, or additional security personnel, which may be effective, can create

an atmosphere of restriction and often incur high costs for purchase, installation, and ongoing maintenance. Participants acknowledged that such traditional security measures remain important components of a broader, comprehensive security plan, but they stressed the unique value of CPTED in proactively addressing safety concerns in a way that feels both human-centered and fiscally responsible.

While participants recognized the many advantages of using CPTED to improve school safety, they also acknowledged the challenges it faces. One of the main obstacles identified was a lack of awareness and understanding of CPTED principles among decision-makers and stakeholders in the education system. Participants noted that CPTED is often misunderstood or overlooked. Some school administrators, security personnel, and community members do not fully grasp the potential of CPTED to create safer and more secure learning environments, leading to resistance or skepticism towards its implementation. A participant with expertise in school security assessments remarked, "Most schools have likely never even heard of CPTED. And for those who have, they often misunderstand it as merely installing cameras, alarms, or fences. They fail to grasp that it's truly about designing the environment itself to enhance safety."

Another key obstacle to implementing CPTED in schools is the lack of funding and resources. Participants frequently noted that tight school district budgets make it difficult to prioritize CPTED-related improvements, particularly when competing demands, such as academic programs and staffing, take precedence. Although CPTED strategies are cost-effective, participants emphasized that implementing them often requires upfront investments in design modifications, infrastructure upgrades, and

training for school staff. The upfront investment remains a significant barrier for many schools. This is where the lack of awareness of CPTED and its advantages further complicates matters, as schools may perceive it as "an added expense" rather than a long-term investment in safety.

Participants also highlighted that many school districts often lack the technical expertise and resources to conduct thorough security assessments or develop safety plans based on CPTED principles. They emphasized that schools may face significant challenges in effectively implementing CPTED strategies without adequate knowledge and training. It was underscored that a clear understanding of these strategies, their purpose, implementation, and ongoing maintenance, is crucial. Without this foundation, the effectiveness of these measures could be compromised, potentially leaving schools vulnerable to risks that these measures are designed to mitigate. A participant, a seasoned professional in architecture and security, remarked, "Even the best CPTED design in the world will fail if it isn't properly understood or maintained." For example, poor lighting design could inadvertently create shadows and blind spots, increasing safety risks. Likewise, poorly placed landscaping could obstruct views and provide cover for unwanted activities.

Summary

This qualitative study employed semi-structured interviews to explore the perspectives of ten crime prevention professionals on the effectiveness and application of CPTED strategies in mitigating targeted violence in K-12 schools. The interviews provided rich, in-depth data on the practical experiences and professional insights of

participants actively working in the field. Data from the interviews were carefully analyzed and coded using Braun and Clarke's Reflexive Thematic Analysis framework, which revealed three key themes that underscore the critical role of environmental design in enhancing school safety. These themes also highlighted both the tangible benefits of implementing CPTED strategies and the challenges in adapting such strategies to the unique environments and constraints of schools. Subthemes were also identified based on their prevalence and ability to provide additional context, contributing to a comprehensive understanding of the complexities involved in applying CPTED in school settings.

This chapter presented insights from professionals with specialized expertise in architecture, law enforcement, the military, and security. The resounding consensus among all participants is that CPTED is a practical, proactive, and cost-effective approach to reducing targeted violence in schools. Participants expressed confidence in CPTED's ability to proactively reduce crime, while also enhancing the perceptions of safety and promoting a sense of community. Furthermore, the participants who were certified CPTED practitioners emphasized the approach's value, highlighting its versatility and ease of implementation. While highlighting the significant advantages of CPTED, they also identified key challenges in its implementation, including a lack of awareness and understanding, limited funding and resources, and the need for specialized knowledge and training. Overall, the findings effectively addressed the research questions and provided valuable insights into how CPTED strategies can effectively mitigate targeted violence in K-12 schools.

Chapter 5 offers a comprehensive analysis of the research findings, thoughtfully connecting them to current academic literature for a well-rounded exploration of the subject. It thoroughly examines the implications of these findings, highlighting their potential to inspire meaningful social change. The chapter also addresses the study's limitations, providing clear and actionable recommendations for future research to bridge these gaps. This research aims to deepen the understanding of CPTED and refine its practical application within school settings, offering valuable insights to advance the field.

Chapter 5: Discussion, Conclusions, and Recommendations

Targeted violence in K-12 schools across the U.S. is a pressing public health issue, threatening the safety of students and staff, leaving lasting trauma, and destroying trust in educational environments. While traditional safety measures, such as surveillance, weapon detection systems, and increased security personnel, may offer a sense of immediate safety and help deter some acts of violence, research indicates that they are often ineffective and can have harmful consequences, potentially heightening fear among students (Conwell & Elam, 2024; Zhu et al., 2022). This situation requires a more holistic approach to school safety, one that can help address the root causes of violence and foster positive school climates, where individuals feel safe, supported, and connected (Rajan et al., 2022). Crime prevention through environmental design (CPTED) is one such holistic approach that has gained traction as an alternative to traditional security measures, as it seeks to reduce crime by modifying the built environment (Lamoreaux & Sulkowski, 2019). While CPTED has proven successful in reducing crime in various settings, including residential communities, commercial areas, and public spaces, its effectiveness in mitigating targeted violence on K-12 school campuses is still emerging and not fully understood (Komal & Radhika, 2023; Lamoreaux & Sulkowski, 2019; Vagi et al., 2018), particularly from the perspective of crime prevention professionals, remains limited.

To address this gap and add to the body of knowledge, this qualitative study explored the perceptions of crime prevention professionals on the use of CPTED to mitigate targeted violence on K-12 school campuses. Ten crime prevention professionals,

each with over five years in safety and security, participated in semi-structured interviews. Their expertise spanned diverse fields, including architecture, law enforcement, the military, and security, providing valuable insights into their views on school violence, their experience with current measures, and the challenges and opportunities of implementing CPTED. The findings reveal widespread agreement that current safety measures in K-12 schools are inadequate to address the complex challenges these environments face. Many argue that these measures often cultivate a climate of fear, unintentionally worsening the very issues they aim to resolve. In contrast, CPTED is proposed as a more holistic and sustainable approach to school safety, focusing on fostering a positive school environment, enhancing physical security, and addressing the root causes of violence.

Interpretation of the Findings

This study offered a crucial perspective from crime prevention professionals in criminology, architecture, law enforcement, and military security, highlighting critical flaws in current school security strategies. These professionals emphasize that most approaches are largely reactive, shaped by high-profile tragedies, intense media scrutiny, and public pressure to "act quickly." Unfortunately, this rush to respond often comes at the expense of thoughtful, strategic planning. Research supports these concerns, showing that post-incident measures frequently prioritize physical security solutions that lack empirical validation and fail to address deeper, systemic vulnerabilities (Highberger et al., 2022; Shu et al., 2022). While these measures may temporarily deter or delay potential attackers, they often foster a false sense of security and overlook long-term

consequences. Furthermore, such strategies are commonly implemented hastily, without sufficient evidence or consideration of their broader impact (Jonson, 2017). These findings underscore the urgent need for deliberate, evidence-based solutions to school security, solutions that prioritize effectiveness, sustainability, and a deeper understanding of the root causes of violence.

The findings highlight a strong consensus among the crime prevention professionals interviewed that mitigating targeted school violence requires more than checking a box or relying on a single solution. It necessitates a fundamental shift toward a proactive, holistic, and multidisciplinary approach, one that integrates effective safety measures with the creation of supportive and positive school environments. This perspective aligns with the growing body of research that underscores the importance of forward-thinking strategies that balance both physical security and the social and emotional well-being of students (Brissett et al., 2025; Moore et al., 2021; Nickerson et al., 2021; Phelps et al., 2024). School safety is not solely about hardening schools; it is intricately linked to a myriad of factors, such as the school's environment, the social climate within the school, the mental health support systems available, and the overall sense of community and belonging that students experience (Conwell & Elam, 2024; Dolph & Holland, 2025).

Current research suggests effective safety initiatives require multifaceted approaches to address the complex challenges of school safety. For instance, Kerr and King (2019) emphasized that school safety initiatives should include essential considerations, such as school climate, school organization, policies, and rules,

environmental design, security measures, and universal, targeted, and intensive support programs and services. The insight provided by the crime prevention professionals interviewed strongly supports this sentiment. The findings suggest that focusing solely on "gates, guards, and guns," while seemingly providing a sense of security, neglects the underlying issues that contribute to school violence. The findings emphasize the integration of CPTED principles into school safety initiatives. These principles provide a viable framework for creating safer, more secure, and supportive school environments (Daniels et al., 2009; Nickerson et al., 2021).

The primary research question examined how crime prevention professionals perceive the effectiveness of using CPTED strategies in K-12 schools to reduce targeted violence. Described as a proactive, practical, and cost-effective approach, the study highlighted the potential of CPTED to transform the way schools address security challenges. At its core, CPTED is a holistic approach that is far more than a set of design principles. It is a comprehensive approach that uses the thoughtful design and management of the built environment to reduce opportunities for crime, deter offenders, and foster a positive and secure community (Cozens & Love, 2015). The crime prevention professionals interviewed widely agree that when CPTED principles are effectively implemented, they not only enhance the perception of safety and security, but can also significantly reduce crime and violence on school campuses. Current research supports this view, highlighting that schools adhering to CPTED principles are perceived as safer and report lower rates of school violence (Komal & Radhika, 2023; Nickerson et

al., 2021; Vagi et al., 2018). This is particularly noteworthy, given the limited evidence-based research on CPTED in school environments.

The findings expand on the perceived benefits of using CPTED in K-12 school environments, as the participants highlighted several key factors that contribute to its effectiveness. From its practicality and cost-effectiveness to its proactive and adaptable nature, the findings suggest that it offers a comprehensive framework necessary for addressing school safety challenges. The findings underscore CPTED's proactive nature, which enhances the ability to address potential security issues before they escalate into serious incidents. This is particularly important in the context of school violence, where early detection and prevention are critical (Komal & Radhika, 2023; Shariati, 2021). For example, ensuring proper lighting in key areas such as entrances, hallways, and parking lots is a low-cost and practical measure that significantly deters potential criminal activity (Vagi et al., 2018). Similarly, maintaining the landscape properly ensures clear lines of sight, prevents potential hiding places, and makes natural surveillance easier, while also fostering a sense of openness and safety (Ekren et al., 2025).

The crime prevention professionals interviewed highlighted that generic, technology-heavy security measures, such as metal detectors, security cameras, and strict access controls, often shape current K-12 school environments. While these methods may provide immediate, short-term solutions, they are costly, prone to becoming outdated, and frequently fail to address the specific challenges and complexities of individual environments (Conwell & Elam, 2024; Steiner et al., 2021). This reliance on physical measures and technology not only diverts resources away from more sustainable and

person-oriented solutions, but can also create a false sense of security (Lamoreaux & L. Sulkowski, 2019). In contrast, CPTED provides a more flexible, sustainable, and customized approach. Grounded in principles of adaptability and personalization, CPTED transcends the constraints of one-size-fits-all strategies. Instead, it evolves to address the unique needs of each environment where it is applied (Lamoreaux & Sulkowski, 2020). Research highlights that this flexibility is a key advantage in its implementation, as it enables schools to craft strategies that align with their unique physical layouts, demographics of their student populations, and the broader context of their surrounding communities (Komal & Radhika, 2023; Lamoreaux & L. Sulkowski, 2019).

While the findings strongly support CPTED as a promising and effective strategy for enhancing school safety, this study also examined its potential limitations and challenges to provide a more balanced perspective. The second research question specifically addressed the challenges or barriers that could hinder the successful integration of CPTED strategies into K-12 schools, such as the lack of awareness or understanding of CPTED principles, funding limitations, and the need to balance safety measures with maintaining a welcoming school environment. These challenges highlight the complexities of applying CPTED principles in real-world educational settings, emphasizing the importance of strategic planning, collaboration, and adaptability for effective implementation.

The most significant challenge identified is the general lack of awareness and understanding of CPTED. Many stakeholders, including school administrators, teachers, and community members, may be unfamiliar with CPTED principles, their potential

benefits, and the practical applications of these principles. This lack of awareness can be a significant barrier to adoption, as stakeholders may be reluctant to support or invest in strategies they do not fully understand. Additionally, a lack of awareness and understanding can hinder the effective implementation of CPTED measures, as individuals may not recognize the importance of specific design elements or understand how to use them effectively to enhance security (Cozens & Love, 2017; Johnson et al., 2018). To address this challenge, it is essential to provide comprehensive education and training programs for all stakeholders. These programs should focus on raising awareness about CPTED principles, their benefits, and how they can be applied in school environments. Moreover, training should be tailored to the specific needs and roles of different stakeholders, ensuring that everyone understands how they can contribute to creating a safer school environment.

The crime prevention professionals interviewed noted that CPTED is often viewed as an additional cost or burden, rather than a valuable investment in the safety and well-being of students and staff. Although its strategies prove highly cost-effective over time, their success depends on strategic planning and efficient resource allocation (Rupp et al., 2025; Shariati, 2021). Integrating CPTED principles into future school designs can reduce costs, but many existing facilities require extensive renovations. The literature supports this insight, as it recognizes that redesigning infrastructure, improving lighting and landscaping, or installing surveillance systems may be particularly challenging for schools with limited financial resources (Lamoreaux & Sulkowski, 2019; Steiner et al., 2021). A practical solution lies in strategically reframing security plans and reallocating

budgets. Rather than investing in “security theater” measures, often expensive and largely ineffective, school districts should focus on high-impact, low-cost CPTED initiatives that deliver meaningful improvements (Moore et al., 2021; Shariati, 2021).

Limitations of the Study

This study offers valuable insights into how crime prevention professionals perceive the role of CPTED in reducing targeted violence in K-12 schools. However, it is important to acknowledge its limitations. First, the study's sample size of ten participants, while providing rich, in-depth qualitative data, inherently limits the generalizability of the findings to a broader population of crime prevention professionals. This limitation indicates that the perspectives captured may not fully reflect the diversity of opinions and experiences within the field. Therefore, caution is advised when attempting to apply these findings to broader contexts or different settings. Future research could expand the sample size and include participants from diverse geographic locations and professional backgrounds to enhance the transferability of the findings.

Second, the study focused specifically on the perspectives of crime prevention professionals, who play a critical role in shaping and implementing safety measures. While their insights are undeniably valuable, they may not fully capture the diverse views and experiences of other important stakeholders, such as students, teachers, school administrators, parents, and community members. Each of these groups brings unique perspectives and experiences on school safety, and their perceptions may differ significantly from those of crime prevention professionals. Future research could explore the perceptions of these diverse stakeholders to provide a more comprehensive and

nuanced understanding of the challenges and opportunities associated with implementing CPTED in K-12 schools.

Third, the study relied primarily on semi-structured interviews for data collection. While this approach provided valuable insights into participants' perceptions and experiences, it also introduced potential limitations, including recall bias and social desirability bias. Participants might struggle to recall past events or provide responses they believe are socially acceptable or aligned with the researcher's expectations. To address these challenges, future studies could adopt a more comprehensive approach by incorporating additional methods, such as direct observation of school environments or an in-depth analysis of school safety policies and procedures.

Recommendations

The findings of this study offer valuable insights into considerations for future research in this subject area. While the study yielded in-depth qualitative data, the limited sample size of just ten participants suggests the results might not fully represent the diverse perspectives of crime prevention experts. Additionally, the views of stakeholders such as students, educators, administrators, and parents were not taken into account, which could have provided a more comprehensive insight into school safety measures. To enhance the evidence base for CPTED and its impact on school safety, future research should expand the sample size and include participants from diverse professional backgrounds. Additionally, future studies could expand their scope to include various school settings, such as urban, suburban, and rural environments, to examine the impact of contextual factors on the implementation and effectiveness of CPTED.

Given the complexity of this topic, future research should adopt a mixed-methods approach, combining both qualitative and quantitative data. This methodology allows for a more thorough and nuanced exploration of the subject. For example, integrating quantitative data, such as crime rates or disciplinary records, with qualitative insights from interviews or focus groups, can provide a richer understanding of the effectiveness of CPTED strategies in K-12 environments. Additionally, longitudinal studies could be valuable in examining the long-term impacts of CPTED interventions on school safety, student well-being, academic performance, and overall school climate.

All of the crime prevention professionals interviewed emphasized the critical role of mental health in addressing targeted violence. They underscored the need for students and staff to have access to comprehensive mental health resources and support, as well as the importance of fostering a school environment that is inclusive, supportive, and promotes overall well-being. Future research should explore the intricate relationship between CPTED strategies, mental health interventions, and the broader school climate, with the goal of identifying cohesive approaches that enhance both physical security and psychological well-being.

Implications for Policy and Practice

This study provides valuable insights into shaping policies and practices aimed at reducing targeted violence in K-12 schools by applying CPTED principles. The findings underscore the need for proactive, comprehensive, and integrated approaches to school safety that strike a balance between physical security measures and efforts to foster a supportive atmosphere. Creating safer schools requires a multifaceted approach that

combines strategically designed school layouts, robust physical security measures, and initiatives to foster a positive and inclusive environment. Key priorities include designing school spaces that promote natural surveillance and limit potential opportunities for harm, fostering a culture of support and belonging among students and staff, and ensuring easy access to mental health resources to address the underlying issues that may lead to violence.

It is also important to recognize that CPTED is not a one-size-fits-all solution. Its effective implementation requires careful consideration of the unique context and needs of each school. Therefore, when implementing CPTED principles in schools, it is essential to consider the unique characteristics of each school, including its physical layout, student demographics, and community context. This highlights the need for collaborative partnerships among crime prevention professionals, school administrators, educators, students, parents, and community members to develop tailored CPTED strategies that address specific safety concerns and promote ownership and shared responsibility.

The study's findings also underscore the importance of ongoing evaluation and refinement of safety and security measures, including CPTED strategies, to ensure their effectiveness and long-term sustainability. As vulnerabilities to safety evolve due to changing social dynamics, technological advancements, or emerging threats, the strategies designed to address these issues must adapt accordingly. This proactive process involves not only assessing the physical aspects of the environment, such as lighting,

access control, and surveillance, but also examining data-driven insights, stakeholder feedback, and emerging best practices to inform adjustments and improvements.

Lastly, the findings have profound implications for promoting positive social change, which occurs when culture and social institutions undergo meaningful transformation. Targeted violence on K-12 school campuses is not only a security issue, but also a multifaceted social issue that requires comprehensive interventions at multiple levels. This study highlights the potential of CPTED to create safer, more welcoming, and inclusive school environments that foster a sense of belonging and promote positive social interactions. Policymakers, government agencies, school districts, and community organizations can leverage these insights to develop more effective, evidence-based strategies aimed at preventing targeted school violence. By doing so, we can work towards creating a better and safer future for our students and communities.

Conclusion

Targeted violence on K-12 school campuses is more than a security challenge, it is a multifaceted social issue that demands holistic solutions. This is where CPTED proves invaluable. This research underscores the critical role of CPTED in mitigating targeted violence on school campuses. By examining the insights of crime prevention professionals, it deepens our understanding of CPTED's theoretical framework, highlighting its focus on designing physical spaces that deter crime and promote safety. Additionally, it provides practical strategies for implementing CPTED in educational settings, including enhancing natural surveillance, access control, and territorial reinforcement. To move forward, these findings should be translated into actionable

policies and practices that prioritize proactive prevention, strategic planning, and collaborative partnerships between schools, law enforcement, architects, and community stakeholders. By adopting such measures, schools can create environments that are not only safer but also foster a sense of belonging, empowerment, and inclusivity for students, staff, and the broader community. This holistic approach ensures that safety is aligned with a positive and nurturing educational experience.

References

Abade, V. A. B., Hardt, L. P. A., & Hardt, C. (2024). Safe landscape: Evaluating crime prevention through urban morphology and natural surveillance metrics. *Global Journal of Human-Social Science, 24*(B4). https://doi.org/10.34257/gjhssbvol24is4pg67

Abernethy, M. (2015). Self-reports and observer reports as data generation methods: An assessment of issues of both methods. *Universal Journal of Psychology, 3*(1), 22. https://doi.org/10.13189/ujp.2015.030104

Ahmed, S. (2024). The pillars of trustworthiness in qualitative research. *Journal of Medicine, Surgery, and Public Health, 2.* https://doi.org/10.1016/j.glmedi.2024.100051

Alathari, L., Drysdale, D., Blair, A., Carlock, A., Cotkin, A., Johnston, B., Foley, C., Langman, P., Elbogen, E. B., Buckland, W., Driscoll, S., Mauldin, D., McGarry, J., Nemet, J., Vineyard, N., & Bullwinkel, J. (2019). *Protecting America's schools: A U.S. Secret Service analysis of targeted school Violence.* The U.S. Secret Service National Threat Assessment Center (NTAC). https://www.secretservice.gov/sites/default/files/2020-04/Protecting_Americas_Schools.pdf

Alderden, M., Weine, S., & Gleicher, L. (2023). Addressing targeted violence through bystander and gatekeeper intervention: Theoretical background and conceptual model. *Criminology & Criminal Justice*, *0*(0). https://doi.org/10.1177/17488958231218563

Amiri, S., Brooks, K., Vila, B., & Daratha, K. B. (2019). Natural surveillance characteristics of building openings and relationship to residential burglary. *Applied Geography, 102*, 99–108. https://doi.org/10.1016/j.apgeog.2018.12.010

Archibald, M., Ambagtsheer, R., Casey, M., & Lawless, M. (2019). Using Zoom Videoconferencing for qualitative data collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods, 18*. https://doi.org/10.1177/1609406919874596

Armitage, R., & Ekblom, P. (2019). Introduction. In Armitage & Ekblom (Eds.), *Rebuilding Crime Prevention Through Environmental Design.* Routledge. https://doi.org/10.4324/9781315687773

Armitage, R., & Monchuk, L. (2017). What Is CPTED? Reconnecting theory with application in the words of users and abusers. *Policing: A Journal of Policy and Practice*, *13*(3), 312-330. https://doi.org/10.1093/police/pax004

Armitage, R., & Tompson, L. (2022). The Role of Crime Prevention Through Environmental Design (CPTED) in improving household security. In: Gill, M. (eds) *The Handbook of Security* (pp.909-930). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-91735-7_42

Atlas, R. (1991). *The other side of CPTED.* Security Management Magazine. https://www.ojp.gov/ncjrs/virtual-library/abstracts/other-side-cpted

Atlas, R. (2008). *21st century security and CPTED: Designing for critical infrastructure protection and crime prevention (*1st ed.). Auerbach Publications.

Bako, A., Aduloju, O., Osewa, D., Anofi, A., & Abubakar-Karma, A. (2020). Application

of Participatory GIS in Crime Mapping of Ibadan North, Nigeria. *Papers in Applied Geography, 7*(2), 183-198. https://doi.org/10.1080/23754931.2020.1858446

Bartlett, T. L. (2023). *Participatory processes to address wicked problems in K12 Schools: A case of reimagining school safety.* [Doctoral Dissertation, Arizona State University]. ProQuest Dissertation Publishing. DOI:10.13140/RG.2.2.30683.95525

Benedict, K. M. (2019). Exploring the intersection of designing for crime and the future of the public forum [Master's Thesis/Virginia Commonwealth University]. VCU Scholars Compass. https://doi.org/10.25772/dzy9-zs27

Bingham, A. J. (2023). From data management to actionable findings: A five-phase process of qualitative data analysis. *International Journal of Qualitative Methods, 22*. https://doi.org/10.1177/16094069231183620

Bouter, L. (2023). Why research integrity matters and how it can be improved. *Accountability in Research: Ethics, Integrity, & Policy, 31*(8), 1277-1289. https://doi.org/10.1080/08989621.2023.2189010

Bradshaw, C. & Cohen, J. (2021). Addressing school safety through comprehensive school climate approaches. *School Psychology Review. 50*(4), 221-236. https://doi.org/10.1080/2372966X.2021.1926321

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise, and Health, 11*(4), 589-597. https://doi.org/10.1080/2159676x.2019.1628806

Brissett, D. I., Rankine, J., Mihaly, L., Barral, R., Svetaz, M. V., Culyba, A. J., & Raymond-Flesch, M. (2025). Addressing structural violence in school policies: A call to protect children's safety and well-being. *Journal of Adolescent Health, 76*(5), 752-756. https://doi.org/10.1016/j.jadohealth.2025.01.027

Browning, C. R., & Jackson, A. L. (2013). The social ecology of public space: Active streets and violent crime in urban neighborhoods. *Criminology, 51*(4), 1009-1043. https://doi.org/10.1111/1745-9125.12026

Burr, R., Kemp, J., & Wang, K. (2024). *Crime, violence, discipline, and safety in U.S. public schools: Findings from the School Survey on Crime and Safety: 2021–22* (NCES 2024-043). U.S. Department of Education, National Center for Education Statistics. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2024043

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing, 25*(8), 652-661. https://doi.org/10.1177/1744987120927206

Casteel, C., & Peek-Asa, C. (2000). Effectiveness of crime prevention through environmental design (CPTED) in reducing robberies. *American Journal of Preventive Medicine, 18*(4), 99-115. https://doi.org/10.1016/s0749-3797(00)00146-x

Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching and Learning, 10*(6), 807-815. https://doi.org/10.1016/j.cptl.2018.03.019

Center on Positive Behavioral Interventions and Supports. (2025). *What is PBIS?* https://www.pbis.org/pbis/what-is-pbis

Chalfin, A., Hansen, B., Lerner, J., & Parker, L. (2021). Reducing crime through environmental design: Evidence from a randomized experiment of street lighting in New York City. *Journal of Quantitative Criminology, 38*(1), 127. https://doi.org/10.1007/s10940-020-09490-6

Cheng, L. (2014). Environment redesigned for crime prevention with CPTED strategies: A case study of a typical Chinese community. *Applied Mechanics and Materials*, 805-810. https://doi.org/10.4028/www.scientific.net/amm.584-586.805

Chiu, Y., Leclerc, B., Reynald, D., & Wortley, R. (2020). Situational Crime Prevention in sexual offenses against women: Offenders tell us what works and what doesn't. *International Journal of Offender Therapy and Comparative Criminology, 65*(9), 1055-1076. https://doi.org/10.1177/0306624x20919712

Clarke, R. (1995). Situational crime prevention. *Crime and Justice: A Review of Research, 19*(52), 91-150. https://doi.org/10.1086/449230

Conwell, S., & Elam, N. (2024). Deterring school crime and violence through non-hardened approaches: An examination of school threat assessment teams. *Mid-Western Educational Researcher*, *36*(1). https://doi.org/10.25035/mwer.36.01.10

Cordova, F. D., Berlanda, S., Pedrazza, M., & Fraizzoli, M. (2019). Violence at school and the well-being of teachers: The importance of positive relationships. *Frontiers in Psychology, 10*. https://doi.org/10.3389/fpsyg.2019.01807

Cornell, D. (2023). Behavioral threat assessment in schools. In L.W. Collins, T.J.

Landrum, & B.G. Cook (Eds.), *Issues around violence in schools: Advances in learning and behavioral disabilities* (pp. 87-101). Emerald Publishing. https://doi.org/10.1108/S0735-004X20230000033006

Cornell, D. G., & Mayer, M. J. (2010). Why do school order and safety matter? *Educational Researcher, 39*(1). https://doi.org/10.3102/0013189x09357616

Cornell, D., Mayer, M., & Sulkowski, M. (2021). History and future of school safety research. *School Psychology Review, 50*(2-3), 143-157. https://doi.org/10.1080/2372966X.2020.1857212

Cox-Wingo, V., Poirier, S. (2019). Bullying and Mental Health. In: Papa, R. (ed.) *School Violence in International Contexts* (pp.115-129). Springer Publishing. https://doi.org/10.1007/978-3-030-17482-8_8

Cozens, P. (2008). Crime prevention through environmental design in Western Australia: Planning for sustainable urban futures. *International Information and Engineering Technology Association, 3*(3), 272-292. https://doi.org/10.2495/sdp-v3-n3-272-292

Cozens, P., Babb, C., & Stefani, D. (2022). Exploring and developing crime prevention through environmental design (CPTED) audits: An iterative process. *Crime Prevention and Community Safety, 25*(1). https://doi.org/10.1057/s41300-022-00170-0

Cozens, P., & Love, T. (2015). A review and current status of crime prevention through environmental design (CPTED). *Journal of Planning Literature, 30*(4), 393-412. https://doi.org/10.1177/0885412215595440

Cozens, P., & Love, T. (2017). The dark side of crime prevention through environmental design (CPTED). *Oxford Research Encyclopedia of Criminology.* https://doi.org/10.1093/acrefore/9780190264079.013.2

Cozens, P., Love, T., & Davern, B. (2019). Geographical juxtaposition: A new direction in CPTED. *Social Sciences, 8*(9), 252. https://doi.org/10.3390/socsci8090252

Cozens, P., Saville, G., & Hillier, D. (2005). Crime prevention through environmental design (CPTED): review and modern bibliography. *Property Management, 23*(5), 328–356. https://doi.org/10.1108/02637470510631483

Cozens, P., & Sun, M. (2019). Exploring crime prevention through environmental design (CPTED) and students' fear of crime at an Australian university campus using prospect and refuge theory. *Property Management*, *37*(2), 287-306. https://doi.org/10.1108/pm-04-2018-0023

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications, Inc.

Creswell, J., Hanson, W., Clark, V., & Morales, A. (2007). Qualitative research designs. *The Counseling Psychologist, 35*(2), 236-264. https://doi.org/10.1177/0011000006287390

Crowe, T., & Sorensen, S. (2012). CPTED in the Twenty-First Century. In L. Fennelly (Ed.) *Handbook of Loss Prevention and Crime Prevention* (5th ed., pp.101–109). Butterworth-Heinemann. https://doi.org/10.1016/b978-0-12-385246-5.00007-9

Cuellar, M. J. (2016). School safety strategies and their effects on the occurrence of school-based violence in U.S. High Schools: An exploratory study. *Journal of*

School Violence, 17(1). https://doi.org/10.1080/15388220.2016.1193742

Daniels, J. A., Volungis, A. M., Pshenishny, E., Gandhi, P., Winkler, A., Cramer, D. P., & Bradley, M. C. (2009). A qualitative investigation of averted school shooting rampages. *The Counseling Psychologist, 38*(1). https://doi.org/10.1177/0011000009344774

Dolph, D. A., & Holland, D. (2025). *School safety: A critical issue for school administrators*. International Journal of Educational Reform. https://doi.org/10.1177/10567879251314136

Edwards, E.C., & Edwards, E.J. (2024). Beyond policing: Understanding threats to school safety and who can really help. *Leadership and Policy in Schools.* https://doi.org/10.1080/15700763.2024.2315559

Eisenbraun, K. (2007). Violence in schools: Prevalence, prediction, and prevention. *Aggression and Violent Behavior, 12*(4), 459-469. https://doi.org/10.1016/j.avb.2006.09.008

Ekblom, P. (2011). Deconstructing CPTED and reconstructing it for practice, knowledge management, and research. *European Journal on Criminal Policy and Research, 17*(1), 7-28. https://doi.org/10.1007/s10610-010-9132-9

Ekren, E., Hall, R. W., Pierdolla, E., Barnes, V., Jarzombek-Torralva, A., Morrish, D. G., & Martinez-Prather, K. (2025). Crime prevention through environmental design in public school career and technical education facilities: Principals' perceptions of security enhancement. *Safety Science, 185.* https://doi.org/10.1016/j.ssci.2025.106781

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *Sage Open, 4*(1). https://doi.org/10.1177/2158244014522633

ElSherief, M., Saha, K., Gupta, P., Mishra, S., Seybolt, J., Xie, J., O'Toole, M., Burd-Sharps, S., & De Choudhury, M. (2021). Impacts of school shooter drills on the psychological well-being of American K-12 school communities: A social media study. *Humanities and Social Sciences Communications, 8*(1). https://doi.org/10.1057/s41599-021-00993-6

Farberman, R. (2006). *Zero tolerance policies can have unintended effects*, APA report finds [Data set]. PsycEXTRA Dataset. https://doi.org/10.1037/e548862006-020

Favre, C. A., Garrote, A., Kassis, W., Bacher, J., Wullschleger, A., & Aksoy, D. (2024). The cycle of violence: effects of violence experience, behavior, and attitudes on adolescents' peer rejection networks. *Frontiers in Education, 9.* https://doi.org/10.3389/feduc.2024.1359558

Fennelly, L., & Perry, M. (2023). Encompassing effective CPTED solutions in 2017 and beyond: Concepts and Strategies. In L. Fennelly (ed.), *Effective Physical Security* (5th ed., pp.1-21). Butterworth-Heinemann. https://www.sciencedirect.com/science/article/pii/B9780128044629000014

Fisher, B., Mowen, T., & Boman, J. (2018). School security measures and longitudinal trends in adolescents' experiences of victimization. *Journal of Youth and Adolescence, 47*(6), 1221–1237. https://doi.org/10.1007/s10964-018-0818-5

Flannery, D., Fox, J., Wallace, L., Mulvey, E., & Modzeleski, W. (2021). Guns, school

shooters, and school safety: What we know and directions for change. *School Psychology Review, 50*(2-3), 237-253. https://doi.org/10.1080/2372966x.2020.1846458

Freilich, J., & Greene-Colozzi, E. (2024). The ideological and theoretical positionality of Situational Crime Prevention in Criminology. *Crime and Delinquency.* https://doi.org/10.1177/00111287241286015

Gibson, V. (2016). *Third-generation CPTED: Rethinking the basis for crime prevention strategies* (Publication No. 27318). [Doctoral Dissertation/Northumbria University]. http://nrl.northumbria.ac.uk/27318/

Gichuru, M. J. (2017). The interpretive research paradigm: A critical review of IS research methodologies. *International Journal of Advanced Research and Advanced Studies, 4*(2). http://www.repository.must.ac.ke/handle/123456789/1020

Girvan, E. J., Girvan, E. J., McDaniel, S. C., Santiago-Rosario, M. R., Joseph, S. St., Falcon, S. F., Izzard, S., & Bastable, E. (2021). Effects of an equity-focused PBIS approach to school improvement on exclusionary discipline and school climate. *Preventing School Failure Alternative Education for Children and Youth, 65*(4), 354-361. https://doi.org/10.1080/1045988x.2021.1937027

Glover, R. L. (2023). Gun violence intervention in Pre-K through 12 schools in consideration of their surrounding communities: Public Health, Emergency Management, and the Potential Application of New York City's Crisis Management System, and the Essential Role of Social Workers. *Journal of Social*

Science for Policy Implications, 11(1). https://doi.org/10.15640/jsspi.v11n1a1

Gottfredson, D. C., Crosse, S., Tang, Z., Bauer, E. L., Harmon, M. A., Hagen, C. A., & Greene, A. D. (2020). Effects of school resource officers on school crime and responses to school crime. *Criminology & Public Policy, 19*(3), 905-940. https://doi.org/10.1111/1745-9133.12512

Grant, C. & Osanloo, A. (2015). Understanding, selecting, and integrating a theoretical framework in dissertation research: Developing a 'blueprint' for your "house." *Administrative Issues Journal Education Practice and Research, 4*(2). DOI: 10.5929/2014.4.2.9

Green, E. (2020). *Programs and practices to prevent school violence and improve school safety.* Illinois Criminal Justice Information Authority. https://icjia.illinois.gov/researchhub/articles/programs-and-practices-to-prevent-school-violence-and-improve-school-safety

Greve, W., Leipold, B. & Kappes, C. (2018). Fear of crime in old age: A sample case of resilience? *The Journals of Gerontology, 73* (7), 1224–1232. https://doi.org/10.1093/geronb/gbw169

Hall, R. (2021). Architectures of risk and resiliency: "Embedded Security" in the redesign of Sandy Hook Elementary School. In S. Chattopadhyay & J. White (Eds.), The Routledge Companion to Critical Approaches to Contemporary Architecture (pp. 36–45). Routledge Publishing.

Hannah, C., Tadepalli, S., & Gopalakrishnan, P. (2015). Managing security in the built environment: A review of environmental crime prevention strategies. *Creative Space, 2*(2), 141-156. https://doi.org/10.15415/cs.2015.22007

Hennink, M., & Kaiser, B. (2021). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine, 292*. https://doi.org/10.1016/j.socscimed.2021.114523

Highberger, J., Wang, W., & Brittingham, R. (2022). Differences in perception of safety before and after school shootings: A multi-event analysis. *Journal of School Violence, 21*(3), 312-326. https://doi.org/10.1080/15388220.2022.2098500

Hodgkinson, T., Saville, G., & Andresen, M. A. (2019). The diffusion of detriment: Tracking displacement using a city-wide mixed methods approach. *The British Journal of Criminology, 60*(1), 198-218. https://doi.org/10.1093/bjc/azz025

International Crime Prevention Through Environmental Design Association. (n.d.). Primer in CPTED: What is CPTED? https://www.cpted.net/Primer-in-CPTED

International CPTED Association. (2022). *CPTED in schools: A comprehensive approach guidebook.* ICA Guidebook.

International Organization for Standardization. (2021). S*ecurity and resilience, Protective security, Guidelines for crime prevention through environmental design* (ISO 22341:2021(E).

Jacobs, J. (1961). *The Death and Life of Great American Cities.* Random House.

Jackson, B., Diliberti, M., Moore, P., & Schwartz, H. (2023). *Teachers' views on school safety: Consensus on many security measures, but stark division about arming*

teachers. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA2641-1.html.

Jeffery, C.R. (1971). Crime Prevention Through Environmental Design. SAGE Publishing, 14(4), 598–598. https://doi.org/10.1177/000276427101400409

Jeffery, C. R. (2013). Crime Prevention Through Environmental Design. *American Behavioral Scientist, 14*(4). https://doi.org/10.1177/000276427101400

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

Johnson, J, Adkins, D., & Chauvin, S. (2020). A review of the quality indicators of rigor in qualitative research. *American Journal of Pharmaceutical Education, 84*(1), 7120. https://doi.org/10.5688/ajpe7120

Johnson, D., Gibson, V., & McCabe, M. K. (2014). Designing in crime prevention, designing out ambiguity: Practice issues with the CPTED knowledge framework available to professionals in the field and its potentially ambiguous nature. *Crime Prevention and Community Safety, 16*(3), 147-168. https://doi.org/10.1057/cpcs.2014.3

Jonson, C. (2017). Preventing school shootings: The effectiveness of safety measures. *Victims and Offenders: An International Journal of Evidence-Based Research, Policy, and Practice, 12*(6), 956-973. https://doi.org/10.1080/15564886.2017.1307293

Jonson, C., Burton, A., Cullen, F., Pickett, J. & Burton, V. (2021). An apple in one hand, a gun in the other: Public support for arming our nation's schools. *Criminology and Public Policy*, 20(2), 263-290. https://doi.org/10.1111/1745-9133.12538

Jonson, C., Moon, M., & Hendry, J. (2018). One size does not fit all: Traditional lockdown versus multi-option responses to school shootings. *Journal of School Violence, 19*(2), 154–166. https://doi.org/10.1080/15388220.2018.1553719

Joseph, J., Aguado, N., & Purser, C. (2024). A Systematic review of K-12 school shooting research. In J. Herron & S. Sartin (Eds.), *Impact of Gun Violence in School Systems* (pp. 75–104). IGI Global. https://doi.org/10.4018/979-8-3693-1706-8.ch003

Kahlke, R. (2014). Generic qualitative approaches: Pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods, 13*(1), 37-52. https://doi.org/10.1177/160940691401300119

Kallio, H., Pietil€a, A., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing, 72*(12), 2954-2965. https://doi.org/10.1111/jan.13031

Kelling, G. & Wilson, J. (1982). Broken windows: The police and neighborhood safety. *The Atlantic Monthly*. http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/

Kerr, M. & King, G. (2019). School crisis prevention and intervention (2nd ed.). Waveland Press, Inc.

Komal, K. & Radhika, G. (2023). *Evaluating Crime Prevention Through Environmental Design (CPTED) principles in educational institutions: Occupant insights*. Qeios. https://doi.org/10.32388/2B3LHR.2

Kyaagba, A., Ayoosu, M., Aule, T., Utsaha, A., & Tuleun, M. (2024). Mapping environmental design strategies for preventing crime and terrorism for crowded urban places in Nigeria. *Path of Science, 10*(12), 2001-2012. https://pathofscience.org/index.php/ps/article/view/3353

Lamoreaux, D. & Edelstein, E. (2020). Design for school safety: An overview of crime prevention through environmental design. *Perkins & Will, 12*(1), 18-29. https://webcontent.perkinswill.com/research/journal/issue_23_vol1201/issue_23_pwrj_vol1201_2_design_for_school_safety.pdf

Lamoreaux, D., & Sulkowski, M L. (2019). An alternative to fortified schools: Using crime prevention through environmental design (CPTED) to balance student safety and psychological well-being. *Psychology in the Schools, 57*(1), 152-165. https://doi.org/10.1002/pits.22301

Lamoreaux, D., & Sulkowski, M. (2020). Crime prevention through environmental design in schools: Students' perceptions of safety and psychological comfort. *Psychology in the Schools, 58*(3), 475-493. https://doi.org/10.1002/pits.22459

Langman, P. (2023). Bio-Psycho-Social-Cultural: Four domains of factors contributing to school shootings. In L. Collins, T. Landrum, and B. Cook (Eds.) *Issues Around Violence in Schools* (*Advances in Learning and Behavioral Disabilities, Vol. 33*.,

pp.69-86). Emerald Publishing Limited, Leeds. https://doi.org/10.1108/S0735-004X20230000033005

Lee, D. (2010). Understanding and applying situational crime prevention strategies. *Criminal Justice Policy Review, 21*(3), 263-268. https://doi.org/10.1177/0887403410370202

Lee, A., & Gage, N. (2020). Updating and expanding systematic reviews and meta-analyses on the effects of school-wide positive behavior interventions and supports. *Psychology in the Schools, 57*(5), 783–804. https://doi.org/10.1002/pits.22336

Lee, S., Lee, C., Nam, J W., Moudon, A., & Mendoza, J. (2023). Street environments and crime around low-income and minority schools: Adopting an environmental audit tool to assess crime prevention through environmental design (CPTED). *Landscape and Urban Planning, 232*, 104676. https://doi.org/10.1016/j.landurbplan.2022.104676

Lee, S., Park, S., & Jung, S. (2016). Effect of crime prevention through environmental design (CPTED) measures on active living and fear of crime. *Sustainability, 8*(9), 872. https://doi.org/10.3390/su8090872

Lenhardt, A., Farrell, M., & Graham, L. (2010). Providing anchors: Reclaiming our troubled youth: Lessons for leaders from a study of 15 targeted school shooters. *The Educational Forum, 74*(2), 104–116. https://doi.org/10.1080/00131721003604405

Leone, P. E., Mayer, M. J., Malmgren, K. W., & Meisel, S. M. (2017). School violence and disruption: Rhetoric, reality, and reasonable balance. *Focus on Exceptional Children, 33*(1). https://doi.org/10.17161/foec.v33i1.6777

Lincoln, Y. & Guba, E. (1985). *Naturalistic Inquiry.* Sage Publications.

Lindenbergh, V. M., Kleemans, E. R., & Ferwerda, J. (2020). Activities, access control, and crime: A quasi-experimental study regarding entry gates at train stations in the Netherlands. *European Journal on Criminal Policy and Research, 27*(4), 517–532. https://doi.org/10.1007/s10610-020-09472-1

Liu, C. (2014). Environment redesigned for crime prevention with CPTED strategies: A case study of a typical Chinese community. *Applied Mechanics and Materials,* 805–810. https://doi.org/10.4028/www.scientific.net/amm.584-586.805

Liu, F., Zhou, H., Xie, J., Tang, Y., & Liu, S. (2025). Impact of public space in primary and secondary schools based on natural visibility ratio. *Buildings, 15*(9). https://doi.org/10.3390/buildings15091472

Luo, Y., Ma, T., & Deng, Y. (2023). School climate and adolescents' prosocial behavior: the mediating role of perceived social support and resilience. *Frontiers in Psychology, 14*. https://doi.org/10.3389/fpsyg.2023.1095566

Magor-Blatch, L. (2011). Beyond zero tolerance: Providing a framework to promote social justice and healthy adolescent development. *The Australian Educational and Developmental Psychologist, 28*(1), 61–74. https://doi.org/10.1375/aedp.28.1.61

Maring, E. & Koblinsky, S. (2013). Teachers' challenges, strategies, and support needs in schools affected by community violence: A qualitative study. *Journal of School Health, 83*(6), 379–388. https://doi.org/10.1111/josh.12041

Marshall, J.M. & Clark, B.L. (2023). A systematic literature review of educational leadership and U.S. school shootings: Establishing a research agenda. *Educational Administration Quarterly, 59*(3), 594–632. https://doi.org/10.1177/0013161x231166335

Mayer, M. & Astor, A.R. (2022). Is school safety mainly about school shootings? Research-informed guidance for the field. *Preventing School Failure: Alternative Education for Children and Youth*, *67*(1), 1–8. https://doi.org/10.1080/1045988x.2022.2124220

Mayer, M. J., & Furlong, M. J. (2010). How safe are our schools? *Educational Researcher, 39*(1), 16–26. https://doi.org/10.3102/0013189x09357617

Mayer, M., Nickerson, A. & Jimerson, S. (2021). Preventing school violence and promoting school safety: Contemporary scholarship advancing science, practice, and policy. *School Psychology Review, 50*(2-3), 131–142. https://doi.org/10.1080/2372966x.2021.1949933

McIntosh, K., Girvan, E., McDaniel, S., Santiago-Rosario, M., St. Joseph, S., Fairbanks Falcon, S., Izzard, S., & Bastable, E. (2021). Effects of an equity-focused PBIS approach to school improvement on exclusionary discipline and school climate. *Preventing School Failure: Alternative Education for Children and Youth, 65*(4), 354–361. https://doi.org/10.1080/1045988X.2021.1937027

Mihinjac, M., & Saville, G. (2019). Third-generation crime prevention through environmental design (CPTED). *Social Sciences, 8*(6), 182-182. https://doi.org/10.3390/socsci8060182

Moore, P., Jackson, B., Augustine, C., Steiner, E., & Phillips, A. (2021). *A systems approach to physical security in K-12 schools.* https://doi.org/10.7249/rr-a1077-1

Mowen, T. & Freng, A. (2018). Is more necessarily better? School security and perceptions of safety among students and parents in the United States. *American Journal of Criminal Justice, 44*(3), 376–394. https://doi.org/10.1007/s12103-018-9461-7

Mubita, K., Milupi, I., & Kalimaposo, K. (2023). Management of safety and health in schools: Benefits, challenges, and prospects. *International Journal of Social Science and Education Research Studies, 3*(4). https://doi.org/10.55677/ijssers/v03i4y2023-07

Murakami, S., Rappaport, N., & Penn, J. (2006). An overview of juveniles and school violence. *Psychiatric Clinics of North America, 29*(3), 725-741. https://doi.org/10.1016/j.psc.2006.04.006

National Crime Prevention Council. (2003). *Crime Prevention Through Environmental Design Guidebook.* https://rems.ed.gov/docs/mobile_docs/cpted-guidebook.pdf

National Threat Assessment Center. (2018). *Enhancing school safety using a threat assessment model: An operational guide for preventing targeted school violence.* U.S. Secret Service, Department of Homeland Security.

https://www.cisa.gov/sites/default/files/publications/18_0711_USSS_NTAC-Enhancing-School-Safety-Guide.pdf

National Threat Assessment Center. (2023). *Mass attacks in public spaces: 2016-2020.* U.S. Secret Service, Department of Homeland Security. https://www.secretservice.gov/sites/default/files/reports/2022-07/NTAC%20-%20Mass%20Attacks%20in%20Public%20Spaces%202016-2020.pdf

Newman, O. (1973). *Architectural design for crime prevention.* National Institute of Law Enforcement and Criminal Justice.

Nickerson, A., Randa, R., Jimerson, S. & Guerra, N. (2021). Safe places to learn: Advances in school safety research and practice. *School Psychology Review, 50*(2-3), 158-171. https://doi.org/10.1080/2372966x.2021.1871948

Nowell, L., Norris, J., White, D. & Moules, N. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, *16*(1). https://doi.org/10.1177/1609406917733847

O'Toole, M. (2000). *The School Shooter: A Threat Assessment Perspective*. US Department of Justice (DOJ), Federal Bureau of Investigation (FBI). https://doi.org/10.1037/e319532004-001

Paige, J. & Bushway, S. (2024). *The role and impact of school resource officers.* RAND Research Review. https://www.rand.org/research/gun-policy/analysis/essays/school-resource-officers.html

Pervin, N., & Mokhtar, M. (2022). The interpretivist research paradigm: A subjective notion of a social context. *International Journal of Academic Research in*

Progressive Education and Development, 11(2), 419-428. https://doi.org/10.6007/ijarped/v11-i2/12938

Perumean-Chaney, S. & Sutton, L. (2013). Students and perceived school safety: The impact of school security measures. *American Journal of Criminal Justice, 38*, 570-588. https://doi.org/10.1007/s12103-012-9182-2

Phelps, C., Kim, E. K., & Jimerson, S. R. (2024). Promoting safe and supportive schools: Contemporary research advancing science, practice, and policy. *School Psychology Review, 53*(6), 607-618. https://doi.org/10.1080/2372966x.2024.2424147

Rajan, S.M., Reeping, P., Ladhani, Z., Vasudevan, L., & Branas, C. (2022). Gun violence in K-12 schools in the United States: Moving towards a preventive (versus reactive) framework. Preventive Medicine, 165(Part A). https://doi.org/10.1016/j.ypmed.2022.107280

Reddy, M., Borum, R., Berglund, J., Vossekuil, B., Fein, R., & Modzeleski, W. (2001). Evaluating risk for targeted violence in schools: Comparing risk assessment, threat assessment, and other approaches. *Psychology in the Schools, 38*(2), 157-172. https://doi.org/10.1002/pits.1007

Reddy, M., Espelage, D., McMahon, S., Anderman, E., Lane, K., Brown, V., Reynolds, C., Jones, A., & Kanrich, J. (2013). Violence against teachers: Case studies from the APA task force. *International Journal of School & Educational Psychology, 1*(4), 231–245. https://doi.org/10.1080/21683603.2013.837019

Reynald, D. (2010). Translating CPTED into crime preventive action: A critical examination of CPTED as a tool for active guardianship. *European Journal on Criminal Policy and Research, 17*(1), 69-81. https://doi.org/10.1007/s10610-010-9135-6

Richards, K. & Hemphill, M. (2017). A practical guide to collaborative qualitative data analysis. *Human Kinetics, 37*(2), 225–231. https://doi.org/10.1123/jtpe.2017-0084

Richter, E. (2019). *Shotgun blanks to be shot inside school today as part of a drill.* Dayton Daily News. https://www. daytondailynews.com/news/shotgun-blanks-shot-inside-school-today-part-drill/YzcCV3bXeJA3tM35oZyIHL/

Riedman, D. (2025). K-12 School Shooting Database. *https://k12ssdb.org/all-shootings*

Robinson, L. E., Watson, K. R., Fensterstock, N., Hogenkamp, S., Xu, Y., Garner, H., Warri, V. R., Morgan, C. H., Garcia, A. A., Wu, C., Dunn, D., Espelage, D. L., Astor, R. A., McMahon, S. D., Reddy, L. A., Anderman, E. M., Worrell, F. C., & Martinez, A. (2025). School safety concerns and solutions: A qualitative analysis of U.S. school psychologists' perspectives. *Behavioral Sciences*, *15*(2), 228. https://doi.org/10.3390/bs15020228

Romo, V. (2019). Parkland shooting panel report calls for arming teachers, chronicles slew of blunders. *National Public Radio* NPR.org https://www.npr.org/2019/01/03/682090204/parkland-shooting-panel-report-calls-for-arming-teachers-chronicles-slew-of-blun

Rupp, L., Bhatia, S., Lee, D., Wyatt, R., Bushman, G., Wyatt, T., Pizarro, J., Wixom, C., Zimmerman, M., & Reischl, T. (2025). Community-engaged crime prevention

through environmental design and reductions in violent and firearm crime. *American Journal of Community Psychology,* 1–16. https://doi.org/10.1002/ajcp.12802

Sakina, B. (2020). A study on crime prevention through environmental design concept application in a private house in Yogyakarta, Indonesia. *IOP Conference Series: Earth and Environmental Science, 426*(1), 012093. https://doi.org/10.1088/1755-1315/426/1/012093

Sakip, S. R., Megat Abdul Rahim, P. R., & Mat Nayan, N. (2023). Establishing crime prevention through environmental design model. *International Journal of Sustainable Construction Engineering and Technology*, *14*(5), 314-327. https://publisher.uthm.edu.my/ojs/index.php/IJSCET/article/view/15285

Saldana, J. (2018). Researcher, Analyze Thyself. *The Qualitative Report*, *23*(9), 2036-2046. https://doi.org/10.46743/2160-3715/2018.3685

Schildkraut, J., Greene-Colozzi, E., Nickerson, A. B., & Florczykowski, A. (2023). Can school lockdowns save lives? An assessment of drills and use in real-world events. *Journal of School Violence*, 22(2), 167–182. https://doi.org/10.1080/15388220.2022.2162533

Schildkraut, J., & Nickerson, A. (2020). Ready to respond: Effects of lockdown drills and training on school emergency preparedness. *Victims and Offenders: An International Journal of Evidence-based Research, Policy, and Practice, 15*(5), 619-638. https://doi.org/10.1080/15564886.2020.1749199

Schildkraut, J., Nickerson, A B., & Ristoff, T. (2019). Locks, lights, out of sight: Assessing students' perceptions of emergency preparedness across multiple lockdown drills. *Journal of School Violence, 19*(1), 93-106. https://doi.org/10.1080/15388220.2019.1703720

Schindler, S. (2015). Architectural exclusion: Discrimination and segregation through physical design of the built environment. *The Yale Law Journal, 124*, 1934–2024. https://www.yalelawjournal.org/article/architectural-exclusion

Senna, I., Iglesias, F., & Matsunaga, L. H. (2025). Measuring the effects of Crime Prevention Through Environmental Design (CPTED) on fear of crime in public spaces. *Crime Prevention and Community Safety*. https://doi.org/10.1057/s41300-025-00223-0

Shariati, A. (2021). Crime prevention through environmental design (CPTED) and its potential for campus safety: A qualitative study. *Security Journal, 35*, 1198–1219. https://doi.org/10.1057/s41284-021-00322-1

Shariati, A., & Guerette, R. (2019). Resident Students' Perception of Safety in On-Campus Residential Facilities: Does Crime Prevention through Environmental Design (CPTED) Make a Difference? *Journal of School Violence, 18*(4), 570-584. https://doi.org/10.1080/15388220.2019.1617721

Shariati, A., & Guerette, R. (2020). The Forgotten (Practical) Side of School Safety: What Do Clery Reports Say about CPTED and Crime on College Campuses? *Planning Practice & Research, 35*(4), 396-417. https://doi.org/10.1080/02697459.2020.1740417

Silva, J. R., & Greene-Colozzi, E. (2022). *Schools and Gun Violence What Do We Know About the Prevalence and Effects?* Rockefeller Institute of Government. https://rockinst.org/wp-content/uploads/2022/12/School-Gun-Violence-Prevalence-Effects.pdf

Silva, J. R., & Madfis, E. (2025). School threat assessments of firearm and school shooting concerns. *Journal of School Violence, 24*(3), 343-359. https://doi.org/10.1080/15388220.2025.2473531

Sission, P. (2018). *Sandy Hook Elementary school design finds safety, security in openness.* Curbed. https://archive.curbed.com/2018/2/22/17042004/sandy-hook-elementary-school-design-security-safety

Smarrelli, G., Wu, D., Baago-Rasmussen, L., Hares, S. & Naker, D. (2024). *Violence in schools: Prevalence, impact, and interventions.* Center for Global Development. https://www.cgdev.org/publication/violence-schools-prevalence-impact-and-interventions

Songole, H.S. (2024). A systematic review of the CPTED–quality of life relationship. *Safer Communities, 23*(4), 317-322. https://doi.org/10.1108/sc-10-2023-0048

Steiner, E., Phillips, A., Moore, P., Jackson, B. & Augustine, C. (2021). *Challenges in implementing physical security measures in K–12 schools.* Rand Research. https://www.rand.org/content/dam/rand/pubs/research_reports/RRA1000/RRA1077-2/RAND_RRA1077-2.pdf

Sutton, J. & Austin, Z. (2015). Qualitative research: Data collection, analysis, and management. *Canadian Society of Hospital Pharmacists, 68*(3). https://doi.org/10.4212/cjhp.v68i3.1456

Tanner-Smith, E., Fisher, B., Addington, L. & Gardella, J. (2018). Adding security, but subtracting safety? Exploring schools' use of multiple visible security measures. American *Journal of Criminal Justice, 43*(1), 102–119. https://doi.org/10.1007/s12103-017-9409-3

Taquette, S. & Souza, L. (2022). Ethical dilemmas in qualitative research: A critical literature review. *International Journal of Qualitative Methods, 21.* https://doi.org/10.1177/16094069221078731

Teasley, M. (2013). School violence reduction and related services personnel. *Children and Schools, 35*(4), 195-198. https://doi.org/10.1093/cs/cdt020

Tilley, N., & Sidebottom, A. (2014). Situational crime prevention. In G. Bruinsma & D. Weisburd (eds) *Encyclopedia of Criminology and Criminal Justice* (pp.4864-4874*).* Springer Publications https://doi.org/10.1007/978-1-4614-5690-2_549

Turanovic, J., & Siennick, S. (2022). *The causes and consequences of school violence: A review.* National Institute of Justice NCJ 302346. https://www.ojp.gov/pdffiles1/nij/302346.pdf

United States Secret Service National Threat Assessment Center. (2019). *Protecting America's schools: A U.S. Secret Service analysis of targeted school violence*. https://www.hsdl.org/c/u-s-secret-service-report-on-school-violence/

United States Secret Service National Threat Assessment Center. (2021). *Averting targeted school violence: A US Secret Service analysis of plots against schools.* https://www.secretservice.gov/sites/default/files/reports/2021-03/USSS%20Averting%20Targeted%20School%20Violence.2021.03.pdf

Vagi, K., Stevens, M., Simon, T., Basile, K., Carter, S., & Carter, S. (2018). Crime prevention through environmental design (CPTED) characteristics associated with violence and safety in middle schools. *Journal of School Health, 88*(4), 296–305. https://doi.org/10.1111/josh.12609

Vangara, H., & Krishna, K. (2023). Securing livelihoods: The impact of CPTED on creating safe and liveable communities. *Journal for ReAttach Therapy and Developmental Diversities, 6*(1), 1364-1375. https://doi.org/10.53555/jrtdd.v6i1.2595

Vasquez, A., Barbieri, N., & Rodriquez, J. J. (2021). Do crime prevention through environmental design strategies deter taggers? Voices from the street. *CrimRxiv.* https://doi.org/10.21428/cb6ab371.910accac

Verlinden, S., Hersen, M., & Thomas, J. (2000). Risk factors in school shootings. *Clinical Psychology Review, 20*(1), 3-56. https://doi.org/10.1016/s0272-7358(99)00055-0

Wahab, A., Sakip, S. & Zainol, H. (2018). An assessment of CPTED principles in relation to bullying behavior. *Advances in Applied Sociology, 8*(1), 25-48. https://doi.org/10.4236/aasoci.2018.81002

Wallis, A. & Ford, D. (1980). *Crime prevention through environmental: The commercial demonstration in Portland, Oregon executive summary.* U.S. Department of

Justice. National Institute of Justice. https://www.ojp.gov/pdffiles1/Digitization/78340NCJRS.pdf

Warr, M. (2000). Fear of crime in the United States: Avenues for research and policy. *Criminal Justice, 4* (4), 451–489. https://www.ojp.gov/criminal_justice2000

Wen, Y., Qi, H., Long, T., & Zhang, X. (2024). Designed for safety: characteristics and trends in crime prevention through environmental design research. *Journal of Asian Architecture and Building Engineering, 24*(4), 3108-3126. https://doi.org/10.1080/13467581.2024.2366823

Wike, T. & Fräser, M. (2009). School shootings: Making sense of the senseless. *Aggression and Violent Behavior, 14*(3), 162-169. https://doi.org/10.1016/j.avb.2009.01.005

Yadav, D. (2022). Criteria for good qualitative research: A comprehensive review. *Asia-Pacific Education Researcher,* 31, 679–689. https://doi.org/10.1007/s40299-021-00619-0

Zhang, R., Jing, K. T., Hao, L., Jin-xin, X., & Yee, H. C. (2023). Application of the third generation crime prevention through environmental design on university campuses. *Journal of Advanced Research in Applied Sciences and Engineering Technology, 33*(1), 406-423. https://doi.org/10.37934/araset.33.1.406423

Zhu, A. (2022). Relationship between hostile environmental design and environmental justice: A case study of CPTED at Arroyo Viejo recreation center in Oakland, CA. *CPTED and Environmental Justice*. https://nature.berkeley.edu/classes/es196/projects/2022final/ZhuA_2022.pdf

Zhu, R., M. Lucas, G., Becerik-Gerber, B., Southers, E., & Landicho, E. (2022). The impact of security countermeasures on human behavior during active shooter incidents. *Scientific Reports, 12*(1). https://doi.org/10.1038/s41598-022-04922-8

Zraick, K. (2019). *Indiana teachers were shot with pellets during active shooter drill, union says.* The New York Times. https://www.nytimes.com/2019/03/22/us/indiana-teachers-shot.html

Appendix A: Participant Interview Questionnaire

Parts of the Interview/ Focus	Interview Question
Introduction	
Background Data Gathering	1) What is your experience and background in crime prevention? 2) What kind of work do you perform in the crime prevention field, and for how long have you been doing it? 3) What sparked your interest in working in the field of crime prevention?
Targeted Violence	1) What do you think about the frequency of targeted violence in the U.S.? 2) What are your thoughts on the current crime prevention strategies being used to reduce such acts? 3) What would you recommend being done differently regarding crime prevention strategies?
Targeted Violence in K-12 Schools	1) What do you think about the frequency of targeted violence in K-12 schools? 2) What are your thoughts on the current crime prevention strategies being used to reduce such acts? 3) What would you recommend being done differently regarding crime prevention strategies?
Crime Prevention Through Environmental Design (CPTED)	1) Do you know the term Crime Prevention Through Environmental Design (CPTED)? If you are not familiar, I have included a brief explanation for your reference. 2) Have you applied CPTED in your work? If so, how have you done so?

	3) What benefits were experienced from incorporating CPTED principles? Were there any challenges encountered? 4) What do you think about using CPTED as a strategy to mitigate targeted violence?
CPTED in K-12 Schools	1) Have you ever worked with a K-12 school? If so, what kind of work did you do? Assessments? Security & Safety Design? 2) Have you ever collaborated with a K-12 school to assess and incorporate CPTED? If so, what were some benefits and challenges you encountered? 3) What do you think about using CPTED as a strategy to mitigate targeted violence in K-12 schools?
Future of CPTED	1) What do you think the future of CPTED will be? 2) Do you have any suggestions for enhancing awareness and implementation of CPTED? Especially in K-12 schools?
Close of Interview	