

Use of Crime Prevention Through Environmental Design on College Campuses:

A Case Study on Improving the Perception of Fear

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Abstract

Crime and the fear of crime are severe problems on college campuses. The perception of campus safety has changed, especially after several large-scale attacks have killed and injured numerous students, such as the Virginia Tech and Grambling University shootings. Improving the current perception of a safe campus is crucial for colleges. The purpose of crime prevention programs in colleges is to help students avoid becoming victims of crime. Currently, the emphasis is not on preventing the crime from occurring, it is only on ensuring an individual is not a victim of crime. Students may learn how to stay safe on campus, but we should be changing the campus environment to reduce crime.

Many approaches have been introduced to reduce and prevent crime. One approach is based on reducing criminal opportunity by changing aspects of the environment so that crimes, such as theft, violence, vandalism, and arson as well as the fear of crime can be reduced. Through the Crime Prevention Through Environmental Design (CPTED) model, crime prevention has been successful within communities, businesses, and primary schools in reducing crime. In this convergent mixed-methods case study, we explore whether implementing aspects of CPTED can improve perceptions in the college setting. We test the hypothesis that the fewer aspects of CPTED identified within a specific location on a college campus, the more stakeholders perceive that area to be unsafe. This test is accomplished by integrating the quantitative findings from several physical CPTED Safety and Security Assessments with qualitative stakeholders' perspectives and using heatmapping software to explore if the reasons for the perceptions of unsafe areas can be rectified by implementing aspects of CPTED in those areas.

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Chapter I

Introduction

The primary purpose of any post-secondary institution is to educate students, inspire knowledge development, and help students find their path in society. For most students, entering college and being away from their parents is where their initial growth and stability as an adult begin. Crime on a college campus becomes problematic since it disrupts the haven that allows students to thrive. Students have difficulty learning if they do not feel safe. Several high-profile shootings at colleges have attracted enormous media attention. For example, the mass shooting at Virginia Tech in 2007, which left 32 students dead, and the shootings at Grambling State University in October 2021, in which two people were killed and nine injured across four days (Associated Press, 2021). High profile campus shootings, such as these, have motivated college administrators to revisit safety measures. Because campuses are supposed to be a sanctuary for learning, campus crimes create perceptions of fear for safety among current and future students and their families (Woodward et al., 2016). Colleges often have open campus concepts, which offer additional challenges. An open campus allows anyone to enter and remain on the property and facilities. Students cannot expect to keep unwanted people off-campus. During inclement weather, transients can attempt to shelter in vacant dorm rooms. Additionally, campus police do not have the authority to question the reason for a visitor's presence on campus. Finding ways to ensure students and staff feel safe and prevent crime on an open campus can be much more complex than on a closed campus, which is often seen in primary and secondary schools.

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The Campus Security and Student Right to Know Act (Clery Act) mandates that all crimes on a college campus be reported and publicly disclosed (Clery Center, 2021). The Clery Act is similar to the National Uniform Crime Reports (United States Federal Bureau of Investigation [FBI], 2021) but specifically for college campuses. Fulfilling the Clery Act mandates can be challenging because excessive crime reports can indicate an unsafe campus, perpetuating the aforementioned fear (Shariati & Guerette, 2019). As a result, college or university executives strive to maintain a safe environment; however, it is not simple to design a campus to prevent crime.

For years, target hardening has been the primary approach to safety and security (Green, 2020). Target hardening is a concept where an individual protects a target by implementing physical barriers or deterrents (Green, 2020). These deterrents can be bars on windows and deadbolts. However, crime on college campuses continues to persist at unacceptable levels, indicating that these deterrents are not sufficiently effective (Cozens & Sun, 2019; Shariati & Guerette, 2019; Woodward et al., 2016). An alternative would be to create natural barriers that are more of a psychological obstacle than a physical one (Lipnickey, 2004). Crime prevention through environmental design (CPTED) is a strategy that utilizes landscaping design, fencing, lighting, and building positioning to reduce fear, deter criminal activity, and develop a sense of security without installing physical barriers (Shariati & Guerette, 2019). CPTED can be considered a simple, cost-effective strategy to enhance safety and security (Shariati & Guerette, 2020). However, very little research has been done on the possible benefits of implementing CPTED on college or university campuses.

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Contribution

CPTED assessments have been conducted in shopping centers, residential communities, and primary education facilities to assist in crime prevention strategies and ensure young children's safety (Lamoreaux & Sulkowski, 2020; Mihinjac & Saville, 2019). While there has been prior research on the benefits of CPTED to prevent crime, there is little research using CPTED on a college campus (Shariati & Guerette, 2020). CPTED benefits architects when designing facilities and has shown potential in reducing both violent and property crime. It is also vital to include faculty and staff perspectives on campus safety in addition to leadership and law enforcement officials. However, very little research has been conducted to assess if environmental factors affect the perception of fear of crime on a university campus. This research contributes to advancing human knowledge in the public administration environment by comparing the perception of crime, actual crime, and environmental improvements to assess if CPTED can be beneficial on a college campus. This contribution provides an overall evaluation for the three Georgia Southern University campuses, all within southeast Georgia. The campuses make for excellent evaluation environments because all the campuses are uniquely different. They differ in size, number and type of facilities, and student populations, and they are situated in cities that attract different types of students and residents. This evaluation includes determining the perceptions about safety and if changes to the environment, such as call boxes, additional lighting, securing doors, and maintaining the grounds can assist in altering perceptions to help recruit and retain students, faculty, and staff.

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Empirical research on CPTED can assist post-secondary institutions in determining how they can improve the perception of their campus as an inviting place to attend school. This research also empirically tests the argument that CPTED can be used on any college campus, regardless of size. This study may assist in increasing enrollment on the campus for students who value safety, while also creating efficiencies. Finally, this evaluation can potentially be a valuable resource to the three campuses' senior leadership to determine areas needing improvement and justification for potential future funding requests.

Problem Statement

It is essential for a campus to create an environment where students and staff can focus on advanced learning to enhance their professional development without fear of personal safety. A safe campus environment is key for students and staff to feel comfortable learning and growing in their work. This includes providing a secure physical space to prevent a perceived fear of an unsafe campus environment. A student may develop fears based on traditional target hardening measures, such as bars on windows or security cameras. In that case, the student may feel vulnerable, which will have a negative effect on learning. Additionally, campus criminal activity has been on the rise. For example, the number of reported forcible sex offenses on campuses throughout the US increased from 2,500 in 2009 to 12,300 in 2018. Overall, this equates to an increase of 383 percent or an average annual growth rate of around 16 percent (National Center for Education Statistics, 2021). Simple interventions around campuses, like increased lighting, can positively impact crime rates and perceptions, as seen by Ohio

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State University in their recent 30 percent reduction in criminal activity on campus (Stoia, 2021).

While the Clery Act requires universities to report and disclose crime statistics occurring on campus and implement prevention measures, campus crimes remain a common issue of public concern (Shariati & Guerette, 2019; Woodward et al., 2016). Preventing crime on college campuses is essential to creating a learning environment where students can engage in the curriculum and learning without fear of being a victim of crime (Kyle, Schafer, Burrus, & Giblin., 2017). Traditional approaches to ensuring student safety involve target hardening, such as fortifying potential weak points in an environment to discourage crime. The persistence of crime on college campuses indicates that such approaches are not adequate and, counterproductively, actually heighten safety-related fears (Cozens & Sun, 2019; Shariati & Guerette, 2019; Woodward et al., 2016). The Armstrong campus of Georgia Southern University is one such campus. Data from the US Department of Education (2020) reveal that, in 2019, its rate of crimes such as rape, aggravated assault, burglary, alcohol, and drugs exceeded those of other universities in the University System of Georgia with similar enrollments. A decrease in crime occurred in 2020. However, the reduction may reflect a campus closed for most of the year due to COVID-19, rather than any improvement in campus safety (Sligh, 2021).

Not all incidents that occur on campus are reported, or even required to be reported, through official incident reports. There are many reasons why students will not call the police, ranging from fear, embarrassment, or even feeling that nothing will be done. In an interview with Deputy Chief Tyrone McBride of the Armstrong Campus Police Department, it was revealed that the practice of Georgia Southern University is

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only to write an incident report when the police officer can identify a crime that may have been committed (personal communication, October 21, 2021). This practice ensures that the number of incidents remains low. An example of an unreported crime would be an incident that made national media attention in 2019 involving a book burning that should be identified as a racially motivated hate crime. However, Clery report data for 2019 shows that there were no incidents of hate crime for the entire year (Miller, 2020). Prior research has found that frequently throughout the US, campus procedures limit when police reports are written (Shariati & Guerette, 2020). Colleges are often hesitant to publicly release information that may reflect negatively on their institution, which could damage its reputation and reduce enrollment (Campion, 2020). Thus, they will often choose to limit when police reports are written as a way of controlling the public narrative. Regardless of crime data, campus crime is a significant problem since there is an issue of legal liability. In several court cases, it has been ruled that colleges are responsible for criminal victimizations on campus if they could have been prevented or if something could have been done to prevent the crime. (Burling, 2003). Courts have based this ruling on statutes regarding negligence or breach of contract, whether expressly written or implied (Burling, 2003).

CPTED has been used by some organizations, neighborhoods, and schools as an alternative to target hardening to prevent crime and reduce the fear of crime (Lamoreaux & Sulkowski, 2020; Mihinjic & Saville, 2019). Existing research on college campuses is scant but suggestive of benefits. Shariati and Guerette (2019) found that facilities with high CPTED ratings were associated with stronger perceptions of safety among students on a large public university campus. However, very few such studies have been

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conducted, and the researchers suggested further examination of CPTED on campuses with different characteristics. AlHusban and AlHusban (2020) posited that “there is enough evidence that environmental-based design may reduce crime opportunities and promote positive social behavior; so built environment design can be a promising strategy for preventing campus violence” (p. 482).

Using a mixed-methods approach, the purpose of this convergent case study is to compare quantitative results from a vulnerability assessment tool, known as a CPTED Physical Survey and Safety Assessment, with qualitative results of stakeholder surveys to determine if CPTED can change the perceptions of students, faculty, staff, and key administrators about crime on campuses. Each campus is a separate case study, which validates or disproves the hypothesis on a small, medium, or large campus. An analysis of all three campuses concludes with a cross-case comparison to validate the research theory.

Research Questions and Hypothesis

The intent of this convergent mixed-methods case study explores data to determine if the perception of crime on campus indicates areas that need improvement and can benefit from an environmental redesign. It can assist campus leadership by providing answers to the following questions:

1. What specific campus areas have higher crime levels and fewer aspects of CPTED?
2. What do stakeholder surveys reveal about crime perception and reasoning at specific locations on their campus?

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3. Do stakeholders' perceptions align with the CPTED Physical Safety and Survey Assessment results and reported incidents?
4. Can the reasons for the perceptions of unsafe areas be improved by implementing aspects of CPTED in those areas?

This convergent mixed-methods case study theorizes that implementing aspects of CPTED can improve the perception of a safe campus environment, regardless of the size of the campus. During the quantitative phase of research, I hypothesize that the fewer aspects of CPTED identified within a specific location on a college campus, the more stakeholders perceive the area to be unsafe. Keeping in line with a convergent mixed-method design, I conducted a qualitative analysis of perceptions to validate the quantitative results of the CPTED assessment by triangulating the data from three sources of information collected and developing a concluding in-depth analysis of the cases studied.

The research for each case study has been conducted in three phases. Phase one being a quantitative analysis based on CPTED Physical Survey and Safety Assessments for 172 buildings, recreational areas, and parking lots. Data from dispatch logs of all calls on or within 1,000 feet of every campus have been retrieved. Both assessment and call log data have been scaled by location, displayed using heatmaps, and interpreted using 4-quadrant histograms. Phase two is comprised of qualitative surveys of approximately 55 faculty, staff, and students on the perception of safety on campus in general as well as for specific locations. Data have been analyzed by campus, and spatial density maps interpreted specific location perceptions. Phase three merges the quantitative and qualitative results using heatmap overlays onto spatial density maps. A cross-case

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comparison determines if the results of each case are similar, regardless of the size of the campus.

Analyzing each area of the campuses determined if there were similar strengths and weaknesses across locations, the entire campus, or all campuses. Surveying stakeholders acts as a secondary data source to ensure the consistency of CPTED concepts and assessments. Reviewing data of each campus determines if CPTED concepts are beneficial to increasing safety on campus, regardless of campus size. Comparing CPTED results with stakeholder surveys determines if CPTED concepts can change the perception in a positive manner, as opposed to target hardening concepts that portray a fortified environment.

Overview of Chapters

This dissertation is divided into six chapters. Chapter 1 provides an overview and introduction to the study. It includes definitions of key terms and the approach and assumptions within the research. Chapter 2 defines the theoretical framework for the research. It provides further support for the need to implement CPTED and an understanding of how the CPTED model is associated with various cultural and physical criminological theories. It also reviews relevant literature, including crime on college campuses, legal implications of the crime, how campuses approach crime, CPTED and how it can promote a safe learning environment, and how CPTED can benefit colleges and universities. Chapter 3 explains the study's methodology, including the data source and procedures for analyzing the data. Chapter 4 is devoted to documenting the study's findings, including visual results. Chapter 5 discusses how the results from Chapter 4 answer the research questions, whether they align with existing research and any

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recommendations for improvement. Chapter 6 summarizes key findings, outlines the contributions, explains the limitations of the study, and provides recommendations for future studies.

Chapter II

Literature Review

This study aims to determine if implementing aspects of CPTED can improve the perception of a safe campus environment. The more parts of CPTED that are implemented on a college campus, such as increased lighting, adequate visibility, and callboxes, the more stakeholders perceive the campus to be safe. The review of the existing literature has shown that crime occurs on college campuses, and a college has a legal responsibility to keep individuals safe. This section includes empirical ways researchers have explored topics that focus on crimes on college campuses, how universities attempt to approach security, aspects of CPTED, how CPTED can promote a safe learning environment, and other studies attempting to compare CPTED and crime on college campuses. Much of the existing literature about crime prevention, in general, focuses on what an individual can do to avoid becoming a victim. However, the focus needs to shift determining what college administrators can do to reduce or prevent criminal activity on college campuses.

Theoretical Framework

National incidents of violent crime on campuses rose 25% from 2010 to 2015. In 2015, 36,255 criminal offenses occurred at post-secondary institutions throughout the US (US Department of Education, 2019). Both students and parents have expressed a need for enhanced crime prevention efforts. Recent surveys reveal 88% of college students are concerned about keeping themselves safe while on campus. Less than half of these students feel their campuses are prepared to deal with assaults, alcohol, and drugs. Most

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importantly, 40% of students feel their views of campus safety are not valued (Safe and Sound Schools, 2021).

It is imperative for campus leaders to constantly come up with new and innovative ways to educate and protect their students. Most crime prevention theories utilize techniques that focus on either people or places. Theories like target hardening do not always work and can sometimes be counterproductive. If we understood why crime occurs, efforts could be made to reduce those factors. Similarly, we could focus efforts to reduce crime if we knew where the crime would occur. Research is continuously conducted on the number, types, and reasons for criminal activity on campus. However, research is rarely undertaken to address where crimes occur on campus or the best methods to reduce crime based on the environment. The goal of various criminological theories is to explain why some people commit crimes and the risk factors for committing a crime. Different criminological theories offer explanations for why people commit crimes based on their individual characteristics, social environment, and the interaction between the two. These theories can help us understand the factors that lead to criminal behavior and can help form strategies to reduce crime. By using criminological methods, such as CPTED, we can identify the underlying causes of crime and take measures to reduce or eliminate the risk of it occurring. (Triplett & Turner, 2010).

The proposed study uses a framework established by the defensible space theory, broken windows theory, deterrence theory, and routine activity theory. These theories have been extensively researched and empirically proven valid. Various aspects within these theories underpin the idea that CPTED improves the perception of a safe campus and promotes the notion that, while crime is inevitable, there are steps that a college can

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take to deter or make it harder for a person to commit a crime. This study explores existing literature associated with prevention measures against crime on college campuses using deterrence theory and routine activity theory. The literature review aims to provide an overview of the research in this area, to summarize the main findings, and to identify areas of agreement and disagreement between the two theories. Furthermore, the researcher assesses to what extent the existing literature can form interventions to reduce the occurrence of crime on college campuses. There are four main objectives of this case study:

1. Elicit community input on their perception of crime on campus. Stakeholder input in any endeavor is always essential. Knowing that crime is typically underreported will provide additional validation of the potential for unsafe environments.
2. Provide additional validation to the CPTED theory for college campuses by determining whether perceptions align with the results of a CPTED Physical Survey and Safety Assessment.
3. Recommended physical/environmental changes within the campus to essential leadership based on CPTED Physical Survey and Safety Assessment.
4. Deter criminal activity, reduce the fear of crime, and increase the perception of safety after recommended changes are implemented.

Structural Criminological Theories

Defensible space differs from deterrence and routine activity theory in that it is a structural criminological theory rather than a cultural criminological theory. Jacobs (1961) argued that isolated, closed-off, and dark spaces leave residents socially

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disconnected and foster street crime and criticized urban planners for how residences were being designed. According to the defensible space theory, when a public space has a sense of ownership and responsibility, that space will be safer (Jeffrey, 1971). A space is considered defensible when an occupant is able to exercise personal control over that space. The resident will feel a sense of ownership of the space if it is considered private as opposed to public, and they will maintain the space, creating a better social environment. Since the CPTED method was initially developed based on this theory, defensible space theory is often referred to as CPTED. This is not the case. Instead, CPTED defines the strategies to create a defensible space through territoriality and physical maintenance principles.

The *broken windows theory* (Kelling & Coles, 1997), suggests that visible signs of crime or civil disorder create an environment that encourages further crime and disorder. If a building has broken windows and no one repairs them, the rest of the windows will be broken soon since there is a perception that no one cares. Where defensible space theory aims to change the environment to prevent crime, broken windows theory will identify environmental issues to determine the cause of past crimes (Kelling & Coles, 1997). The CPTED method goes one step further through the principle of physical maintenance to identify problems and recommend corrections to reduce crime from occurring. The broken windows theory states that visible signs of disorder and neglect, such as broken windows and litter, can create an atmosphere of fear and insecurity which encourages criminal activity. CPTED uses this theory to suggest that by making physical changes to the environment, such as improving lighting, increasing surveillance, and removing graffiti, crime can be reduced.

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Cultural Criminological Theories

Cultural criminological theories of crime look at crime as being motivated by the culture of the offender. Deterrence theory falls into this cultural category and was developed by the father of modern criminology, Cesare Beccaria, who wrote the famous essay *On Crimes and Punishments*, originally published in 1764 (Beccaria, 1975). Beccaria was outraged by the torture and disfunction of a non-existent fair legal system. He believed that humans were rational beings that could make decisions in their best interest. He believed that a rational person would weigh the gains and losses before committing a crime. His theory states that to deter crime, punishment must be certain, severe, and swift (Beccaria, 1975). *Certain* means that without a doubt, an individual will be caught committing a crime. *Severe* means that the punishment needs to be severe enough to offset the thought of committing the crime. *Swift* means that the case will be heard and punishment determined as quickly as possible. Implementing principles of CPTED will assist in fulfilling what Beccaria described as the certain element of deterrence theory through the principles of natural surveillance and access control. By creating a physical environment that is well-lit, easily visible, and has limited access points, it creates an environment that is more difficult for criminals to access and encourages natural surveillance from the public. This helps to fulfil the certainty element of the deterrence theory because it makes it more likely that a criminal will be caught and punished for their actions. By designing buildings, landscape, and public spaces to create natural surveillance, potential criminals will be deterred from committing a crime because they will be in plain view of the public. Additionally, access control can be

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implemented to limit the areas on a property that can be accessed by the public, further deterring potential criminals.

Routine activity theory is taught to all undergraduate criminal justice students. It defines three elements needed to be present, at the same time and location, for a crime to occur. There must be motivation - a person who is both capable and willing to commit criminal activity (Hollis-Peel et al., 2011). There must be a target - something or someone that is a target of the offender's motivation. For example, a victim who is attractive to the offender and seems vulnerable. Lastly there needs to be no guardian - the target needs to be unprotected. The offender needs to believe that there is no one watching, so there is less of a chance of being caught (Hollis et al., 2013). All three elements need to exist at the same place and time for crime to occur. Although it is difficult to eliminate all elements in any environment, CPTED can help reduce and potentially eliminate the no guardian element by increasing lighting and natural surveillance (Hollis-Peel et al., 2011). By increasing lighting in public spaces and providing areas with natural surveillance, such as windows or balconies, it is possible to reduce the feeling of anonymity that can come with an area with a lack of guardianship.

Hollis-Peel et al. (2011) explain that research on routine activities theory is lacking when dealing with the guardian aspect. They argue that the guardian aspect is an essential element of the theory, but there is not enough research to support it. They believe that further research needs to be done in order to understand the guardian aspect and its role in routine activities theory. They propose that just the idea that someone is watching is likely to deter an offender from committing a crime. Over the years, through target hardening, other various forms of research have been conducted to judge CPTED

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as a way of evaluating opportunities for active guardianship. Reynald & Mihinjac (2019) argued that the framework of CPTED needs a deeper exploration of how it can foster capable guardians in residential and non-residential settings. Reynald & Mihinjac explains that numerous studies have shown how the implementation of CPTED concepts has reduced fear of crime and actual crime prevention. Still, few have compared CPTED to the routine activities theory to determine the effectiveness of citizens acting as guardians. Reynald (2011) theorized that the effectiveness of CPTED should be measured in terms of whether it is successful in aiding opportunities for active guardianship. She measured the relationship between territoriality and various stages of active guardianship. She found that high levels of territoriality may obstruct opportunities for natural surveillance, which can hinder the active guardianship. According to Reynald, the reason for this phenomenon is the overuse of physical barriers such as walls, gates, and fences that define a territory can obstruct views and prevent a guardian from practicing active surveillance. Her study also found that residents were unwilling to intervene in low-income and high-crime neighborhoods and more willing to intervene in low-crime communities.

Campus administrators need to become proactive to understand why crime is occurring in specific areas on their campus. Understanding why crime occurs can help campus administrators create more effective policies and procedures to help reduce crime. It can also help them allocate resources to specific areas of campus where crime is more likely to occur, leading to a safer environment for students and faculty. Utilizing the four theories mentioned assists with the relational thought process used for validating the benefits of implementing CPTED principles at post-secondary institutions by showing the

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causal relationships between structural criminological theories, cultural criminological theories, and the four CPTED principles to be studied in this research. Instead of campuses relying solely on victimization education and target hardening, they can instead reduce crime by using physical changes made to their environment.

Crime on College Campuses

Criminal activity has increased throughout the US. Such an increase has created more concern from leaders in society, particularly for those responsible for the safety of college students attending school away from their homes. Each year, college students attending school away from home become victims of crimes, such as sexual assault, stalking, robbery, homicide, and other violent crimes (Shariati & Guerette, 2019; Woodward et al., 2016). Those in leadership positions within the universities are responsible for identifying, assessing, and managing violence risk on their respective campuses. There is a necessity to provide protection and preventive services for all students, faculty, and staff. The challenging circumstances associated with preventing criminal activity and creating protective measures have initiated many programs through the US, such as the National Crime Prevention Association Campus Crime Prevention Program, the Crime Prevention Reminder Program, the Crime Prevention Technology Program, and the Be Safe Program or Lock It Program (Fennelly & Perry, 2020). These programs focus on educating individuals for personal safety. Very few programs focus on educating colleges and their leadership on ensuring campus safety techniques without using target hardening. Georgia Southern University's Strategic Plan (2019) focuses on five pillars, which indirectly include the safety of students and staff through the implementation of various programming (Georgia Southern University, 2019). However,

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like most universities in the United States, Georgia Southern University still experiences crime on campus despite implementing crime prevention strategies (Kyle et al., 2017).

College campus safety and security has become more prevalent and a campus necessity over the past several decades as incidences of criminal activity have increased exponentially (Cundiff, 2021). Crimes such as vehicular theft, burglary, and violent sex crimes are more concerning on most college campuses, with safety measures being of utmost concern for many parents entrusting colleges with their children. The focus on crime and delinquency has caused experts to examine the proximity of neighborhood crime rates within the vicinity of college campuses (Cundiff, 2021; Maier & DePrince, 2019). Crime can have a detrimental effect on students' safety and overall quality of life, as well as their academic performance. Additionally, crime can also have negative economic impacts on college campuses due to decreased enrollment, decreased property values, and increased security costs. High crime rates were expected on those campuses near high crime neighborhood areas and showed that the higher the percentage of criminal activity occurring in such neighborhoods, the higher the propensity for increased crime rates on these campuses (Cundiff, 2021; Maier & DePrince, 2019).

While college students are adults, they are still psychologically vulnerable and depend on institutions to have safety measures in place (Helwick, 2015). Colleges and their administrators do not have qualified immunity and can be civilly liable for failure to act or keep students safe. The court systems have used various justifications from negligent misrepresentation, premise liability, landlord-tenant statutes, and even landowner-business invitee statutes to rule that colleges and universities have legal responsibility and liability to keep students safe. Negligent misrepresentation for a

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college or university is when a college advertises a safe campus but does not disclose campus crime information. If a college represents itself as providing a safe environment for its students, directly or indirectly, it is considered negligent and liable for future incidents (Duarte v. State, 1979; Newcomer, 2017). In Duarte v. State (1979) the California court of appeals found a college liable for the rape and murder of a female student because it failed to disclose its knowledge of prior crimes in the area.

Landlord-tenant statutes and landowner-business invitee statutes have also been used in cases against colleges to determine that colleges are liable for criminal actions on their property. The main differences between these two are that landlord-tenant statutes are used for on-campus housing and the landowner-business invitee statutes for areas accessible to anyone permitted on the college campus. In the case of Mullins v. Pine Manor College (1983), as well as Stanton v. University of Maine (2001), the courts ruled that a college had a legal duty to warn student-tenants of reasonably foreseeable dangerous conditions on the premises. These are only three cases of many that prove universities' legal liability for the protection of students on a college campus.

The Clery case is another example of college liability. Jeanne Clery was raped and murdered in 1986 in a dorm room on a college campus (Fisher & Sloan, 2013). The premise of the allegation that led to the legislation is that the college did not take appropriate steps to lower the potential for criminal victimization. This incident provoked outrage in the United States over the concern that colleges and universities were not ensuring the safety of students and campuses to deter crime (Sharati & Guerette, 2020). The uprising of concerns from faculty, staff and students ultimately prompted the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act of 1990

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(Clery Center, 2021). This Act requires all colleges and universities throughout the United States to annually disclose crimes that occur on and around their campuses. The Act also requires that campuses create crime prevention programs and disclose how these programs are utilized on their campus within their annual reports. Manipulating campus environments through CPTED is a practical approach to facilitating campus safety, which can be reported through the Clery Act (Shariati, 2020). CPTED can thus be seen as a way to contribute to the transparency of campus safety efforts, as required by the Clery Act.

Even though the Clery Act was implemented in 1990, the knowledge, availability, use, and reporting of Clery information is still questionable. Non-compliance of the Clery Act can result in the issuance of fines to a university. For instance, The US Department of Education fined Virginia Tech \$55,000 for not following its written procedures on timely warnings after a shooting at the University that resulted in 32 deaths. (Peterson, 2013). Non-compliance with the Clery Act can be as simple as not providing awareness education. There is reason to believe that students are unaware of the Clery Act's school statistics and safety notices. University authorities may not provide adequate or clear information about the Clery Act to students and parents or the material may be provided in a format that is not easily accessible. The language used in the documents can be difficult to comprehend, making it difficult for students to understand the implications of the Act. For instance, a study based on two universities in Tennessee found that students were not significantly aware of the Clery Act and crime statistics for their campuses (Jee, 2016).

College leaders have prompted college safety protocols for crime prevention measures that included increased lighting, additional law enforcement, and education on

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safety procedures to all students, faculty, and staff. Most colleges offer some form of safety training for new college students. Securing a safe campus atmosphere while preserving academic freedoms, civil rights, and privacy rights can be challenging. Efforts to maintain a safe campus are most successful when the community encourages collaboration among campus staff, administration, students, parents, and community groups (Schafer et al., 2018). Even though most colleges have various campus safety education programs, college leadership tends to poorly communicate the availability of training or the need to educate staff and students on crime prevention techniques. As a result, students and faculty are often not adequately informed or prepared to respond to potential safety risks on campus. One empirical study determined that college students lacked awareness of campus crime and were unaware of free educational resources available on campus dealing with crime prevention (Maestas, 2018).

Traditional Approaches to Campus Security

The 21st century approach to securing campuses against criminal activities is at the forefront for most administrators charged with protecting all persons on campus. Protecting the wellbeing of students, faculty, and staff continues to be challenging as federal and state policies for prevention against crime continuously change (Villegas-Ch et al., 2019). Over the past several years the costs of legal fees, court costs, and other fees associated with criminal incidents have been rising due to increased complexity of criminal cases, more evidence to review, longer court proceedings, more complex legal arguments, and increased demand for criminal defense attorneys and other legal professionals. Additionally, responding to illegal activities have become extremely costly due to the introduction of new technologies, evidence gathering techniques, and need for

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additional security measures such as cameras and guards. These measures are necessary to ensure that criminal activity is properly monitored and addressed. However, the costs of these security measures can be very high, leading to an overall increase in the costs associated with criminal incidents.

Experts claim the most effective preventative measures are seamless communication (Bright et al., 2017; Davidov et al., 2020). Higher education institutions use various methods of communication for mitigation against crime, including blue light call boxes, anonymous tip lines, and email communications. However, the procedures are cumbersome, with none being wholly effective. Communication between student and first responders are complicated and not all stakeholders are fully understanding the availability of the methods.

Another aspect of communication is the impact of technological advancements. For example, with the increase in technology using various alerting cellphone apps, administrators now question the usefulness of traditional callboxes. Cellphone apps provide more convenience and speed to alert authorities of an emergency than traditional callboxes, which can be difficult to locate and may not be working properly. In 1988, the University of Georgia was the first campus nationwide to install blue lights and call boxes. In 2019, the university determined that only seven calls were made from the boxes in eight years, and none were emergencies (University of Georgia, 2019). By eliminating these blue lights, UGA redirected the funding to subscribe to an electronic emergency communication system, LiveSafe (University of Georgia, 2019). This phenomenon is attributed partially to 97 percent of all Americans and 100 percent of Americans between the ages of 18 and 29 owning a cellphone (Pew Research, 2021). The LiveSafe app

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allows instant communication with law enforcement through a person's mobile device. Removing callboxes enables colleges and universities to connect with students the way they want to communicate. It promotes a psychologically comfortable atmosphere by removing target hardening and ensuring safety through cellphone safety apps.

According to the bystander effect, individuals in a group setting are less likely to get involved to stop a crime when others are present (Hortensius & de Gelder, 2018). The theory was developed after an investigation was conducted to determine why people failed to come forward and help a young woman named Kitty Genovese who was being attacked and murdered (Cieciura, 2016). This murder happened in proximity to 38 eyewitnesses, who not only failed to assist the woman, but also failed to call the police during or after the attack (Gansberg, 1964). The researchers duplicated the occurrence with an individual in a public area that acted as though they needed help. The purpose was to determine if a single bystander would help another individual who was seemingly hurt, suffering, or simply needing assistance. Psychologists considered the behaviors found through this research to introduce a facet of psychology regarding the *diffusion of responsibility*. Diffusion of responsibility is a phenomenon where an individual will not act in front of a large group. The actions or lack of activities occurring in social settings suggest that people are more likely to get involved based on other people's behaviors, even ignoring someone in critical need. This diffusion of responsibility means that no one will assist someone in need in a crowd of people because no one else steps forward to do so, even if a criminal activity is occurring. Experts have argued that the traditional method of communication used for mitigating criminal activity fails more than succeeds (Arisukwu et al., 2020; Oostinga et al., 2018). This is because traditional method often

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rely on individuals to take on the burden of communication, leading to a sense that the responsibility is shared among many people.

Other traditional approaches beyond the use of communication measures included strategies such as target hardening practices, gun buyback programs, community mobilization of residents' efforts against crime, home visits by police after domestic violence incidents, individual counseling and peer counseling of students, the Drug Abuse Resistance Education (DARE) program, and summer job or subsidized work programs for at-risk youth. Target hardening practices and techniques are focused on creating a safer and more secure environment with physical modifications, such as installing motion lights, adding bars to windows, or fitting doors with secure locks (Oostinga et al., 2018). While these are helpful for environmental protection, they do not help with prevention measures. In addition, the reliance on target hardening measures creates a fortress mentality that increases fear of crime rather than decreasing it (Cordner, 2010). These programs have evidentiary support to prove they do not work, with the main reason being they do not target the actual causation of the crime (Eck et al., 2017; Stubbs-Richardson et al., 2018). In addition, most of the focus has been on prevention programs targeting youth criminal behavior (de Vries, 2018; de Vries et al., 2017). The failure of these previous programs and the primary focus on youth programs suggest a need to examine the CPTED program and its value for success.

Crime Prevention Through Environmental Design

CPTED, a multi-disciplinary approach for reducing crime and fear of crime in communities, has initial ties dating back to 1961, when Jane Jacobs discussed how crime prevention techniques can include using physical environments (Jacobs, 1961). Ten years

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later, Jeffrey (1971) labeled this theory as CPTED when he claimed that since environmental factors play an essential role in crime occurrence, they can be manipulated to reduce crime. Since these early days, urban design and business planning have incorporated environmental design as a baseline standard (Crowe & Zahm, 1994). Numerous empirical studies in Europe have found reductions in crime and fear of crime following the modifications made from CPTED recommendations (Armitage, 1999; Brown, 1999; Cozens et al., 2007; Pascoe, 1999; Teedon et al., 2010).

For CPTED to be successful, it needs to be practical and easy to understand for the community. In addition, CPTED is not meant to be monitored by just one individual or group of individuals (Fennelly & Perry, 2020). It requires shifting the sense of ownership to the community. The community for a college campus would be the faculty, staff, students, and visitors. The burden of safety and security shouldn't be placed on just one department, such as facilities or the police, it should be the responsibility of the entire campus.

History of CPTED

CPTED was initially created by Ray Jeffrey in 1971 and then expanded based on the idea of defensible space by Oscar Newman in 1972. This expansion prompted environmental criminology and implemented comprehensive phases over the next 20 years. Like various theories, modifications have been made to CPTED through the years. The International CPTED Association (ICA) has been developed and provides education, literature, summits, and research towards CPTED. They explain that there are two generations of CPTED (ICA, n.d.). First generation CPTED focuses on blocking the opportunity for crime to occur by controlling space through architecture and physical

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design. First generation CPTED is divided into four principles: territorial control, natural surveillance, access control, and image and milieu. Through the years, various modifications were made to the original CPTED concept, including focusing more on target hardening instead of social unity. Second generation CPTED was presented as a way to address this imbalance by bringing back social cohesion, but focusing on small-scale environments instead of large, generic concepts (ICA, n.d.). This idea emerged from collective efficacy research (Dickout, 2006), which considered that causes of crime are part of a neighborhood's health and social ecology (Jacobs, 1961). Some researchers feel that second-generation CPTED attempts to build social cohesion over a long period, whereas first-generation CPTED changes environmental conditions much faster (Atlas, 2103). The second generation of CPTED replaces the original four principles of CPTED with the Four C strategies: social cohesion, community connectivity, community culture, and threshold capacity (Fennelly & Perry, 2020; Mihinjac & Saville, 2019). Second-generation CPTED adds an extra layer of community training and conditioning to build safer communities through developing that sense of ownership in the community.

A recently introduced theory for the third generation of CPTED is currently under evaluation. Most research on second-generation CPTED linked the need for the same social context and environment design seen in first-generation CPTED. The third-generation method suggests merging aspects from the first and second generation of CPTED to create a holistic theory incorporating human motivation with livable neighborhoods (Mihinjac & Saville, 2019). Livable neighborhoods address basic physiological, psychological, and social needs defined in Maslow's Hierarchy of Needs (Maslow, 1943). Generation Z has continued to build on the *what is in it for me*

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mentality. What is in it for me mentality is a selfish mindset where a person focuses mainly on their own individual interests, rather than thinking of the collective good or the consequences of their actions on other people. Second-generation CPTED (Mihinjac & Saville (2019) attempts to change the me mentality to a we mentality by expanding on those basic needs (p. 6). Neighborhoods are defined in a pyramid of three levels: basic, moderate, and advanced. If a community can reach all of the needs that Maslow defines for a person, it will be most safe (Mihinjac & Saville, 2019). Third generation CPTED replaces the four Cs with four Ss: health sustainability, social sustainability, environmental sustainability, and economic sustainability. While this new generation of CPTED is exciting, it is still being explored and has not been empirically tested. Therefore, third-generation CPTED is not included in this case study.

Principles of CPTED

Early principles of CPTED focused on social cohesion and renewing neighborhoods on a large scale and included social crime prevention programs to reduce crime opportunities (Jeffrey, 1971). The prevention of crime should not be based solely on the physical environment. Social learning, conditioning, and cognitive psychology needed to be coordinated with architecture, engineering, and urban planning, in other words, CPTED (Jeffrey, 1971). However, with the introduction of target hardening (Lamoreaux & Sulkowski, 2020), the focus shifted away from social cohesion and towards why offenders decide to offend and what physical changes can be made to prevent offenders from committing a crime.

The encompassing ideas related to crime prevention and neighborhood safety planning includes CPTED. The function established and utilized in many disciplines,

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from urban design and planning, landscaping, facility maintenance, finance, geography, criminology, sociology and psychology, and human ecology, is called the defensible space theory designed by Newman (1972). For the purposes of this study, the focus is only on analyzing the critical benefits of CPTED centering around natural environments: territorial control, natural surveillance, access control, and image and milieu, which are described below.

Territorial Control. This principle claims that residents are more likely to take care of and be protective of areas if they see these areas as their own (Crowe & Zahm, 1994). Natural territorial reinforcement defines the boundaries of a property to convey restricted access. Generally, a territory is physically marked to convey this message; it is sometimes a sign, a fence, or even spray paint. Natural territorial reinforcement is widely utilized in retail stores to create inviting environments but also subconsciously gives the message that certain areas are off-limits, or people are watching (Carmel-Gilfilen, 2011). For instance, a countertop at a cashier station can be aesthetically pleasing and keep a customer from entering the space without signage saying keep out. Floors, ceilings, walls, fixtures, lighting, and color can be used to create territories (Carmel-Gilfilen, 2011). The CPTED theory speaks that space with a boundary definition will more likely be guarded and assist customer traffic flow. Landscape and architectural designers can utilize the same concept in a college setting to invite students and visitors while setting clear boundaries of areas off-limits.

A significant aspect of territorial reinforcement is having faculty and staff wear their name badge or ID card on campus. Displaying identification will let everyone know that employees with an identification card belong on campus and those without should be

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questioned. Employees gain the feeling of ownership of the campus and will protect their space when approached by someone without identification.

Maintenance. Maintenance is a subset of territorial reinforcement. The appearance of a well-maintained campus demonstrates pride in the school and shows that its faculty, staff, and residents care about their community. For instance, if a wall on the side of the building has peeling paint, vandalism may likely occur. Maintenance also includes litter and disarray. While buildings can be in reasonably good shape, there can still be problems with crime, as determined through a study of a HUD apartment complex (Fennelly & Perry, 2020). Finding the reasons for trash scattered through the apartment complex revealed that the complex, to cut costs, only supplied one small dumpster that was always full. If residents are expected to maintain and take pride in the property, avenues for maintenance must be provided (Fennelly & Perry, 2020).

Natural Surveillance. Natural surveillance explains that there needs to be sufficient visibility in an area. Natural surveillance includes appropriate lighting and the ability for all surrounding areas to be seen without blind spots. Lighting consists of both daytime and nighttime hours. The ability to see could include convex mirrors for corners, and ensuring furniture does not block the view of individuals. Sufficient visibility would also have strategically placed windows to view both inside and outside of a room. Natural surveillance allows individuals to feel safe and dissuades potential mischievous individuals from committing crimes by taking away the critical factor of opportunity (Fennelly & Perry, 2020).

Criminals prefer to commit misdeeds in areas that provide opportunities for escape or hiding, and many do not like places where they can be recognized. Criminals

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typically target secluded areas, where there is less of a chance of being seen or identified, or places that are easier for them to blend in and go unnoticed. Eliminating hiding spots includes ensuring that hedges, bushes, and trees are not overgrown, blocking views, or allowing for obstructions from view. Locations of dumpsters or other large objects may create blind spots. Strategic placement of cameras and convex mirrors in areas without a natural line of sight is beneficial. Having a camera that displays the person's movement on a large screen for everyone is also helpful, as it is a visible reminder that the person's movements are being monitored and recorded. It also serves as a deterrent for those who may be considering committing a crime, as they will know that their actions will be caught on camera.

Access Control. The idea of natural access control involves restricting access to an area by utilizing its natural features through landscape design instead of emphasizing physical barriers that could seem intimidating and unwelcoming. Highly accessible areas are more often vulnerable to crime (Shariati, 2020). When criminals have control taken away from them, they will think twice about committing a crime. If criminals cannot control how they enter or exit a facility, they will not feel like they are in charge. Creating a natural access control can be artistically pleasing by creating curved walkways, not straight. It is also possible to put various furniture, like tables, where a person must weave instead of walking in a straight line. The concept is similar to a restaurant, where individuals cannot make a quick exit without paying because they still have to navigate through a random set of tables.

Image & Milieu. This refers to a design aspect seen as capable of providing a sense of security, keeping in line with the intended social-environmental features, and not

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adversely affecting any necessary security measures. For example, the proximity to a police station would be considered less likely for criminal activity compared to a dark alley on campus (Newman, 1996). Police stations are typically well-lit, heavily populated, and have a greater presence of law enforcement personnel, making criminal activity much less likely. Dark alleys on campus, however, have fewer people around, lack adequate lighting, and have less surveillance, making them more attractive targets for criminals. The image and milieu of an area incorporates the social characteristics associated with crime rates. The image and milieu of the area can have a major influence on the perception of safety. If the area is clean and well maintained, it is likely to be perceived as being safer than an area with graffiti and broken windows.

Using CPTED to Promote a Safe Learning Environment

Universities have a responsibility to maintain a safe and supportive learning environment for their students, which includes ensuring that students feel comfortable, respected, and supported while attending classes and campus events. This includes providing safety measures to protect students from physical harm, psychological distress, and any other forms of harm that could potentially arise. Universities should also ensure that their policies and procedures are in line with current laws and regulations. Campus leaders are continuously looking for the most effective ways to keep their community safe (Green, 2020). While target hardening has been a typical response to criminal activity, items such as metal detectors and visible security cameras may increase students' fears or anxiety and lower their perception of safety (Lamoreaux, 2017). Students need to feel safe and comfortable at school to provide the emotional well-being necessary to ensure they are mentally available to learn (Reeves et al., 2010). Lamoreaux

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and Sulkowski (2020) evaluated if CPTED would impact a K-12 school setting to create a safe and comforting learning environment in order to reduce the impact of target hardening on children. Comparable to post-secondary institutions, empirical research on K-12 schools is limited and concentrated in studies of specific fields instead of based on the psychological effects of students (Lamoreaux & Sulkowski, 2020). Age and facility conditions can be correlated to construction costs versus budgeting for academics. A common approach to funding is to focus on direct daily operations that accomplish the mission of achievement, which would be providing teachers. However, studies have found a positive correlation between well-designed facilities and student achievement (Lamoreaux & Sulkowski, 2020). Through research, CPTED related factors were compared to the presence of school violence and concluded that sufficient or bright lighting had an indirect effect on student violence (Lamoreaux & Sulkowski, 2020). While the findings of this research suggest that CPTED can be used in an educational setting, there is a significant difference between a secondary school and a post-secondary school. Differences include the age of students, the mental capacity of students in decision-making abilities, number of buildings on campus, residence halls, hours of use of the school, and the potential presence of alcohol on campus.

CPTED and Crime on College Campuses

Little research has been conducted specifically on the entire method of CPTED on a college campus. However, various research has proven that specific aspects identified within the CPTED method reduce crime. An example is a recent analysis of crime data concerning environmental improvements at Ohio State University. The Governor of Ohio issued \$5 million in funding to universities from the 2021 Campus Safety Grant Program

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to provide campus security upgrades (Governor's Office, 2021). Ohio State University utilized this funding to install additional lighting and surveillance cameras. Within a month, they saw a 30 percent reduction in crime (Stoia, 2021). In addition, parents and students are welcoming the improvements. These improvements came after another school shooting, increased violent crimes, and protests made by both students and parents (Stoia, 2021).

Shariati and Guerette (2020) attempted to measure the level of CPTED on a college campus and determine if it is associated with a comparable level of crime. Their study claims research devoted to understanding the relationship between CPTED methods and campus safety is lacking. Through Clery reporting, 6,708 schools are required to publish their reports on the institutions' websites. However, for the 2015-2016 academic year, 976 schools were not in compliance. A detailed investigation of 100 colleges and universities determined that none appeared to have implemented a CPTED program. Despite the lack of specific mention of CPTED, Shariati and Guerette found that these schools did use crime prevention techniques found in CPTED principles, such as access control and activity support. However, most lacked the mention of natural surveillance, maintenance, and territoriality. The research study was unfounded because there were no data to determine when the CPTED strategies were implemented to effectively compare to timely Clery reports. However, the study noted that CPTED techniques were used on campuses with low crime rates. The author's research revealed potential inconsistencies between what is reflected as CPTED prevention strategies on a Clery Report and what was practiced on campuses. There is also inconsistency of comparable data within Clery Reports since universities use different content and styles

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to describe programs. A lack of a uniform data dictionary for describing crime prevention techniques makes it difficult to compare the level of safety measures in place (Shariati & Guerette, 2020).

Residence halls on campuses have been identified as areas prone to crime. They are filled with students who are new to adulthood and not having their actions controlled by parents or teachers. These students may feel exceptionally vulnerable without the safety blanket of their family and friends close by. This makes it crucial for campuses to do everything possible to ensure residence halls are not only safe, but students feel safe in their new temporary homes. Two resident halls at the same large research university were assessed to determine if CPTED designed resident halls affected resident students' perception of a safe environment (Shariati & Guerette, 2019). The intention was not to review campus crime rates but to understand the impact of CPTED on a residence hall. Shariati and Guerette explained that prior studies revealed that students' lifestyles and routine activities are essential factors in their victimization. These activities included alcohol and relationship behaviors. The residence halls that were part of this study were designed differently with one having high levels of CPTED attributes, and the other having low levels of CPTED attributes. Shariati and Guerette wanted to utilize the same campus to ensure that additional external factors were comparable and unfluctuating. These factors included urban/rural settings, security policies, college policies, and community characteristics.

Their findings confirmed that residents of the CPTED designed facility felt safer than residents of the non-CPTED designed facility. They identified the following limitations that were not accounted for in the study: First, there were external influences,

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in that the CPTED designed facility was newer and more aesthetically pleasing. Second, the researchers relied on a convenience sample of student residents, which could present a possibility of bias. They attempted to minimize this by sampling multiple days and time frames. Third, this study setting may differ from other universities, and the research would need to be replicated at other universities to determine the extent that CPTED can influence perception (Shariati & Guerette, 2019).

Conclusion

The literature supports this study's exploration into the perceptions of students, faculty, and staff regarding campus crime. The literature also supports the value of whether perceptions align with the results of a CPTED Physical Survey and Safety Assessment. The central literature discussion found such overall themes focusing on the need for campus safety and security (Cundiff, 2021; Maier & DePrince, 2019; Schafer et al., 2018). Studies have found a focus on student perceptions of crime and safety using examinations of Clery Reporting (Fisher & Sloan, 2013; Maestas, 2018). A review of traditional approaches to campus security showed many of these measures were costly, inadequate, and did not successfully deter crime (Arisukwu et al., 2020; Baumer et al., 2018; Oostinga et al., 2018). Finally, implementing crime prevention methods such as CPTED would be beneficial on campuses of post-secondary institutions by providing the ability to understand the security and safety needs of their campuses and create environments that are conducive to learning and safety. (Fennelly & Perry, 2020; Mihinjac & Saville, 2019). By increasing the visibility of potential criminal activity, creating barriers to entry, and increasing the perceived risk of criminal activity, CPTED can help to create a safe and secure environment for students, faculty and staff.

Chapter III

Methodology

Research Design

This study uses a mixed-method approach. Research that employs mixed methods combines collecting quantitative and qualitative data and then integrating the data to provide additional insight into the phenomenon (Creswell & Creswell, 2018). When used together, qualitative and quantitative methods complement each other and allow for a more comprehensive analysis (Creswell & Creswell, 2018). Combining these methodologies can help create a deeper understanding of whether perceptions of crime can be improved by implementing CPTED on a college campus.

Quantitative methods rely on logical positivism, where we observe a phenomenon and then describe patterns found through numerical mathematical equations (Rudestam & Newton, 2015). In quantitative research, variables are isolated and related causally to determine magnitude and frequency. Quantitative analysis helps evaluate numeric data retrieved from logs and surveys for each of the variables in this study. In addition, quantitative research reduces potential researcher bias during data collection by creating researcher detachment with the use of observational checklist instruments (Daniel, 2016).

Qualitative methods explore individuals' perceptions of a phenomenon and find patterns or meanings in narrative data (Chigbu, 2019). Furthermore, qualitative methods use subjective accounts of participants' experiences that cannot be quantified for generalization purposes (Chigbu, 2019). A strength of qualitative research is that scholars have the opportunity to explore the reasons behind participants' subjective experiences.

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The data analyzed in this study allow for a mixed-method design because the researcher attempts to validate a quantitative theory with qualitative perceptions.

The selected research design is a multiple case study with a deductive approach. Case study designs are beneficial when documenting observations and physical inspections (Chigbu, 2019). Additionally, case studies allow researchers to understand complex processes as they naturally occur within specified bounded systems or groups (Chigbu, 2019). Using a case study design allows the researcher to explore students, faculty, and staff members' perceptions within the context of campus safety and compares the reasons they feel unsafe in certain areas with CPTED principles found or missing in those same areas. The deductive approach allows the researcher to develop the cases at the beginning of the study, which is three separate campuses of varying sizes. This researcher can also document any differences in the cases as the study progresses by creating the cases at the beginning of the study (Creswell & Creswell, 2018). Selecting three different sized campuses provides for many variations, which assists in validating the theory that implementing aspects of CPTED can improve the perception of a safe environment regardless of the size of the campus.

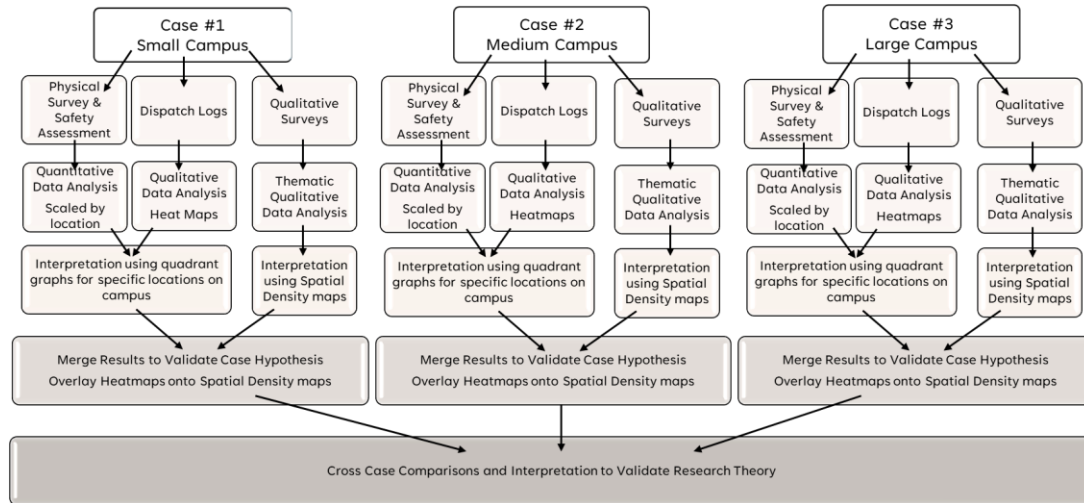
The researcher used a convergent core design embedded in the case study. The convergent design allows for analyzing quantitative data separately from qualitative data (Creswell & Creswell, 2018). This is significant since the quantitative data analyzed physical site assessments and dispatch logs, while the qualitative data analyzed opinions and perceptions. Quantitative data were collected from a CPTED Physical Survey and Safety Assessment and dispatcher logs representing incident data. Qualitative data were collected from stakeholder surveys. The data were then converged to create an in-depth

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narrative representation of the phenomenon. Convergent designs have an expected outcome of comparing both quantitative and qualitative research (Creswell & Creswell, 2018). They utilize both forms of data analysis to produce the results, which both validates the theory and answers the research questions. The critical concept of using a convergent design is that the quantitative and qualitative data use the same independent variable of a physical location within the campus. This allows for equal association of themes with statistical data. Figure 1 illustrates a diagram of the case study, which depicts the three separate cases to research, the deductive approach into both quantitative and qualitative analysis separately, then the convergent approach of first qualitative and quantitative research in each case, and lastly, the convergence of all three case studies.

Figure 1

Proposed Convergent Mixed Methods, Deductive Case Study Design



Three campuses were selected for comparison. The quantitative study was conducted first for all three campuses. After the quantitative research, the qualitative research was conducted, listed as phase two. Upon completing the analysis, phase three merges the results from phases one and two for each campus to validate the hypothesis

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for that specific campus. The results from all three campuses are then compared against each other to validate the research theory.

Phase One – Quantitative Analysis

Phase one consists of performing a CPTED Physical Survey and Safety Assessment and retrieving dispatch logs for all three campuses. The purpose of this phase is to determine the specific locations of known crime on each campus and areas that are missing one or more of the aspects associated with CPTED principles. These data are then quantitatively analyzed for each campus separately before moving to phase two of the study.

The research question associated with the quantitative phase of this study is “What specific areas on campus have higher crime levels and fewer aspects of CPTED?” This question predetermines the independent variables as the physical locations within a college campus. The dependent variable is both crime levels and aspects of CPTED. In this study, the control variable is the specific college campus, since we are conducting three case studies on different campuses with the explicit mindset that similar results will be achieved for each case.

Population and Sample

The population for this study is three campuses of Georgia Southern University. Utilizing these three campuses provides a significant sample size since all three are different in location, demographics, and size. Differences between campuses are further detailed in Figure 2.

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Figure 2

Comparison of Three Campuses in Scope of Project

	Statesboro	Armstrong	Liberty
Location	City Limits of Statesboro	City Limits of Savannah	City Limits of Hinesville
Established	1906	1935	1998
Campus construction	1908	1966	2014
Size / acres	1,200	270	2.2
# Buildings	91	28	1
Residential Students	4,500	1,400	0
Residential Facilities	7 Communities/58 Buildings	5 Communities/24 Buildings	N/A
Peak Enrollment	20,700	7,100	520
Current Enrollment	18,900	5,200	520

The large campus is in Statesboro, GA and is the largest of all three campuses. It is the university's main campus, a level 2 regional comprehensive university that is striving towards receiving research university status. It is located 15 miles north of Interstate 20 in a rural farming town with a small population. Due to its National Collegiate Athletic Association Division I status, thriving social and Greek life community, extensive academic programming, and diverse graduate school, the campus attracts students from across the country.

The medium campus is within the city limits of Savannah, GA. Hunter Army Airfield is also nearby however, students primarily interested in arts, healthcare, tourism, and engineering/transportation are attracted to the campus due to its proximity to two regional trauma hospitals, the Georgia Port Authority, and closeness to the beach and historic downtown tourist community. Prior to the consolidation with Georgia Southern University, the campus was considered a level 3 school, a state university. The medium campus is located 55 miles east/southeast of the main campus.

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The small campus is in Hinesville, GA, outside the main gate to Fort Stewart, which is the largest Army installation east of the Mississippi River. If it were a stand-alone school within the University System of Georgia, it would be considered a level 4 school - a state college. The student population consists primarily of active-duty military and their families. It is 40 miles southeast of the medium campus and 45 miles southwest of the large campus.

Instrumentation

A CPTED Physical Survey and Safety Assessment is designed to rate the physical aspects of a campus that may influence fear and aggressive behavior of students. The Center for Disease Control (CDC) has developed a CPTED assessment tool for K-12 schools. It rates physical parts of the schools that may impact youth fear and aggressive behavior (CDC, 2017). This CPTED School Assessment (CSA) is an excellent tool for primary and secondary schools however, it is not wholly beneficial for a post-secondary institution since various aspects of the campus are tremendously different. Examples of differences would be campus size, hours of campus use, residential settings, legal presence of alcohol, students not being considered minors, and many more. Additionally, it is recommended that the assessment should cover the period from 30 minutes before the start of the school day to 30 minutes after it ends. Since post-secondary institutions are continuously open, this is not possible.

The researcher utilized a modified CSA instrument, called a CPTED Physical Survey and Safety Assessment (assessment), listed as Appendix A. Elements such as bus/parent drop-off locations were removed, and other aspects, such as walkability factors through campus, were added. The questions and rating scale of the CSA were

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used, which assist in ensuring the validity of the scores since CSA has already achieved content validity (CDC, 2017). The CSA has achieved consistency in that each question through the entire assessment utilizes closed-ended, Likert rating scale of “0-5”, with “0” being “Does Not Exist” or “Unable to Observe,” “1” and “2” unacceptable and need of improvement, “3” and “4” being acceptable or common with room for improvement, and “5” being conditions are excellent with no adjustment necessary for compliance with CPTED principles (CDC, 2017). Each question behaves the same way and is mainly duplicated for different areas within the facility. The instructions through the CSA identify each question and analysis of the results. In addition, the CSA includes keyword definitions that assist the evaluator in interpreting each question statement, thus providing consistency. The assessment is divided into three sections:

1. General overview - initial impressions, general site descriptions, assessment day information, design/layout of the grounds, territoriality, maintenance, and additional observations such as surrounding land use and their conditions.
2. Exterior areas/Grounds - outside areas of the school property, such as parking and athletic areas. Every area identified on campus is rated separately.
3. Buildings - interiors, accessibility, surveillance, territoriality, and maintenance. Every building on campus is rated separately.

Items were rated on a 5-point Likert scale: Conditions rated 1-2 are considered unacceptable and in need of improvement. Conditions rated 3 are considered acceptable or common, with room for improvement and scores of 4-5 are considered good to excellent with no adjustment necessary for coming into compliance with CPTED

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principles. A statement was written on the specific issue or concern. Photographs were taken when applicable for all areas in scope to sample both good and bad sites.

The review of crime data for the last three years aids in determining where crime occurs on campus. As research has suggested, crime data can be challenging to retrieve since crime is not always reported or may be recorded incorrectly. In addition, comparison between campuses, due to varying policies and procedures, produce many independent variables that could undermine the integrity of the data. There are times when a crime has not occurred, but a call to law enforcement was made. These calls can be beneficial to review since they may identify suspicious behavior and can reveal areas perceived as unsafe on campus. If there is no evidence of a crime, a formal police report will not be made by a police officer. The independent variable necessary to compare crime to CPTED aspects and perception is location. Therefore, crime data collection was limited to dispatch logs. A review of dispatch logs proves helpful in these situations since the logs provide all calls for assistance. These crime data give an insight into areas that have a greater likelihood for crime and were used to support or deny the hypotheses. The number of incidents or types of incidents were not quantified nor analyzed. The information sought looked at the location of the incident and that a crime or suspicion of a crime did occur. This approach ensures consistency between campuses is achieved.

Procedure

The researcher personally conducted all assessments. Having just one assessor ensured that all campuses are evaluated equally. Inventory of all Georgia Southern University state-owned property was obtained from the university's asset accounting section of the financial accounting department. This information ensured that all areas of

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all campuses were analyzed as a part of this study. The survey utilized Qualtrics, a survey software tool licensed through Valdosta State University. Qualtrics allowed direct recording of all observations and tools to conduct a mixed methods analysis. Three separate surveys were developed within Qualtrics, one for each campus. According to the categories listed in the CSA, three sections of questions were developed within each survey. Each section of the assessment tool was duplicated for each area or building identified in the asset inventory, listed as Appendix B.

Once all locations and questions are developed within Qualtrics, the researcher began the physical assessment. With all three campuses being considered an open campus, it was not necessary to gain permission to access most of campus environments. However, out of courtesy, the researcher contacted the campus police department and executive leadership to gain permission to conduct the study and stated the specific days and times the assessment would be conducted. Officials from the university were invited to be present at the assessment, but it was not required. Photographs were taken at locations throughout each campus to document areas that have achieved compliance with CPTED principles and areas that need improvement. These photographs were used as documentation and to conduct a qualitative exercise during the participant surveys. The assessment was conducted at varying times of day and night to gain a universal perspective and focused on peak times for each specific location. For instance, administrative buildings are not utilized late at night therefore, it was not necessary to assess late evening risk factors. Since this is a time-extensive endeavor, assessing all locations within the same day or week was not possible. However, extreme care was taken to ensure that all assessments were conducted in the same part of the academic

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semester to ensure environmental changes were not affected by natural educational cycles. By way of illustration, the beginning of a fall semester is active and lively on any campus. The start of a semester is when various programming activities occur, promoting student engagement. The environment on the same campus during the end of a semester when students are studying for finals and preparing for semester break would be very different than the start of the semester. The goal to conduct all assessments at the beginning of the Fall 2022 semester was achieved.

The procedure for collecting the dispatch logs was in the form of a written open-records request to the campus police department for one full year of data, preferably in electronic format. The dispatch logs included any time a person called the campus police, used a blue light emergency callbox, or used the LiveSafe mobile communication app. Detailed information for each call included: date and time of the call, location of the call, agency that responded to the call, and description of the call. Given that a student may dial 911, which would send the call to the city, not the campus police, open records requests for the same information were requested of the City of Statesboro, City of Hinesville and the City of Savannah, with a scope of a 1,000-foot radius surrounding the campus.

Data Analysis

Phase one had three steps to data analysis. Each building or location assessed was categorized separately and identified with a unique name. These were referred throughout the study as locations. The assessment was scored by location, then by campus utilizing the Likert scoring identified in the *Instrumentation* section. The researcher categorized each location as deficient or sufficient in applying CPTED principles from these scores.

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In addition, the deficient scores were categorized into the four CPTED principles. Further detailed analysis is available for future research to allow the campuses to determine steps necessary to improve the areas deficient. If one specific variable stood out and was systemically deficient throughout the campus, it was noted and recorded in the final discussion phase of the research.

Step two of phase one data analysis examined call data for each campus, and heatmapping was utilized as a GIS Visualization method. Heatmapping is an integrated, theoretically sound, and empirically tested technology for analyzing large sets of multimodal texts. Digital approaches to mixed-methods research are illustrated by a framework that combines qualitative analysis methods of perspectives, quantitative methods of data mining, and information visualization in a multilevel, contextual framework (O'Halloran et al., 2018). The researcher pinned onto a map data from the dispatch logs using gps coordinates. Areas with higher call volume were colored red, with the colors fading to yellow, green, then blue for the lowest call volume. Incidents that were reported as off-campus but within 1,000 feet of campus were listed as category "off-campus" but were included in the percentage. These scores were used to identify high crime areas. Results and call data regarding date, time, type of incident, location, and level of crime at each location were categorized by location for qualitative comparison during phase three.

Step three of phase one data analysis was to compare assessment results with call data results. Results were analyzed via both heatmapping and 4-quadrant matrix histograms. Location categories identified in step one were pinned on the heatmap to be overlaid with incident data using the shape of a star to identify the pin as an assessment

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and the color as red or green for deficient or sufficient. Color and shape coding were to correlate improvements needed and incidents within each area. The results of each location were then analyzed and rated using a quadrant histogram for each campus. The quadrants were labeled as:

- Quadrant 1 - High incidents, Low aspects of CPTED; (hypothesis)
- Quadrant 2 - Low incidents, High aspects of CPTED; (hypothesis)
- Quadrant 3 - High incidents, High aspects of CPTED;
- Quadrant 4 - Low incidents, Low aspects of CPTED.

Each building was plotted on the graph based on its scores for incidents and CPTED assessment. Ideally, the desire is for all buildings on the campus to be in quadrant 1 or 2 to validate the hypothesis. This quadrant graph assists in validating that aspects of CPTED correlate with incidents. In addition, the heatmap assists in determining the severity of the incidents and aspects of CPTED within each location.

Phase Two – Qualitative Analysis

This phase consisted of conducting qualitative surveys to answer the research question, “What do stakeholder surveys reveal about crime perception and reasoning at specific locations on their campus?” This qualitative case method analyzed the results to understand the broad stakeholder perception of specific areas within this research scope.

Population Sample

The target population included the following stakeholders: students, faculty, staff, and administrators at the three campuses within the scope of this study. Administrators were limited to key leadership and executives who can influence change in policies, procedures and/or environment. A purposive sampling technique was used to obtain the

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study sample. Purposive sampling is used to obtain a sample of participants who have knowledge and experience with the phenomenon of interest (Etikan et al., 2016). A weakness of purposive sampling is that participants can manipulate the data. Comparing the results of the three data sets against each other will compensate for this weakness. By allowing the researcher to identify any discrepancies and inconsistencies in the results. If any data show results that are not consistent with the others, then the researcher can investigate further to determine if the data have been manipulated. Surveys were conducted for each campus and data categorized for that campus. The desired sample size for surveys was 30 participants per campus, divided into the five categories listed below. Survey selection was based on the following parameters:

1. Five to ten students who are also employees of the university. They may know troublesome areas on campus and frequent areas but either have little control for the environmental design or do not know how to make an area safer. Surveying these staff help gain their perspective of unsafe areas, why they are unsafe, who should be responsible for the correction, and what they may have attempted to do in the past to those areas.
2. Two to five students who reside on campus. These students spend more time on the campus than any other student and may know troublesome areas that other students may not need to frequent.
3. Two faculty/staff that work on the campus. Faculty and staff can provide insight from an adult, parent, or experienced perspective. They may have frequented areas or even requested modifications of areas. Surveys of these staff provide a dialogue to determine known but not reported areas of concern and why.

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4. Two faculty/staff who work primarily on a different campus but occasionally travel to the surveyed campus. They may have a different perspective of unsafe areas and why they perceive the areas to be unsafe. Someone who sees something every day for years may forget that an issue exists.
5. Key administrators have the ability or authority to make changes to the environment, and they may also have insight into areas needing improvement or further information on the campus operations. Some administrators may have responsibility for multiple campuses. One survey was conducted, however, all campuses were in scope and categorized as such to be segregated at the data analysis stage. Administrators include five categories of employees:
 - a. Law enforcement – deputy police chief, lieutenant, sergeant
 - b. Facilities – director, safety inspector, landscaping manager, maintenance manager
 - c. Executives/vice presidents – business and finance, student affairs
 - d. Key personnel – housing director, admissions director, admissions tour coordinator.

This list was expanded by survey participants who identified other individuals who may be interested in providing input. It may also be expanded if saturation is not achieved.

Instrumentation

The surveys for each person in the sample had two parts. The first part included a discussion of the perception of the campus as a whole and individual background questions. The second part consisted of questions on specific locations. Photographs

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taken of each location during phase one of this study were utilized as a visualization technique to prompt discussion on the specific locations. For the sake of time and reduction of survey fatigue, not all locations were used in the survey. A sampling of the most common CPTED deficiencies were used along with a sample of areas with no CPTED deficiencies. Below is an example of the questions asked on the survey. Full list of questions is included in Appendix C:

Part One

1. Are you a student, faculty, or staff member? If a staff member, do you hold the position of manager or above?
2. Which campus is your home campus? (This directs which Part two questions the participant is given)
3. Do you visit any other campus? Would you like to provide your opinion of one of the other campuses as well as your home campus? (This directs which questions the participant is given in part two of the survey)
4. What are your perceptions of safety on the _____ campus?
5. What are these perceptions based upon?
6. Do you believe that crime occurs on your campus?
7. Do you believe, overall, your campus is a safe campus?
8. Where do you believe most crime occurs on campus?
9. What do you feel campus authorities could do to prevent crime more effectively?

Part Two – These questions are repeated for each photograph.

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1. Do you see anything in this picture that could make a person feel unsafe?

Check all that apply.

- a. This seems to be a safe area
- b. This area has places where people can hide
- c. The area is not easily monitored
- d. The area is not well lit
- e. The area is not well maintained
- f. The area is not welcoming, attractive, or inviting
- g. Anyone can access the area (or access to places/items that they should not have access to)
- h. When entering this area, I don't know where to go or what is expected of me
- i. Other (please explain)

After completion of all location-specific questions, the participant was asked, "Can you think of any areas on the campus that we have not discussed that you feel unsafe?"

Part Three

A description of each CPTED element was given and the following questions were asked:

1. Do you believe that the campus has adequate access control? Why or why not?
2. Do you believe that access control, in this context, can help prevent crime? Why or why not?

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3. Do you believe that the Statesboro campus as a whole does an adequate job of territorial reinforcement? Why or why not?
4. Do you believe that territorial reinforcement is useful to prevent crime on a college campus? Why or why not?
5. Looking back on the Campus Map, are there areas around campus that you believe natural surveillance can be improved?
6. Do you believe maintenance improvement in this context can help prevent crime? Why or why not?

Procedure

Surveys were conducted with all participants identified in the Population Sample section of phase two. All surveys were conducted in Qualtrics, which is a recognized software that offers the ability for all surveys to remain anonymous. The survey was a mix of multiple choice and open-ended questions. The survey included visualization techniques in the form of pictures described in the Instrument section of phase two. Qualtrics heatmapping feature was used with some pictures to permit easier comparison of responses.

All participants identified in the scope of this study received an email, which described the intent of the study and the importance of their input. The email included a link to the survey and contained an introduction, a description of the research being conducted, any requirements of the participants, the benefits of the research, a consent statement that the data collected will remain confidential, and that participation in the research is voluntary. The IRB approval was listed in the email, as well. The researcher sent a follow up email two weeks later to remind the participants and ask if there were

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any questions about the intent or purpose of the survey. A consent statement was permissible since the research received an exempt IRB approval, provided in Appendix D, and all surveys are to remain confidential. The survey should take no longer than 15 minutes to complete for each participant.

The timing of the surveys occurred after the analysis of all quantitative data for each campus. Care was taken to ensure that a significant amount of time has not elapsed between the assessment and the survey to ensure triangulation of data was accurate and random errors did not occur from changes to the environment. If a significant amount of time had passed, there may have been a need to complete a second assessment on that campus to ensure changes to the environment had not occurred. The goal to conduct surveys in the same semester as the assessment and keeping the survey instrument open for no longer than one month was achieved.

Data Analysis

Surveys were analyzed within Qualtrics using Text iQ and Results features to code and organize data. Braun et al.'s (2014) six-step thematic analysis was used for data analysis. The thematic analysis involved six steps: 1- becoming familiar with the data; 2 - developing initial codes; 3 - creating themes; 4 - re-assessing themes, merging similar themes, and discarding irrelevant themes; 5 - naming retained themes; and 6 - reporting results (Braun et al., 2014). The coding procedures for the qualitative analysis included descriptive coding for the first-cycle coding of surveys, followed by pattern coding in the second-cycle to group first cycle codes into themes (Saldaña, 2016). The coding procedures apply to thematic analysis (Braun et al., 2014), the chosen analytical strategy for this study.

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Phase Three – Merge Results for Comparison

Phase three answers the final two research questions, “Does the perception of stakeholders align with the CPTED Physical Safety and Survey Assessment results and reported incidents?” and “Can the reasons for the perceptions of unsafe areas be rectified by implementing aspects of CPTED in those areas?” This is accomplished by a methodological triangulation approach to analyze the data and develop a comprehensive understanding of the perception of fear of crime. It includes a convergence of all stakeholder surveys, crime data over the past year, and the CPTED Physical Survey and Safety Assessment. This triangulation approach increases the credibility and validity of the results. To enhance the legitimacy of this study, the researcher analyzed all three sources of data separately conducted during phase one and phase two of the study. Then the researcher combined the results into one comprehensive report per campus. Finally, the researcher conducted a cross-case comparison to corroborate the research theory.

Analysis

Similar to the qualitative analysis conducted in phase two of this study, the researcher used the six-step thematic analysis to organize data. There was a combination of strategies for the first cycle of coding: descriptive coding for surveys, attribute coding for assessment data, and evaluation coding for documents (Saldaña, 2016). Pattern coding was, during the second cycle coding, to group first cycle codes into themes (Saldaña, 2016).

In addition, a bar chart was utilized to categorize locations into type of location and compare CPTED physical assessment scores to the perception of criminal activity, perception of crime occurring, and the percent of calls for those locations. This chart

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helped visualize the triangulation approach to determine if CPTED needed improvements are the same as perceived risky areas and areas of known concern. To effectively improve safety in specific environments, the data should result in target hardening or CPTED improvements, not in law enforcement saturation (Kochel, 2011).

Assumptions

There are two levels of assumptions within this study. The first assumption is within the CPTED methodology and the second is within the research methodology. The assumptions listed here focus on the assumptions necessary to conduct this research. A fundamental assumption of this case study is cooperation with campus leadership and individual stakeholders being surveyed. Initial conversations with leadership indicate that this research is welcomed and needed. Another assumption is that there are no unforeseen circumstances before or during an assessment or survey. Examples of unforeseen circumstances could be a power outage on the day of an assessment or a high-profile incident on-campus days or weeks before a survey. These circumstances can distort the collected data. If any unforeseen circumstances were identified during the research, care was taken to note the circumstance and exclude the data. Care was given to ensure an equal understanding of the definition of safe versus unsafe locations. Since the researcher conducted surveys instead of interviews, this was a concern. Care was taken to ensure guidance and definitions were provided within the email invitation and within the questions in the survey. Finally, timeliness was a key assumption. Except for historical dispatch logs, care was taken to utilize similar timeframes for data collection to ensure that stakeholders' perceptions were equally comparable to assessments of facilities.

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Limitations

Any case study will have limitations. The researcher's responsibility was to identify those limitations and develop safeguards to overcome them. Trustworthiness is vital in any qualitative research. Triangulation of the three sets of data helped with the trustworthiness. Bias and subjectivity in a qualitative research study are always concerns (Chigbu, 2019). If the researcher is biased, this could lead to false results. An attempt to ensure bias is not found has been noted in the research approach listed above. The timing of certain data collection can overlap. However, the analysis was conducted after all data were collected to ensure that the researcher did not become subjective. Not all threats can be eliminated in this study, but efforts were made to minimize such threats during the process of the study.

Technological safety is a new and growing concern for universities. Where crime has been location-specific in the past, the internet, intelligent software, and artificial intelligence have created a new crime arena. Crimes may be reported and logged as occurring at a campus but cannot be analyzed using the CPTED principles. CPTED principles deal with changing a physical environment, and these crimes do not have a physical location.

The theory is that implementing aspects of CPTED can improve the perception of a safe campus environment, regardless of the university's size. To wholly validate this theory, it would be beneficial to include post-secondary campuses throughout the state and over multiple states. A study of that magnitude would not only be costly but take a considerable amount of time. Including more campuses, but only specific high crime sections of campuses were also considered, but until phase one of the research was

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underway it was unclear where the specific high crime sections of each campus were located. Each campus could have differences in where crime may occur based on varying crime safety measures in place. The objective was to triangulate results from assessments, dispatch logs, and perception, not compare specific locations, facilities, and other unknown variables. Therefore, this study was limited to the three campuses of one university. Georgia Southern University campuses make for an excellent evaluation environment since all three campuses are uniquely different. They vary in size and type of student population, number and type of facilities, type of programs offered, student populations, and are situated in cities that attract different types of students and residents. However, they also share the same university police department as well as overarching policies and mission.

Delimitations

This study is delimited to generalizing perceptions as well as crime. Perception variables that can occur through race, ethnicity, or identity were not analyzed. In addition, crime variables such as violent crime, property crime, unfounded incidents, time of day of occurrence, or how calls for assistance were received were not separately analyzed. While this analysis would be interesting, it does not fit in the scope of this study and can be conducted with future research.

This study is on determining if perception of safety can be improved by including CPTED principles on a college campus. A comparison of specific locations of many campuses would be very interesting, for example comparing all football stadiums, however, such a comparison would be unable to validate stakeholder perception of a safe campus, and instead would add other variables, in addition to CPTED, to the analysis.

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Future research may be appropriate, but this study was delimited to CPTED principles only.

Finally, survey and assessment data were delimited to the stakeholders listed in phase two of the qualitative methodology. There are many variables of stakeholders that could be chosen. However, the primary data collected is the CPTED Physical Survey and Safety Assessment. The participant surveys are data that compliments and validates the CPTED assessment and not meant to be analyzed as a primary data source.

Ethical Procedures

Before collecting data, the researcher obtained permission and requested a Letter of Cooperation from Georgia Southern University for site access and cooperation with performing the research. After obtaining consent, the researcher obtained exempt approval from the Institutional Review Board (IRB) at Valdosta State University. Exempt approval was requested through Exemption 2 since the research was a program evaluation that included interaction through surveys, recorded in a non-identifiable manner, and did not include sensitive information. It is appropriate for Exemption 2 since it did not include any subject interventions. There were also not any vulnerable subjects involved, private information collected, nor risk to participants. Both approval documents are provided in Appendix D.

After gaining approval from Georgia Southern University and Valdosta State University IRB offices, the researcher began participant recruitment efforts by directly contacting administrators. The researcher also elicited feedback from these administrators to recruit students, faculty, and staff appropriately. To maintain confidentiality, Qualtrics

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anonymity feature was turned on. All research data were secured on a password-protected hard drive and will be deleted after five years.

Contributions to Knowledge

CPTED has been extensively researched concerning residential communities, shopping centers, and even crime prevention. When dealing with a university campus, the dynamics of prior research may be deficient. While there have been a few studies on CPTED and universities, there has been a lack of comparison of perception versus room for improvement. This study will provide insurmountable information to assist in the success of campuses by empirically testing arguments of CPTED theory in a university setting as a tool to assist in reducing crime and perception of crime. It provides critical information to validate CPTED as a successful method to combat crime in post-secondary institutions. It determines if the institution's size matters by comparing the three case studies of varying-sized campuses. Safety recommendations such as lighting, placement of callboxes and landscaping, architectural design of new construction, and safety measures inside facilities are provided to assist institutions in creating a safer environment. It is not expected that the campus will rebuild any structures to incorporate CPTED principles. However, other recommendations can be addressed and improved, such as lighting, landscaping, access control, and maintenance items. This study also compares stakeholder input to CPTED assessment results, fostering future long-term campus planning. While specific recommendations may not be transferrable to other universities, the framework for designing similar studies on other campuses contributes to the knowledge of public administration of many university campuses.

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Conclusion

Colleges and universities struggle with determining how to keep their campuses safe without increasing the perception of fear that can come along with implementing target hardening measures. A positive school atmosphere is essential to the academic success of students. Little research has been conducted to evaluate ways to design the physical environment to prevent crime and maintain a safe student perception on campus. This study will attempt to identify if CPTED aspects can positively impact perceptions. It will also create a guide and framework for other schools to study how to improve their environments.

Chapter IV

Results

Overview

This research was a multiple case study where primary data were first collected, followed by secondary data collection. The data collection results were then merged to validate each case hypothesis and the research theory. This chapter is divided into four main sections: first, analyzing the findings of the primary data collection; second, analyzing the findings of the supporting data collection; and third, testing the hypothesis. Each section has sub-sections that describe the findings for each campus. A final summary section compares all three campuses to test the research theory.

Phase 1 – Primary Data, Quantitative Analysis

The primary data consisted of a physical survey and safety assessment of all buildings, parking lots, and recreational areas of campuses, as well as dispatch log data. This section first explains the results of the physical surveys for each campus, then the dispatch log data for each campus, and then compares the data from the dispatch logs to the assessments.

Campus CPTED Surveys

The CDC's CPTED physical assessment tool is structured to rate the overall impressions of campuses and the individual areas of the campus. Initial impressions, global impressions, and surrounding land use conditions are observed for the overall campus rating. Initial impressions are based on the overall positive impression of the school grounds, buildings, and campus interior. These impressions are spontaneous and

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represent a felt response, not an intellectual assessment. Global impressions pertain to the overall atmosphere or ambiance of the school and are similar to the initial impressions in that the ratings are a felt response, not an intellectual assessment. Surrounding land use is vital to include when conducting a safety assessment. These areas can affect the perception of safety and prevention of crime on campus.

Overall, 146 individual locations were assessed in this study. GPS coordinates were identified during the assessment to assist with categorizing and logging the results on a map for comparison with other data and locations during the analysis phase. There were 206 questions on the assessment form. Each question is related to at least one CPTED attribute. The questions were divided into three surveys: building, parking area, and recreational area. The building survey had 149 questions; the parking and recreational area surveys had 57 questions. Not all questions would pertain to each location. For instance, a single-story building would not need an elevator assessed; therefore, those questions were omitted. Each location took 20-45 minutes to assess, depending on the size and complexity of the location. All locations received an overall safety rating between 1-5, which was used for heat mapping purposes. Pictures were taken of each location during the assessments for future reference during the analysis phase. Exterior locations were revisited in the evenings when it was dark. By revisiting exterior locations in the evening when it is dark, it is possible to see how well lighted exterior locations are and to identify areas where additional lighting is needed. Residential housing areas were difficult to assess since access was limited. Therefore, the assessment of these areas included access to all exterior areas, hallways, and stairwells.

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No interior residential units were assessed on any campus. The researcher collected and recorded this data; thus, there are no varying perceptions based on different individuals.

Large Campus. This campus is unique in that the city is intertwined with the campus. Surrounding land use is essential when looking at the overall impressions of the campus. However, it is challenging for a visitor to determine what is private property versus what is owned by the university on this campus. Adequate signage can be useful to differentiate between various locations, especially since surrounding businesses utilize variations of the university's name within their own. Even though the researcher had visited this campus before, it was impossible to conduct this study without a campus map to provide directions to each location. Needing directional assistance is understandable given the campus size; however, the campus size makes it even more critical to have directional signage. Most emergencies do not allow ample time for a victim to look up their location or how to get to safety. It is important to note that a few locations on campus were not assessed. They were the Botanical Garden, the Center for Wildlife Education, and the Child Development Center. These were not direct student-facing parts of campus and were more geared towards civic/public service parts of the university.

The school grounds generated mostly positive initial impressions; however, some aspects could be improved. Most areas were adequately maintained, but few major landscaping features or student artwork were noticed throughout the campus. Despite adequate signage on each building stating the name and contents of the building, there was little directional signage about how to obtain campus visitor passes or where popular events are located. Public streets around campus had few signs indicating parking lots or arrows that pointed to visitor spots. Visible parking lot signs were very small and difficult

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to read when driving and attempting to pay attention to traffic. Visitors can have difficulty finding their destination quickly and easily without helpful signage. Inadequate signage can make navigating the campus challenging, creating a feeling of insecurity and increasing the risk of crime. One area that was very difficult to find was the parking office to gain a visitor permit. The office is along the main road, with woods and landscaping separating the office from the road, but to gain access to the office, the visitor has to drive another quarter mile through a parking lot with little signage on where to turn to get there. A visitor may tend to not follow proper procedures if it is difficult to find the parking office. For school buildings, initial impressions were mainly positive; however, the interior of most buildings felt very sterile with white walls and sometimes felt imposing. There were few directional signs once inside campus to know where to go, nor were there signs of student involvement or motivational signage in most buildings.

Global impressions are based on whether the school is inviting, attractive, cheerful, and uplifting. On a scale of 1-5, the campus scored 3.5. As outlined in the CDC's physical assessment tool, global impressions are generally spontaneous and represent a felt response versus an intellectual assessment, or a gut reaction versus a mental analysis. The researcher's global impression was mixed in the sense that some parts of campus were very attractive and cheerful, while others were not as inviting or welcoming; and felt very imposing. Some of the residential areas, for instance, seemed like prisons with cages that were locked at night. Few open lawns were available for students to congregate, and areas for gatherings were poorly maintained. The surrounding land of this campus includes single-family residential, multi-family residential, public housing communities, commercial buildings, hotels, recreational areas, other schools,

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vacant buildings, vacant lots, and major and minor roads. All single-family residential areas, recreational areas, and roadways that were visited appeared to be in good condition. However, many multi-family residential and public housing communities surrounding the campus were unsightly, poorly maintained, and vandalized. Complexes had trash strewn about the common areas, abandoned vehicles surrounding the perimeter and inside parking lots, and homeless encampments nearby. Paint colors were inconsistent, faded, chipping, or discolored. Fences and stairs were in disrepair with broken boards, broken or missing hardware, or they had other visible and unrepaired damage. Light fixtures were broken, there were holes in exterior walls, and graffiti was present on at least one wall. For the most part, the commercial areas were well maintained. However, some commercial buildings had chipped paint, garbage in the parking lot, broken doors or windows, and were outdated in design.

Buildings. The data suggest that student housing areas were very different from the remainder of the university, therefore they were analyzed separately during this phase. As indicated in Table 1, the overall non-residential building scores ranged from 3.8-4.9, with most buildings scoring higher than 4.0 on a scale of 0-5. Access management was the CPTED element for the buildings category with the lowest scores. Two specific areas where many buildings scored low were administrative offices and restrooms. Controlled access to staff areas is a concern, and there were many areas where visitors could enter places they did not belong.

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Table 1

Average Score per CPTED Element per Type of Location- Large Campus

	Access Management	Natural Surveillance	Physical Maintenance	Territorial Reinforcement	Grand Total
Buildings	4.29	4.39	4.75	4.29	4.43
Courtyards	4.76	4.15	4.77	4.02	4.40
Entries and Exits	4.53	4.16		4.53	4.32
Exterior Stairs, Balconies, Ramps		4.26			4.26
Exterior Walls	3.94	4.38	4.82	3.81	4.36
General	4.92	4.26	4.59	4.67	4.58
Interior	4.25	4.45	4.75	4.24	4.43
Administrative Offices	3.68	3.82	4.62	4.05	4.09
Cafeteria and Food Courts	4.78	4.83	4.50	4.00	4.65
Classrooms	4.15	4.56	4.52	3.80	4.28
Corridors	4.44	4.71	4.50	4.19	4.52
Elevators and General	4.18	4.19	4.78	4.72	4.48
Gym and Locker Rooms	4.56	4.19	4.81		4.43
Main/Visitor Lobby	3.93	4.38	4.57	4.19	4.25
Restrooms	3.54	4.66	4.89		4.50
Stairs and Balconies		4.59	4.81		4.65
Parking Areas	3.54	3.77	4.04	3.89	3.80
Bike Racks		3.70	4.32		4.01
Dumpsters	3.39	4.25	4.55		4.03
Exterior Athletic Areas	3.14	4.20	3.63		3.66
Pedestrian Paths & Gathering Areas	3.77	3.52	3.12	3.65	3.51
General	3.41	4.03	4.40	4.09	4.09
Parking Areas	3.57	3.86		4.19	3.95
Point of Entry	2.39	3.80		3.56	3.33
Vehicular Routes	3.76		4.14	3.45	3.79
Perimeter	3.82	3.30		3.95	3.75
Recreation Areas	3.76	3.85	4.40	4.25	4.05
Grounds	3.76	3.85	4.40	4.25	4.05
Bike Racks		4.00	3.50		3.75
Dumpsters	2.92	4.67	4.50		3.90
Exterior Athletic Areas	3.20	4.33	4.33		3.96
Pedestrian Paths & Gathering Areas	3.84	3.57	4.40	4.02	3.86
General	4.15	3.66	4.54	4.50	4.31
Parking Areas	3.00	4.00		3.97	3.73
Point of Entry	3.14	3.86		4.29	3.89
Vehicular Routes	5.00		4.50	3.60	4.37
Perimeter	4.10	4.25		4.57	4.20
Grand Total	3.98	4.20	4.51	4.17	4.21

Certain questions continuously had scores that ranged from to 1.0-3.0 for numerous buildings throughout campus. For instance, public restrooms are not areas that can be monitored for privacy reasons. Care must be taken to ensure that there are no places where video cameras or explosive devices can be stored. Therefore, in public

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restrooms, the ceiling should not have treatments that can be moved to provide access to hiding places. Very few buildings throughout campus had public restrooms with a sheetrock type of ceiling; most had drop-tile ceilings. Another area of concern in public restrooms is light switches. Thirteen buildings had multi-stall public restrooms with light switches near the exit door that were accessible to anyone. Understandably, these buildings are older, yet they provide the potential for crime and promote a greater chance of sexual assault. Motion-type sensors for restrooms and other buildings may be a better alternative.

Additional emergency locking devices were noted on many doors throughout campus. However, these devices were installed improperly in some classrooms and meeting spaces, making the devices useless in emergencies. While issues related to restrooms have been discussed, the light switch for one female public restroom on this campus was located outside the room, in the hallway. This switch could easily be turned off on accident, but more importantly, it could be a means for a criminal to target or assault a victim by trapping them in a dark restroom with no way to escape.

During visits to most buildings, few staff members were attentive to visitors entering the area. Most office doors remained closed; staff did not look up from their desks when visitors entered, nor were there directional signs telling visitors where to go. One administrative building was visited after business hours on the weekend and was found unlocked. There was a sign on the door stating to ring the bell for deliveries; therefore, the assumption is that the entrance is to remain locked even during business hours. Upon entrance to the building, there were no employees on-site, and six new large-screen televisions were on a crate inside the door.

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Several access management issues involved the securing of electrical panels. Ten buildings, mostly classroom hallways, were found to have electrical panels accessible to the public. These panels did have key locks; however, none were locked. When opening the panel, there was a sheet of paper that identified the location of each breaker within the box. These easily accessible and unlocked panels make it easy for an aggressor to turn the power off to a victim's room before attempting an assault.

A specific subset of the university's seven residential student complexes is addressed in Table 2, which shows average scores by CPTED attribute by residential area. Three of the seven areas had an average score of less than 4.0. Four of the seven areas need improvement around territorial reinforcement. Because these areas have the most student presence for extended periods, it is common for their scores to be lower; however, the university should focus on improving these areas since they will be the first to have crime occur or have students perceive fear of a crime being committed. One main item in most residential complexes concerning access management that needs to be mentioned is using long pieces of wood diagonally placed within the windowsills on the first floor as preventive measures to ensure safety. This is an effective target-hardening measure; however, the measure can potentially increase the perception of an unsafe campus. Although the target-hardening measure can make the first-floor dorm rooms more secure, it can also give the impression that the campus is dangerous and needs to be secured. This can create an atmosphere of fear, which could lead to students avoiding the housing areas altogether.

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Table 2

Average Score per CPTED Element per Residential Location

	Access Management	Natural Surveillance	Physical Maintenance	Territorial Reinforcement	Average
Eagle Village	3.80	3.45	3.38	3.07	3.40
Southern Pines	3.33	4.22	4.14	3.17	3.89
Southern Courtyard	4.00	4.06	4.13	3.63	3.97
Watson Hall	4.75	4.13	4.00	3.45	4.05
Centennial Place	4.25	3.91	5.00	4.29	4.31
Kennedy Hall	4.67	4.23	4.50	4.57	4.41
Freedom Landing	4.20	4.31	4.86	4.33	4.46
Total Average	4.14	4.04	4.29	3.79	4.07

Eagle Village residential complex scored the lowest of all residential complexes, with overall scores ranging from 3.07 to 3.8 in all CPTED categories. Deficiencies within the element of access management included unsecured buildings and inadequate signage, lighting, and visibility of entrances. The signs on one of the doors stated that the building was closed and persons who entered would be prosecuted; however, the building door was unlocked, and the push bar was held in the open position by zip ties. Natural surveillance was lacking in many areas. Entrance doors were on the sides of the building, not visible from the parking lots or the visitor office in the courtyard. There were eight entrances; however, the entrances did not have signage to identify the building name nor number. Entrances did not have waiting areas that were well-lit nor visible from adjacent buildings. The main visitor lobby was not well-lit nor easily monitored. The physical maintenance of Eagle Village was good in some areas and poor in others. For example,

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the courtyard was well landscaped, but one area had tire tracks through the grass. Trees lined the pedestrian pathways for beautification, but some were overgrown and blocked the light from the poles, creating visibility concerns. Tennis courts were overgrown with weeds. The carpeting in the lobby of buildings was stained and had an odor. Deficiencies within the element of territorial reinforcement were also noted. Eagle village is located on almost an entire city block. Private multi-family housing, commercial buildings, parking lots, and busy roadways surround it. Except for a small sign at the entrance to the parking lot identifying Lot J, there were no signs stating that the complex was part of the campus. There was also no sign nor indicator of the name of the complex. There was no sense of ownership nor pride in the complex, and it appeared to be just a place to live. As with other parts of campus, there was no student artwork displayed.

When assessed using the CDC's physical assessment tool, the Southern Pines residential complex scored lowest of all buildings on elements of access management and was second lowest for elements of territorial reinforcement. The complex had ten-foot-tall wrought iron fencing with curved picketed tops designed to restrict persons from climbing over the fence. Rather than keeping people out, the fence appears to hold them inside like prisoners. A similar type of fencing surrounds the interior walkways at the end of each building. The gaiting at the entrances serves no purpose and makes it look prison-like. These entrances give the appearance of being caged and provide the impression that the area is typically unsafe. It seems that hard-preventive measures in the form of fencing were installed to ensure that no harm would come to the area. In addition, during a weekend visit to the campus at 6 am, a classroom was found unlocked with computers, monitors, and projectors unsecured inside. Entrances and courtyards were not well

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defined with landscaping, nor were they well maintained. They were not attractive or cheerful. The buildings and exterior corridors were organized like a maze and were hard to navigate, creating a sense of mystery and confusion. Exterior corridors were barren and a little scary to walk down. For instance, in some cases, the walls were painted a dreary white and dim lighting made it difficult to see down the corridor.

Southern Courtyard is another residential area owned by the university but has a feel of being off-campus. Residents enjoy a unique sense of independence, while still having access to university amenities and services. This residential area had university signage at its entrance but also had ten-foot-tall wrought iron fencing with curved picketed tops between the building entrances. The fence served no purpose since there was not a gate and did not restrict anyone from accessing the complex. It merely gave the impression of an unsafe area. The complex was open, and visitors had access to any dorm room. Dorm room entrances were recessed with solid doors and no windows, making it difficult for an occupant to see who may be outside their unit. There were many poles and places for persons to hide along hallways around dorm room entrances. Southern Pines had blue light call boxes in both the parking lots and courtyard areas. However, one call box located in the parking lot had yellow caution tape surrounding the box, making it appear that it may be out of order. Bicycle racks were outside the complex, along the public roadway, making natural surveillance harder. The tennis courts had weeds growing due to a lack of maintenance, providing the opportunity for it to take root and grow in the cracks in the pavement. There were not any signs of pride, ownership, or student involvement. Its surrounding land use is multi-family housing, and the apartments on the north side of Knight Drive were very run down and unsightly. Sidewalks, curbs,

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and parking lots were broken. The wooden siding was faded with mold growing on the building.

Watson Hall was the final residential area with low CPTED scores. It is also the location for the main housing offices and is closer to classroom buildings than the other three mentioned. On average, Watson Hall scored an overall rating of 4.05. Average scores for each CPTED element ranged from 3.45 – 4.75; with negative aspects of territorial reinforcement which was sufficient to lower the overall score. These items concerned motivational signs, pride and ownership, student displays, attractiveness, cheerfulness, landscaping, and artwork. These deficiencies were noted in the courtyards, exterior building walls, and main entrance lobbies.

Parking Areas. The parking lots scored low in all four elements of CPTED. Dumpster areas, athletic areas, parking areas, and entry points scored low in access management. Areas that students or visitors should not access were not secured. Signage and written rules were inadequate. At points of entry and parking areas, there were small signs stating the parking lot number. However, there was no information identifying who is permitted to park in the lot, how to gain a permit to park in the lot, acceptable hours for parking, nor what areas of campus were accessible to that parking lot.

Natural surveillance of most bike racks on campus was a concern. Bike racks were not located in areas easily monitored by the public nor near buildings; they were hidden behind buildings or parking lots, making stealing bicycles easier. Generally, parking lots were well lit. However, several pedestrian pathways had poor lighting. Examples of insufficient lighting are pathways surrounding lots 33, 21, J, F, 12, 11, 31, 30, and 42. One pathway connecting a residential housing complex to classroom

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buildings posed a significant safety concern. An eight-foot fence topped with barbed wire surrounded this pathway on both sides. Once entered, the pathway left no way for a person to escape or find help. Additionally, the pathway was not visible from any buildings, so if an incident were to occur, it would be difficult to respond quickly. Another area of concern with natural surveillance was emergency callboxes. With the advancement of cellular technology, callboxes are not as popular. Nevertheless, callboxes were scattered throughout the campus, but not in all areas. They were not in parking nor recreational areas that experienced nighttime traffic and were in some, but not all, residential areas. The university does advertise and subscribe to an emergency cell phone app for students to use, which may supplement the unavailability of callboxes everywhere on campus.

The element of physical maintenance is essential since it represents a sense of ownership and caring. Parking lots received low scores in pedestrian pathways and gathering areas for physical maintenance. These scores were low due to the poor condition of trash receptacles, seating, landscaping or beautification, student involvement, and barriers between parking lots. Many parking areas were missing seating and trash receptacles. Missing trash receptacles can lead to an accumulation of litter, creating an unsightly scene. Seating and landscaping can affect the ambience of the campus and can help create a sense of community. Lack of student involvement can lead to a feeling of disconnection and lack of belonging, and poor barriers between parking lots can lead to safety risks.

Territoriality is defined as using physical attributes to delineate space and express a sense of ownership and pride. The objective is to communicate to others that an area is

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claimed and cared for; therefore, unacceptable behavior will not be tolerated. This is important in parking lots since these normally border roadways, and it is easy for thieves to attempt to use parking lots as easy targets. Territorial reinforcement within parking lots showed room for improvement in areas dealing with beautification and signage.

Wayfinding systems, examples of student involvement, school signage, and vehicular travel routes received low scores within parking areas. When driving down public roads, it was difficult to determine when to turn to gain access to a parking lot unless you were using GPS.

Recreational Areas. Recreational areas within Table 4.1 include Paulson Stadium, Clements Stadium, Herring Pavilion and Fields, Sports Complex, Fitness trails, Blue Mile, Softball Facilities, Sweetheart Circle, and Herty Pines. The recreational areas as a whole received an average score of 4.05. However, specific points within the elements of access management, natural surveillance, and territorial reinforcement received scores as low as 2.92, which was the lowest for any category of building and CPTED element for the entire campus. Access to dumpsters and site utilities were not controlled. To reach the recreational fields, pedestrians must pass these utilities. This lack of control poses a safety hazard to pedestrians. The pedestrians may come into contact with potentially hazardous materials or the dumpsters may invite unwanted pests. In addition, the presence of these materials can deter people from using the recreational fields, as they may feel uncomfortable or unsafe in the area. The remaining low scores under access management deal with proper signage. There were few signs letting pedestrians know where paths and walkways will take them.

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Natural surveillance for recreational areas scored above a 3.5 overall. There are rolling open fields that are easily monitored. The perimeter has natural fencing around most fields, and ball fields have standard fencing. A downside to the recreational areas is that they are not easily viewed from nearby buildings. This means that there is a lack of visual access to the recreational area, which can deter people from enjoying the area. Also, it can limit the area's foot traffic since it is not easily seen. Because the fields are vast, lighting is an issue. Landscaping also creates hiding places on the trails. Additionally, people may not know how to access the recreational area, and the lack of visibility can make it seem unsafe and uninviting. This further limits the amount of foot traffic the area gets, which could lead to decreased maintenance and upkeep of the recreational area.

There were fifteen questions dealing with territorial reinforcement in recreational areas. Twelve of these questions received a rating of over 3.75. Pedestrian crossings were clearly marked, attractive, and welcoming. The bright colors and marked lanes helped to make the crossings clearly visible to motorists, and the wide sidewalks provided plenty of room for pedestrians to move through safely. The overall condition of the crossings and grounds were also in good condition, adding to the safety and appeal of the pedestrian crossings. The three areas that could be improved were signage of parking spaces, travel routes, examples of student involvement, and lighting. Signage of parking spaces would help to reduce confusion by clearly indicating where to park and helping people find their cars. Travel routes would be improved by making it easier to navigate the campus and find popular destinations. Examples of student involvement would show prospective students the types of activities that take place on campus and create a sense of ownership

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and pride in the campus. Lastly, enhanced lighting would make the campus safer and more inviting.

Medium Campus. The medium campus is on the outskirts of the city limits. It receives all city services and, until recently, has been packaged into a tight grid without external influences. The campus has four entrances marked with large signs identifying the college campus. There are directional signs that display where to go for each major location on campus. All locations on this campus were assessed.

There were mainly positive impressions of the school grounds; however, a few observations were concerning and required further investigation. Most areas were in good condition, but major landscaping features lacked routine maintenance, and there was little student artwork throughout the campus. Trees, shrubs, and grass were overgrown and not well-groomed, and benches and other features needed repair or replacement. There was also a lack of student-created artwork, such as murals, sculptures, and other art forms. There was adequate signage in front of each building stating the building name and which offices or classrooms were located within. The parking office was the first building to pass at the main entrance to campus. This assists visitors in determining where to go. For school buildings, initial impressions were mainly positive; however, the interior of some buildings felt very sterile with white walls. White walls may create a sense of cleanliness, but can also make the environment feel uninviting and impersonal. Therefore, adding a bit of color to the walls can help create a more inviting and vibrant atmosphere. There were directional signs in every building and floor to know where offices were located. Some buildings showed student involvement, through advertisement for student-run

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clubs, activities, and initiatives, there were still some that had failed to engage students in meaningful ways. This can result in a lack of participation and interest in the campus.

Global impressions are based on if the school is inviting, attractive, cheerful, and uplifting. On a scale of 1-5, the campus scored a 3.7. There were parts of campus that were very attractive and cheerful, but there were also parts that did not feel uplifting. For instance, the buildings and pathways were maintained, but bricks were uneven on walkways. Residential areas lacked grass, shrubs, and color in their landscaping, and there was no sign of activity or life.

The surrounding land of this campus includes single-family residential, multi-family residential, commercial buildings, marshlands, vacant buildings, vacant lots, major and minor roads. All single-family residential areas, multi-family residential areas, and roadways that were visited appeared to be in good condition. However, there were many commercial buildings, marshlands, vacant buildings, and vacant lots that were very unsightly, poorly maintained, and vandalized. These locations were filled with trash, debris, and overgrown vegetation. This made the area look unappealing and undesirable. A few homeless camps were noted on campus property and bordering the campus. The presence of these homeless camps posed a potential safety risk for students, staff and property on the campus. Additionally, it could make students feel unsafe and uncomfortable.

Buildings. The data suggests that student housing areas were very different from the remainder of the university, therefore they were analyzed separately during this phase. As indicated in Table 3, the overall non-residential building scores ranged from 3.97-5.0, with most buildings scoring higher than 4.2 on a scale of 0-5. Territorial

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reinforcement was the CPTED element with the lowest building category scores. These low scores were explicitly attributed to the questions surrounding examples of student involvement and the display of motivational signs or student accomplishments. The display of student involvement and motivation is essential in territorial reinforcement since it encourages student pride and excellence, which develops a sense of ownership on the campus. Examples of student involvement would show prospective students the types of activities that take place on campus and create a sense of ownership and pride in the campus.

Table 3

Average Score per CPTED Element per Type of Location – Medium Campus

	Access Management	Natural Surveillance	Physical Maintenance	Territorial Reinforcement	Grand Total
Buildings	4.58	4.56	4.72	4.29	4.55
Courtyards	4.85	4.51	4.69	4.15	4.56
Entries and Exits	4.56	4.19		4.51	4.34
Exterior Stairs, Balconies, Ramps		4.32			4.32
Exterior Walls	4.32	4.56	4.76	4.09	4.51
General	4.63	4.28	4.46	4.65	4.51
Interior	4.59	4.64	4.74	4.23	4.58
Administrative Offices	4.50	4.37	4.68	4.33	4.45
Cafeteria and Food Courts	4.63	4.92	4.75	3.75	4.64
Classrooms	4.40	4.70	4.70	4.00	4.47
Corridors	4.60	4.87	4.64	4.06	4.60
Elevators and General	4.67	4.65	4.57	4.69	4.64
Gym and Locker Rooms	4.83	4.31	5.00		4.62
Main/Visitor Lobby	3.97	4.61	4.60	4.11	4.32
Restrooms	4.48	4.43	4.86		4.66
Stairs and Balconies		4.86	4.94		4.88
Parking and Recreational Areas	4.16	4.11	4.18	4.23	4.17
Bike Racks		4.05	4.04		4.04
Dumpsters	4.25	3.85	4.67		4.34
Exterior Athletic Areas	4.20	5.00	4.20		4.47
Pedestrian Paths & Gathering Areas	3.95	3.81	3.34	3.93	3.77
General	4.63	4.23	4.46	4.27	4.37
Parking Areas	3.98	5.00		4.44	4.47
Point of Entry	3.80	4.60		4.37	4.28
Vehicular Routes	4.13		4.50	4.48	4.37
Perimeter	4.16	3.75		4.05	4.08
Grand Total	4.38	4.42	4.48	4.26	4.39

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At the side entrances to all classroom buildings were cork-type bulletin boards that showed advertisements and information on student activities. However, most of the notices were old and no longer useful. Additionally, signage within the food court was minimal. There is a courtyard in front of the food court, however, there are no signs that Chick-fil-A and Starbucks are inside. Exterior signage would make the courtyard more inviting and better advertise the businesses within.

A specific subset of the campus, the residential student buildings, is addressed in Table 4, which shows average scores by CPTED attribute by residential area. The residential student buildings encompass three residential complexes. The fourth complex on campus is no longer owned by the university and can be occupied by non-residents. All but one area scored above an average score of 4.0. This one area showed low scores in the elements of physical maintenance and territorial reinforcement. The Compass Point buildings were not well maintained; there was mold within the buildings, the courtyards were barren dirt in some areas, and flooded drains in other areas. There was little landscaping, and the courtyards were not in good condition. The stairwells were bleak, with little signs of student life. The blue light call boxes throughout the residential area were dirty and not functioning. With the advancement in technology, assistance through a cellphone app is now used; however, the availability of a non-functioning call box could lead to a disaster in the event of an emergency, where every second counts.

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Table 4

Average Score per CPTED Element per Residential Location – Savannah

	Access Management	Natural Surveillance	Physical Maintenance	Territorial Reinforcement	Average
Compass Point	4.67	4.00	3.60	3.60	3.90
University Crossings	5.00	4.15	4.29	4.50	4.33
Winward Commons	4.64	4.53	4.28	4.68	4.56
Total Average	4.77	4.23	4.03	4.26	4.26

Parking Areas and Recreational Areas. Within this category, pedestrian pathways and gathering areas revealed the lowest scores, with improvement needed through all CPTED elements. For the element of access management, parking areas did have adequate signage directing vehicles to appropriate parking areas; however, there were very few signs directing visitors to the parking office. Access to dumpsters was also another area of concern. One dumpster was located in a parking area close to a public roadway, giving access to uninvited guests. Unsecured dumpsters create a safety risk for trespassers searching for discarded items and can make the area a target for illegal dumping and other criminal activity. It can also create an eyesore and attract pests. Very few dumpsters were controlled to authorized personnel only.

Within natural surveillance, the public telephones - blue-light call boxes were not in working order in any of the locations on campus. In addition, the perimeter fencing was overgrown in multiple campus areas with weeds and was in disrepair. The physical maintenance revealed a need to improve pathway conditions throughout campus. This maintenance is necessary to ensure pathways are safe for students and compliant with local regulations. Parking lots had storm drains filled with debris and physical barriers that provided misdirection or were broken in some areas. There was also a lack of items

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that demonstrated student involvement. Student displays convey that students are invested in the upkeep and maintenance of their school environment.

Lastly, within the element of territorial reinforcement, pedestrian seating and trash receptacles were missing from all parking lots. Without these features, pedestrians cannot rest or dispose of their trash, which could lead to littering. Trash receptacles are necessary to keep the parking lots clean and free of debris. Wayfinding systems were present throughout campus but could be improved to include plant materials, artwork, monuments, and other landmarks. Wayfinding systems help visitors more easily orient themselves on campus by providing them with visual cues, such as sculptures, signs, and other landmarks. It would also help to reduce the amount of time it takes for people to find their destination. A prime example of poor territorial reinforcement was the campus shuttle bus location, where no pedestrian amenities exist, and the only seating in the area faces the opposite direction of the bus stop. In addition, the waiting area for the bus was poorly maintained, with buckling asphalt. These deficiencies make it difficult for people to wait for the bus comfortably, as they have to turn away from the bus stop to find a place to sit. This lack of seating and amenities makes the area feel unsafe, and it also sends a signal to people that maintenance is not a priority to campus leadership.

Small Campus. The small campus includes only one building and one parking lot. This campus sits near the entrance to a military base inside the city limits of Hinesville in Liberty County. The initial impression was very positive. This campus is the newest of all three surveyed. It is apparent that environmental design was considered during campus construction. For example, the pathways are lined with trees and vegetation. The campus has strategically placed greenspace, benches, trash receptacles,

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and emergency call boxes. The initial impressions of the campus grounds were very positive; it was clean, professionally landscaped, and colorful. There was signage in parking lots and through campus providing directions to visitors. The building was clean, the staff was helpful, and the interior was easily understandable. The global impression of the campus was inviting, attractive, and cheerful. All areas were unimposing, and there was ample seating for students to relax and study. Motivational signage was throughout the building.

Single and multi-family residential, recreational, and commercial areas surround the campus. There were also both major and minor roadways within the vicinity. Most of the surrounding areas were well maintained, attractive, and enhanced with lighting, pavement treatments, and landscaping. There were no signs of vandalism present, and various traffic calming measures were installed by the city to ensure safety. Traffic calming measures, such as speed bumps and pedestrian crossings, reduce speed and make the streets more accessible and safer for pedestrians. Several blocks from the campus, a school building's roof was missing, and residential areas appeared abandoned and unkempt. The lack of city maintenance and investment in these areas has resulted in the rapid deterioration of the buildings, creating an eyesore and dangerous environment.

Building. Overall, the building received a high score of 4.78. Out of 106 questions rated, only fifteen received a score below 5.0, and only four received a 3.0 or less. As shown in Table 5, these four questions concerned classrooms and were part of the CPTED elements of access management and natural surveillance. Classroom doors remained open even when classrooms were not being used. Locking classroom doors that are not in use is essential since it is impossible to monitor inactive classrooms, and there

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is a potential for classroom equipment to be stolen or vandalized. Not all classroom doors could be locked from the inside and only via key on the outside. Classroom doors did not have emergency locking devices for active shooter situations either. Windows within classrooms were large enough to allow views of interior hallways and outside the building. However, all windows had their blinds closed.

Table 5

Average Score per CPTED Element per Type of Location- Small Campus

	Access Management	Natural Surveillance	Physical Maintenance	Territorial Reinforcement	Grand Total
Building	4.55	4.76	4.96	4.83	4.78
Exterior	4.67	4.90	5.00	4.86	4.87
Courtyards	5.00	5.00	5.00	5.00	5.00
Entries and Exits	5.00	5.00		5.00	5.00
Exterior Walls	4.00	4.00	5.00	4.00	4.43
General	5.00	5.00	5.00	5.00	5.00
Interior	4.50	4.71	4.94	4.81	4.75
Administrative Offices	5.00	5.00	5.00	4.50	4.86
Classrooms	3.00	3.25		5.00	3.63
Corridors	4.00	4.83	5.00	4.67	4.73
Elevators and General	4.60	5.00	4.88	5.00	4.86
Main/Visitor Lobby	5.00	5.00	5.00	4.80	4.92
Restrooms	5.00	5.00	5.00		5.00
Stairs and Balconies		5.00	5.00		5.00
Grounds and Parking Areas	4.25	4.92	5.00	4.93	4.78
Bike Racks		5.00	5.00		5.00
Dumpsters	3.50	4.00	5.00		4.20
Pedestrian Paths & Gathering Area	5.00	5.00	5.00	5.00	5.00
General	5.00	5.00	5.00	4.83	4.94
Parking Areas	3.00	5.00		5.00	4.50
Point of Entry	5.00	5.00		5.00	5.00
Vehicular Routes	5.00		5.00	5.00	5.00
Perimeter	3.67			5.00	4.00
Grand Total	4.44	4.80	4.97	4.87	4.78

Grounds. Out of 51 questions answered regarding the campus grounds, only six received less than a perfect score. Of those six, only four questions scored below 4.0, all dealing with access management. The campus grounds were in excellent condition, with

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blue light call boxes strategically placed from the parking lot to all the entrances. There were signs in the parking lot and building advising visitors of appropriate rules and expectations. The pedestrian pathways were in good condition, easily monitored, and separated from adjoining lots. Areas needing improvement were the access to the dumpsters and signage on adjoining roads. The dumpster was at the far end of the parking lot and had gated enclosures in the open position. Access to the dumpster may seem inconsequential; however, it can lead to vagrant loitering and use by unauthorized persons. Finally, while there is a large sign at the main entrance to the building, there is no signage on the roadways to direct visitors that the parking is in the rear of the building and visitors must enter from the side road behind the campus.

Dispatch Log Data

Data was received From Statesboro Police, Savannah Police, and Georgia Southern Police for 12 months of dispatch log data from June 2021 to June 2022. Data included location and type of call, and this information was used to determine which calls should be included or excluded in the study. Any officer-initiated calls, such as building checks, field interviews, busy at locations, or traffic-related issues, were excluded. In addition, sick person, civil, or EMS-related calls were excluded. Calls that did not have a specific location or were logged with the police department location were also excluded. Calls that were included in the data were calls that could lead to criminal charges, violations of university rules, or calls where persons did not feel safe, such as a suspicious person, alarm, welfare checks, or assistance. Since the CPTED physical assessment tool does not look at fire safety, building and equipment security, staff and

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personnel safety, hazards for non-intentional injuries, or crisis response capability, these requests for assistance were also removed from the dispatch log data.

Large Campus. Dispatch log data from Georgia Southern University and the Statesboro Police revealed 55,208 calls reported on or near the large campus for this time frame. After removing all officer-initiated calls, building checks, traffic stops, and other non-pertinent information, there were 6,377 calls within the scope of this study, with 1,894 being on campus and 4,483 surrounding the campus. Over 45% of the calls were to on-campus and off-campus student housing areas. Figure 3 shows a heatmap of the number of calls, by location, with blue areas being lower call volume. All areas of the map with high call volume are forms of student housing. Only 5.6% of the calls were at bars or restaurants. A searchable version of Figure 3 can be found at <https://arcg.is/1yXXqK1>.

Figure 3

Heatmap of Dispatch Log Data on the Large Campus

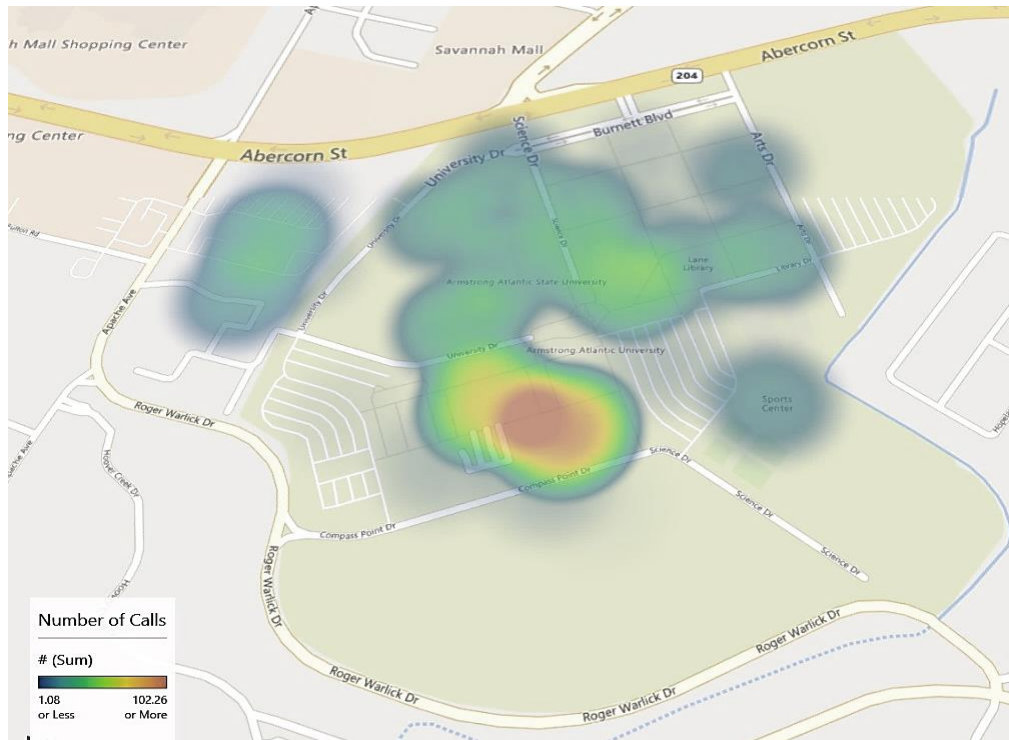


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Medium Campus. Dispatch log data from Georgia Southern University and the Savannah police revealed 21,265 calls reported on or near the medium campus for this time. After removing all officer-initiated calls, building checks, traffic stops, and other non-pertinent information, there were 540 calls within the scope of this study. Call data from the Savannah Police Department did not give specific location or building information, therefore, was left out of the heat mapping part of the study. In addition, calls that were logged with the police department location were also removed. Over 36% of the calls were to student housing areas, with 17.59% being Winward Commons, the freshman residential housing area. Figure 4 shows a heatmap of the number of calls, by location, with blue areas being lower call volume and orange being higher call volume.

Figure 4

Heatmap of Dispatch Log Data on Medium Campus



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Small Campus. Dispatch log data from the Georgia Southern University police revealed 435 calls reported on the small campus for this time frame. The Hinesville Police Department reported no incidents surrounding the area. After removing all officer-initiated calls, building checks, traffic stops, and other non-pertinent information, there were two calls within the scope of this study. These two calls were for a suspicious person and found property.

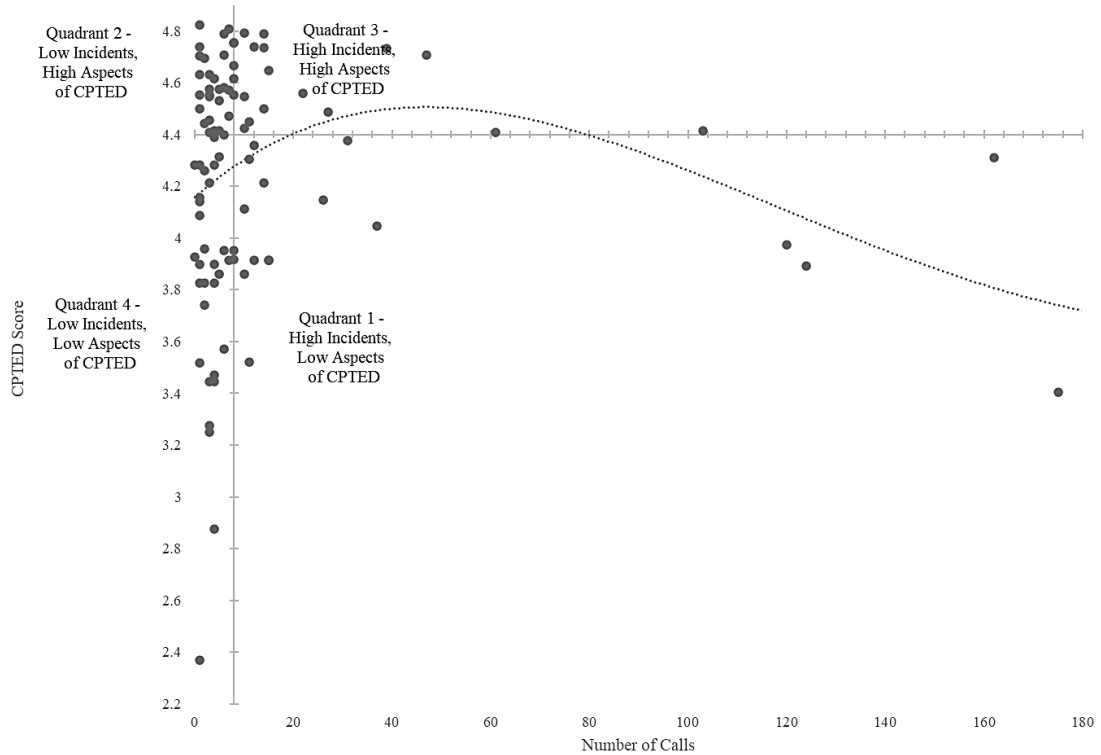
Summary

Large Campus. A comparison of CPTED scores and call log data for the large campus revealed that, on average, as call volume increased at a specific location, the CPTED score decreased. However, this was not the case in all areas. Figure 5 displays the histogram for the CPTED location score compared to the number of calls by location. To validate the hypothesis would require the calls to be in either quadrant 1 or 2. While there are calls in quadrants 1 and 2, they are also in quadrants 3 and 4. This analysis made it difficult to determine if there was a correlation between calls and scores since most locations had fewer than 15 calls for the year.

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Figure 5

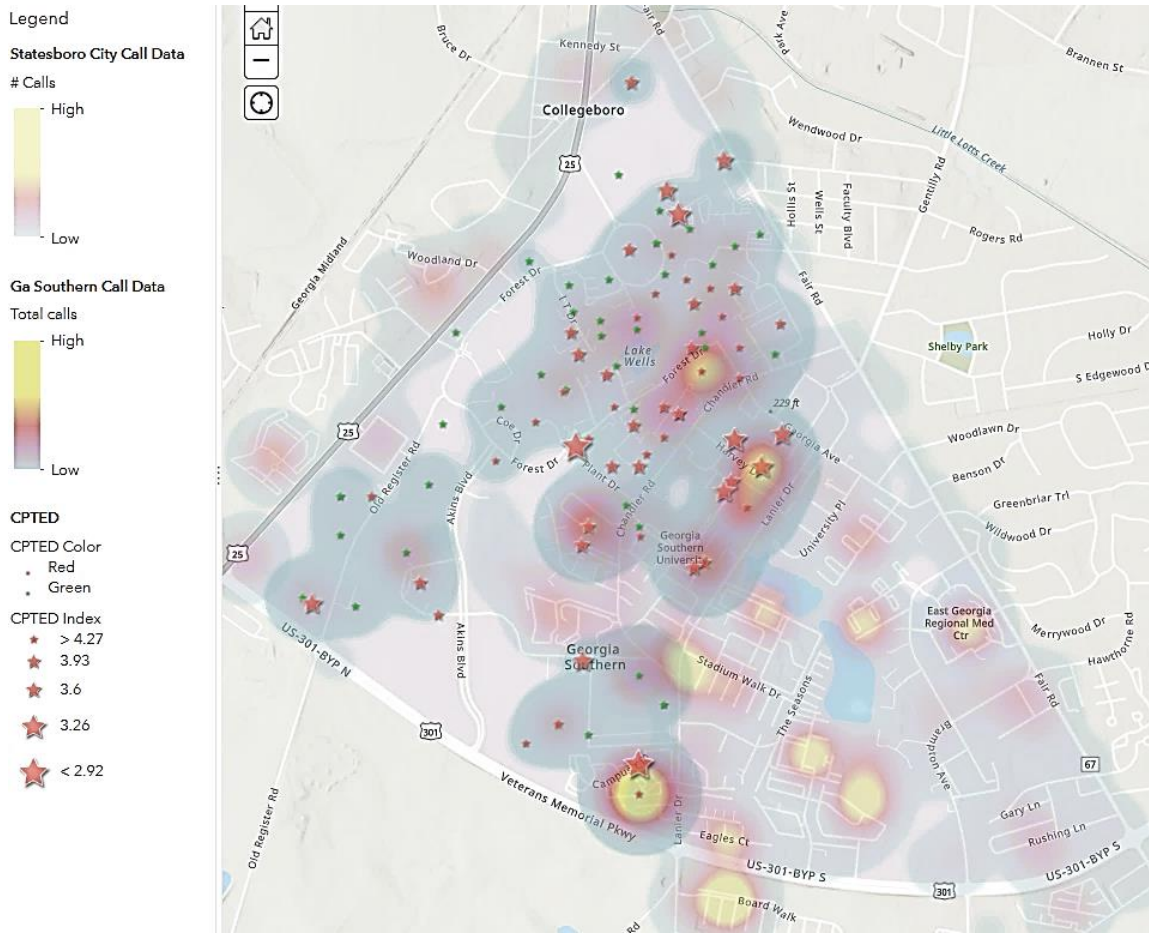
Hypothesis Histogram for the Large Campus



An assessment heatmap of the large campus is shown in Figure 6. Each building or exterior location assessed on campus has been assigned a colored star. Green stars identify locations that received CPTED overall scores greater than 4.5. Red stars identify locations that received CPTED overall scores less than 4.5, with the star becoming larger the lower the score. As can be seen from this map, the areas with larger call volumes have more red stars, and the areas with lower call volumes have more green stars in the vicinity. Areas without stars are not university property and did not receive a CPTED physical assessment. A searchable link to the detailed information behind each campus area can be found at <https://arcg.is/bCfeP>.

Figure 6

Heatmap overlaying CPTED Scores and Call Data for the Large Campus

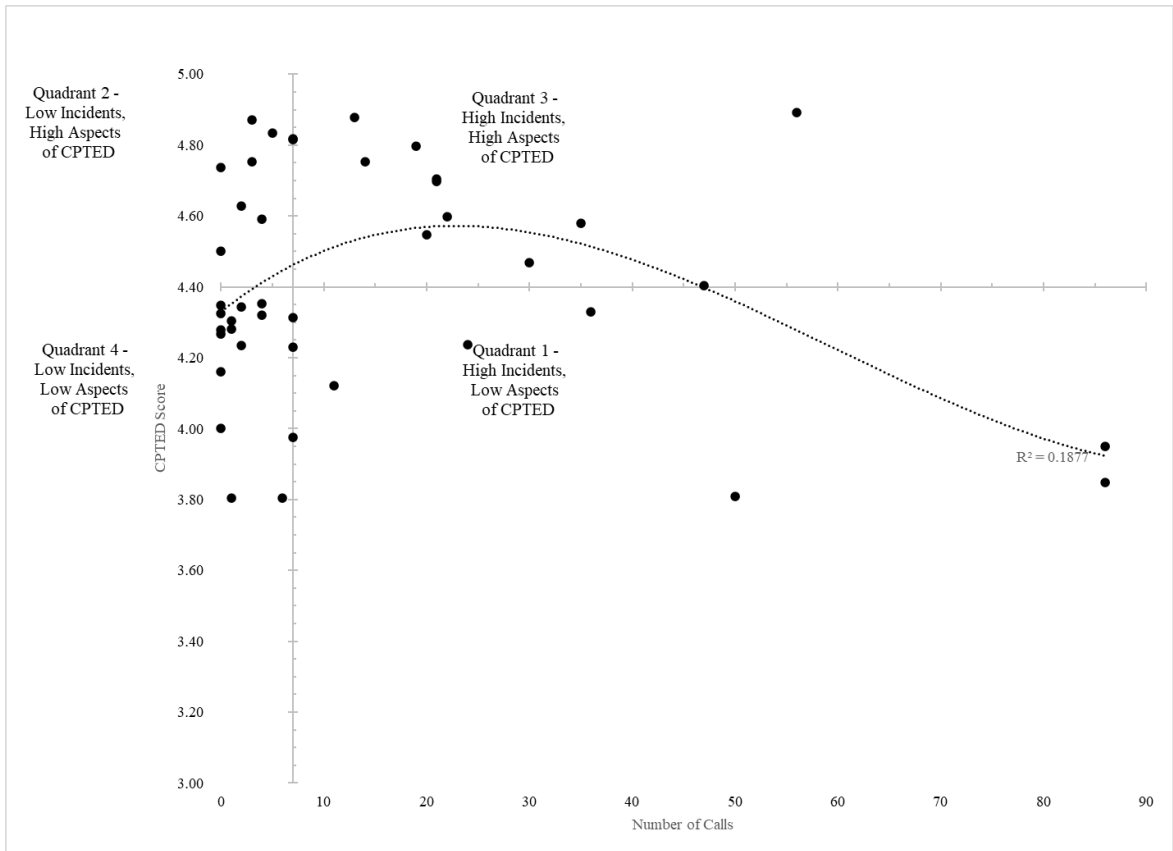


Medium Campus. A comparison of CPTED scores and call log data for the medium campus revealed that, on average, as call volume increased at a specific location, the CPTED score decreased. However, this was not the case in all areas. Figure 7 displays the histogram for the CPTED location score compared to the number of calls by location. To validate the hypothesis would require the calls to be in either quadrant 1 or 2. While there are calls in quadrants 1 and 2, they are also in quadrants 3 and 4. This analysis made it difficult to determine if there was a correlation between calls and scores since 25 of the 43 locations had fewer than eight calls for the year.

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Figure 7

Hypothesis Histogram for the Medium Campus



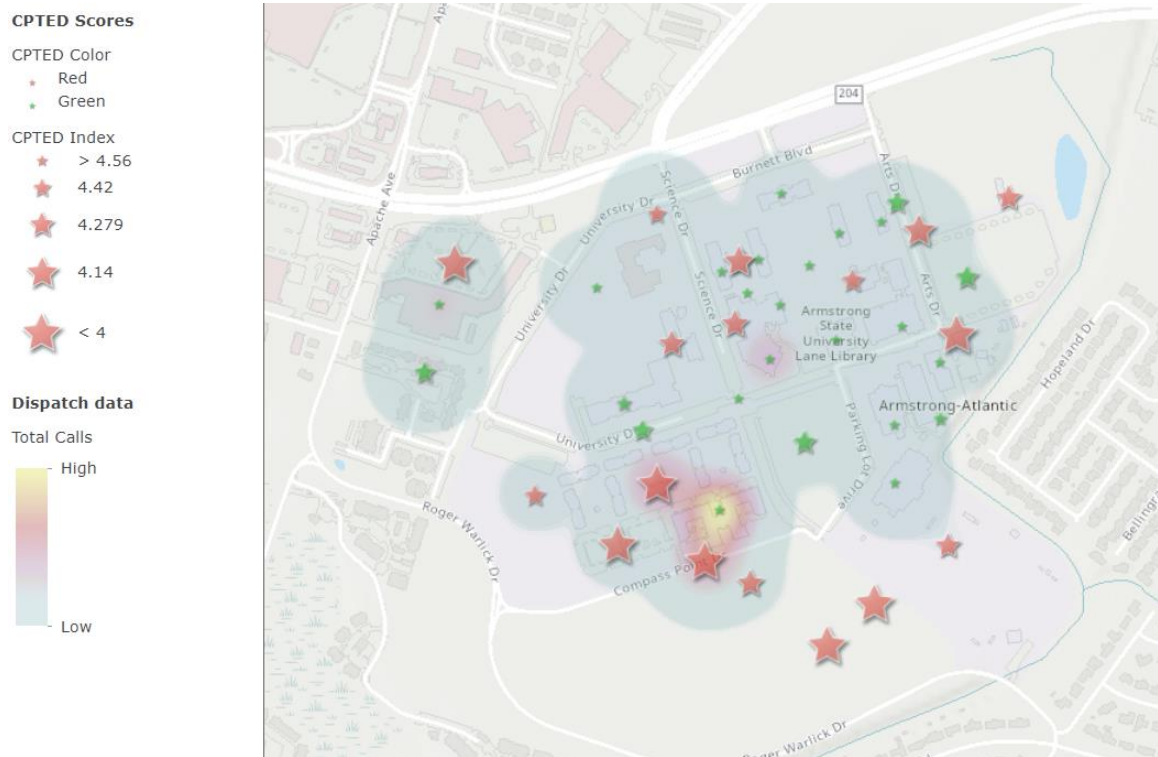
An assessment heatmap for the medium campus is shown in Figure 8. Each building or exterior location assessed on campus has been assigned a colored star. Green stars identify locations that received CPTED overall scores greater than 4.3. Red stars identify locations CPTED overall scores less than 4.4, with the star becoming larger the lower the score. As can be seen from this map, the areas with larger call volumes have more red stars, and the areas with lower call volumes have more green stars in the vicinity. Some areas have no calls and low CPTED scores (larger red stars). These areas were not frequently used and were not accessible by vehicle. These areas are more likely to be habitually used by the homeless population to take residence, however, unless

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police officers are on foot or golf cart, they would not be able to patrol this area or report suspicious behavior. A searchable link to the detailed information behind each campus area can be found at <https://arcg.is/0CqqSi>.

Figure 8

Heatmap Overlaying CPTED Scores and Call Data for the Medium Campus



Small Campus. Since the small campus has only one location and two calls for assistance for the assessed period, a histogram and crime map were not beneficial in analyzing the data for this specific campus. However, if this campus were to be added as a location within the other two case studies, it would reveal a low call volume of two and a high CPTED score of 4.78, validating the hypothesis. This would indicate that the low call volume is likely due to the high CPTED score and would suggest that the campus is well-designed with safety in mind and could be used as an example for other campuses.

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Phase Two – Supporting Data, Qualitative Analysis

The supporting data consist of participant surveys from stakeholders. Emails were sent to 36 employees. Within the email sent to management-type employees, there was a request to forward the email to any employees who may be potentially interested in participating. Within the email sent to auxiliary service and housing employees, there was a request to forward the email to students interested in participating. Two weeks later, the original group was sent follow-up emails requesting that they complete the survey and thank them if they had already participated. For the entire project, 59 participants completed the survey. The participants consisted of five faculty members, 16 staff members, 16 key executives, 15 students who commute to campus, and seven students who live on campus. Thirty-five of these 59 participants agreed to provide input on another campus they visited, providing 44 survey participants for the large campus study, 38 for the medium campus study, and 12 for the small campus study. This sample is close to the expected and anticipated response rate, as shown in Table 6.

Table 6

Survey Participant Responses by Campus and Type of Participant

Type of participant	Large Campus		Medium Campus		Small Campus	
	Anticipated Responses	Actual Responses	Anticipated Responses	Actual Responses	Anticipated Responses	Actual Responses
On-Campus Students	5-10	6	2-5	2		
Students Commuting	2-5	11	1-3	5	1-2	1
Faculty/Staff	4	12	4	17	2	4
Key Administrators	12	15	14	14	8	7
	23-31	44	21-26	38	11-12	12

Topics were assigned to the feedback received on survey questions to analyze the data. In addition, a Qualtrics sentiment analysis was reviewed to determine sentiment scores on a scale from -2 being very negative and 2 being very positive, with neutral or

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mixed perceptions being 0. The sentiment score is based on the response's language compared to the question text. The survey results were analyzed by each campus separately and broken down into overall campus perceptions, perceptions of specific areas, and perceptions of the four elements of CPTED.

Large Campus.

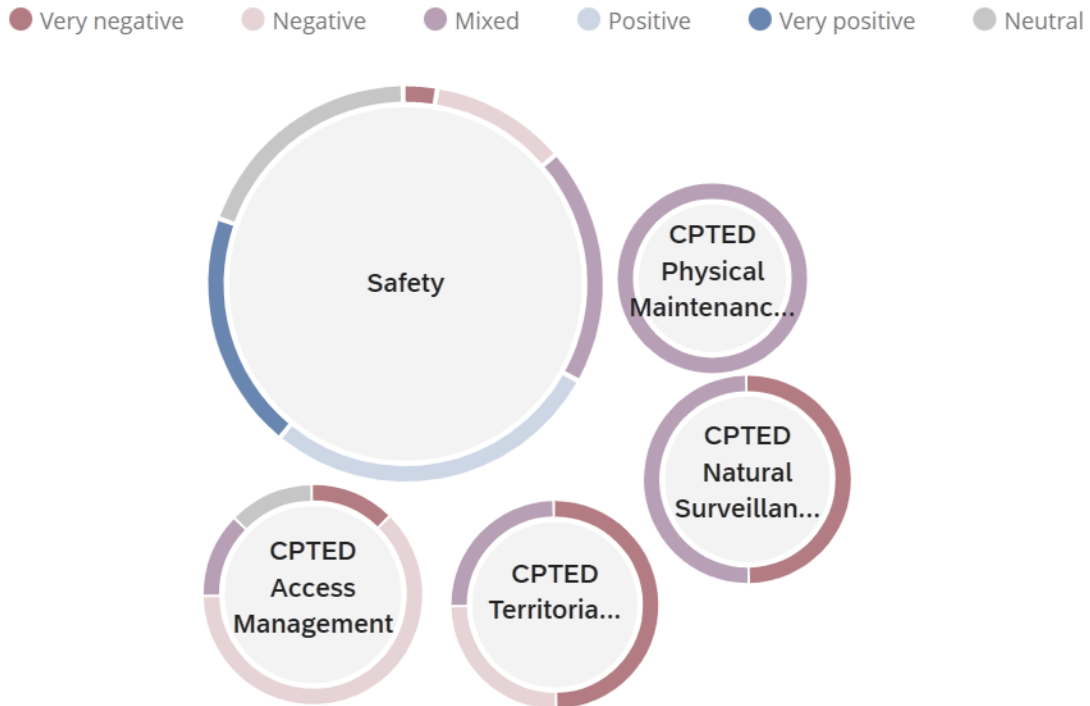
Overall Perceptions. Forty-four respondents agreed to answer questions for the large campus. The first question in the survey asked, "What are your perceptions of safety on the large campus." It had an overall sentiment score of 0.5. Respondents stated that these perceptions were based on observations, staff and student engagement, campus notifications, and reports received. Figure 9 shows the large constellation as overall responses. Forty-seven percent of the respondents perceived safety as either positive or very positive. Thirty-nine percent had mixed or neutral perceptions, and 14% had a negative perception. The neutral and negative perceptions were grouped into the four CPTED categories, shown as smaller constellations in Figure 9. All four categories had negative or mixed comments from at least one respondent. The territoriality category had the lowest sentiment score at -1.3, with comments that contained concerns about areas surrounding the campus being ridden with crime.

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Figure 9

Question "What are your perceptions of safety on campus." Constellation of Sentiment

Results

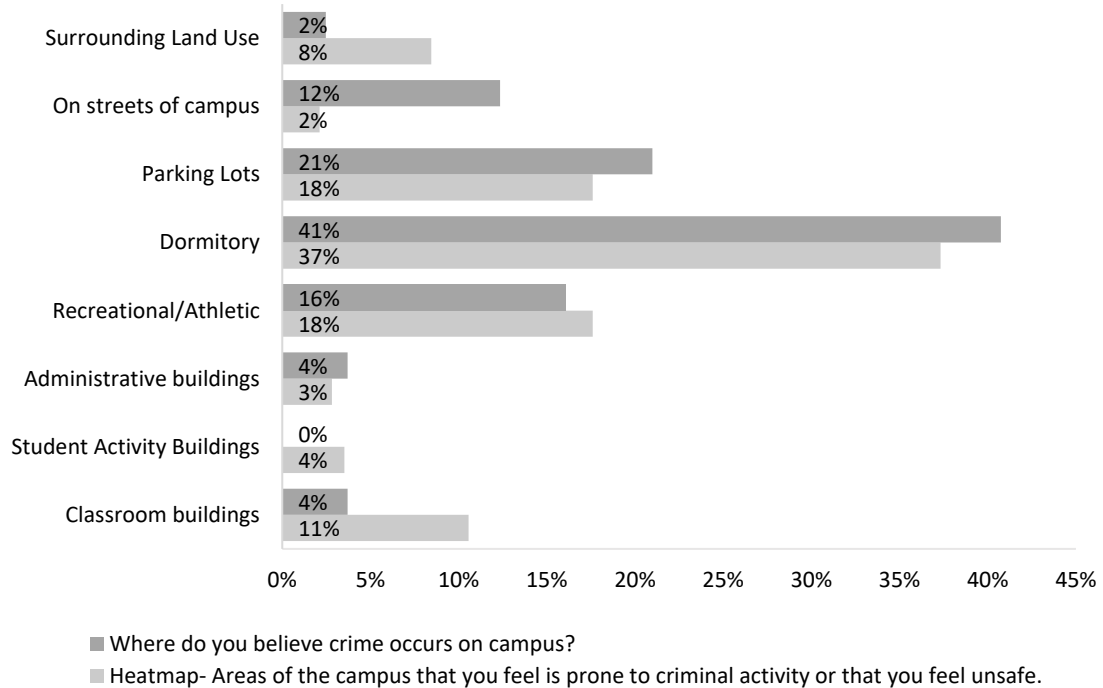


When asked where crime occurs on campus, most respondents chose student housing areas, with parking lots being the second highest. Figure 10 shows that administrative buildings and classrooms are perceived as the safest areas, comparable to results from the crime log data. This question was asked at the beginning of the survey. However, when provided with a map and asked to click on areas that respondents felt were prone to criminal activity, classroom buildings and surrounding land use were stated more often. Questions related to specific elements of CPTED were asked later in the survey, which showed different results.

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Figure 10

Comparison of Question: "Where do you believe most crime occurs on campus?" versus "Click on areas of the campus that you feel are prone to criminal activity or feel unsafe."



When asked what campus authorities could do to help reduce crime, 32% of the comments requested more police presence. Fourteen percent of the comments stated that something needed to be done with both physical conditions and criminal activity of surrounding lands and property not owned by the campus but adjacent to campus property. Eighteen percent of the comments requested more crime prevention education on campus.

Questions Related to Pictures of Campus Depicting Elements of CPTED.

Pictures of every part of the campus assessed during physical site surveys were taken. These pictures were placed into five categories. The first category displayed areas appropriately utilizing all five elements of CPTED, and the remaining categories were

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identified as deficient areas in a specific element of CPTED. Since there were over 2,000 photographs, the pictures were grouped into common themes or issues with specific questions within the physical assessment that received lower scores. This categorization allowed for the reduction of survey participant questions.

Fifty-nine pictures were identified to be used in the survey and were grouped into six sections for each major location type: parking lot, classroom, dormitory/residential area, student activity area, recreational area, and administrative buildings. Each location type had seven to twelve pictures for assessment. Since not all participants would want to assess every area of the campus, each of these sections had an initial question that stated, "This next section pertains to (category). Would you like to provide feedback on your perception of (category)? If you do not frequent (category) or do not wish to answer, please select no to skip to the next section." Each section of the survey was set to randomly show a maximum of five pictures in order to reduce fatigue and incomplete surveys. Survey results revealed that the number of participants per section remained the same as the survey progressed, showing that participants did not lose interest the further they got into the survey. Table 7 summarizes the percentage of the respondents that viewed pictures as safe or unsafe and which CPTED element was attributed to the unsafe area. These views were used to determine if they equal the results of the physical site assessments conducted in phase one of the study.

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Table 7

Participant Perception of Picture Questions of Campus Areas – Percent Viewed Safe Vs.

Unsafe and Why

	Parking Lots	Class-rooms	Resident Areas	Student Activity Areas	Recreation Areas	Admin Areas
Areas without CPTED deficiencies viewed as safe	--	90%	62%	93%	75%	93%
Areas with CPTED deficiencies viewed as safe	15%	24%	28%	24%	25%	20%
Areas with CPTED deficiencies viewed as unsafe	85%	76%	72%	76%	75%	80%
-Unsafe why						
-Natural Surveillance	70%	54%	60%	65%	81%	66%
-Physical Maintenance	45%	34%	29%	36%	40%	46%
-Territoriality	57%	40%	34%	49%	38%	61%
-Access Management	39%	33%	36%	24%	45%	38%

The parking lots section displayed six pictures that showed a mix of deficiencies in all four elements of CPTED. None of the pictures showed entirely safe areas. Twenty-seven respondents answered the picture questions in this section, and only 15% stated that they felt safe. The respondents that stated they felt safe also answered that there were issues with the maintenance or layout of the parking lots: multiple comments referenced barbwire on fences, feeling trapped, and insufficient lighting. The majority of the unsafe comments (70%) stated that natural surveillance was an issue in parking areas, with territoriality (57%), physical maintenance (45%), and access management (39%) receiving comments as well.

The classroom section displayed 12 pictures that showed a mix of all four elements of CPTED and three pictures with no CPTED deficiencies. Twenty-four participants responded to questions in the classroom section. Over 91% of the

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participants that answered the questions for “safe” pictures stated that they felt safe in those areas. The unsafe comments related to access management, specifically that anyone could access an area or places/items that should not be permitted. For areas with noted CPTED deficiencies, 76% stated that they felt unsafe, with a mix of comments in all four elements of CPTED but focusing mainly on access management and maintenance of classroom areas. Comments stated that unsecured buildings and insufficient lighting and cameras are a concern.

Residential housing areas were narrowed down to twelve pictures with 25 respondents. Two pictures showed no CPTED deficiencies within the picture. However, the general area had deficiencies that may not be apparent just by looking at the picture. These deficiencies would be known if the respondent was familiar with the area. Over 60% of the respondents stated that these two areas seemed safe, and the remaining respondents stated that the areas were unsafe due to the same reasons listed in the CPTED physical site assessment. The remaining ten pictures resulted in 72% of the respondents stating they did not feel safe in those areas. Sixty percent referenced natural surveillance concerns, and an average of thirty percent stated concerns around physical maintenance, territoriality, and access management equally. Key points from written comments revealed that maintenance is a large concern. Inadequate lighting, unwelcoming areas, and hard security measures giving the wrong appearance were also noted.

Eleven pictures in the survey related to student activity areas with 28 participants. Two of the questions identified areas with no CPTED deficiencies. Ninety-three percent of the participants stated that these two areas appeared safe. The participants who did not

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view the areas as safe stated issues related to access management, specifically that the area echoes and can be creepy at night or when alone. The remaining nine pictures had 76% of the participants stating that they felt unsafe in those areas, mainly due to natural surveillance. These comments referenced that there were places people could hide or that it was not well maintained. Written comments focused on CPTED elements of access control, natural surveillance, and maintenance, with specific keywords being dark, secluded, empty, narrow, and creepy.

Recreational areas had nine pictures with 28 participants. Two pictures showed no CPTED deficiencies. Seventy-five participants stated that they believed these areas to be safe. One of the respondents commented that the area depicted was a beautiful design. The remaining seven questions depicted a variety of CPTED deficiencies. Seventy-five percent of the participants stated that these areas did not feel safe, mainly for reasons related to natural surveillance. One picture showed a building with rooftop access as the only deficiency. This is an issue because the roof is only three feet from the ground and easily accessible for anyone to gain entry. Eighty percent of the participants viewed this area as safe, with no mention of rooftop access being an issue. All written comments within this section revolved around the areas not being safe at night and lighting needing to be improved. One comment stated that improving the safety of deserted areas was not a good use of resources.

Administrative buildings had ten pictures with 30 participants. Only one picture depicted no CPTED deficiencies, and 93% of the participants viewed this area as safe. The remaining nine questions had an equal mix of deficient CPTED elements. Door

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propping, physical maintenance, and damage to the building were mentioned multiple times. Specific words used were gross and nasty.

Questions Related to the Four Elements of CPTED. The next section of the participant survey asked the respondents about their opinions, specifically of each of the four elements of CPTED. A brief description of each CPTED element was provided. The participants were asked if they believed each element could help prevent crime and if they felt the large campus had adequate access control, territorial reinforcement, natural surveillance, and physical maintenance. Thirty-five of the 44 participants responded to all questions in this section.

When asked if access control could help prevent crime, 91% of participants said yes. The persons who stated no commented that the campus was too large and that you cannot control someone who intends to harm you by intimidating them. When asked if the large campus has adequate access control, 57% stated yes, and 48% stated no. Respondents who stated yes referenced recent work that the university has done to improve access control and barriers along routes. Respondents that state no referenced buildings and doors that remain unlocked, building layout and numbering systems that make no sense or are incorrect, the feeling of always being lost, lack of appropriate signage, lack of key technology - requiring manual lock and unlock of buildings, and that the campus is easily accessible to persons not permitted.

When asked if territorial reinforcement is useful to prevent crime on a college campus, 80% stated yes. The remaining 20% commented that it helps pride but does not deter crime, that there needed to be a more substantial police presence, and that those seeking harm cannot be changed. When asked if the large campus does an adequate job

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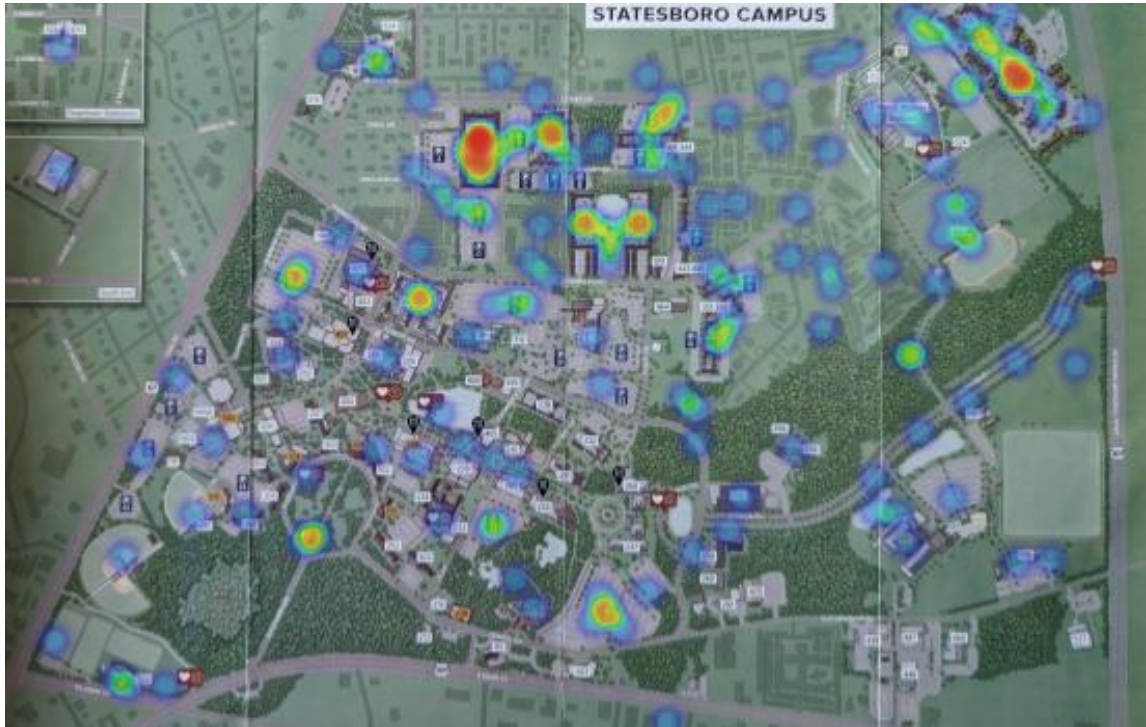
with territorial reinforcement, 66% stated yes, and 34% stated no. Respondents mentioned that there is a lot of student signage on campus, and the campus is very good at highlighting student achievement. There were eight comments from respondents who stated no. Five respondents referenced a lack of maintenance, parts of campus feeling abandoned, and parts not welcoming.

When asked if physical maintenance could help prevent crime, 100% of respondents said yes. All respondents made comments on their perception of maintenance on the large campus. Overall, 68% of the respondents commented negative sentiments, and 18% were neutral, mostly stating that they did not know the campus well enough or that it was usually good. Only 15% commented positive sentiments, stating that the maintenance was good or overall good.

Participants were given a map of the large campus and asked to click on areas they felt natural surveillance could be improved. The map in Figure 11 shows a widespread need for improvement in natural surveillance with hotspots in residential housing areas or parking lots. Comments about these areas included the need to improve properties not owned by the university, landscaping improvement, and hiring professionals to determine surveillance placement.

Figure 11

Large Campus Question, "Are there areas around campus that you believe natural surveillance can be improved?"



Medium Campus

Overall Perceptions. Thirty-eight respondents agreed to answer questions for the medium campus. The first question in the survey asked, "What are your perceptions of safety on campus." It had an overall sentiment score of 0.63. Figure 12 shows the large constellation as overall responses. Positive or very positive ratings were noted by 52% of the participants. Ten percent had mixed or neutral perceptions, and 38% had negative or very negative perceptions. The neutral and negative perceptions were grouped into three categories, shown as smaller constellations in Figure 12. Only two categories had negative or mixed comments from at least one respondent. Respondents stated that these

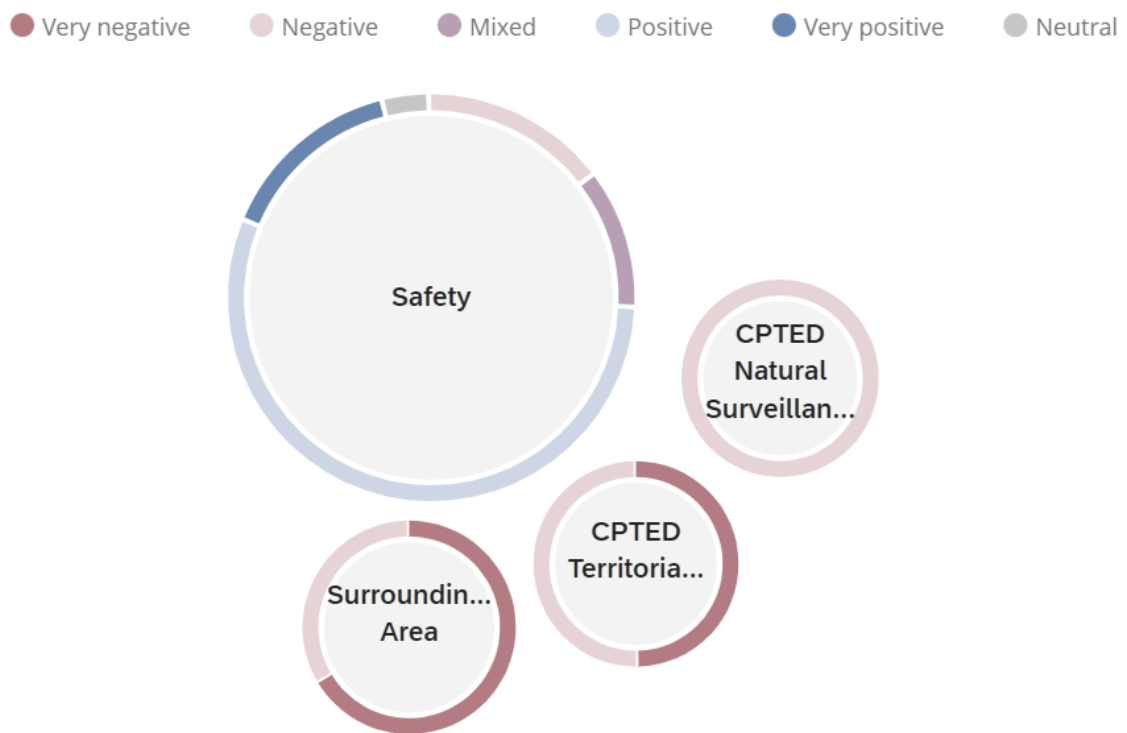
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perceptions were based upon observations, the surrounding communities, the campus environment, maintenance of facilities, campus notifications, and reports received.

Interestingly, when asked what their perceptions were based upon, 71% of the respondents made negative or very negative statements. Only 19% of the respondents made positive statements. In addition, 17% of the comments referenced homeless communities within the campus.

Figure 12

Question "What are your perceptions of safety on the campus." Constellation of Sentiment Results



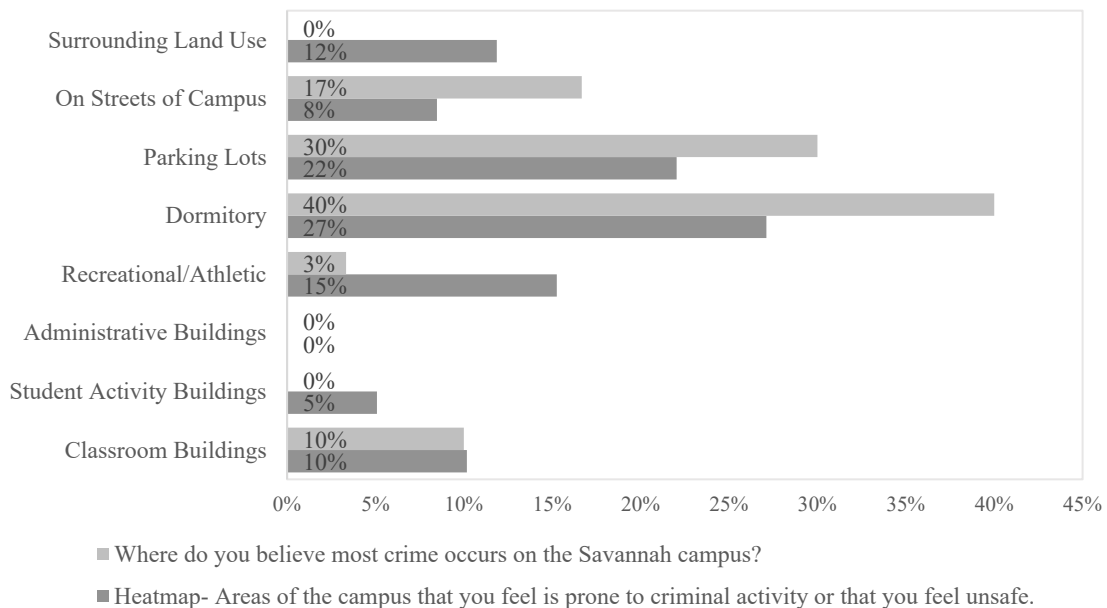
When asked where crime occurs on campus, most respondents chose student housing areas, with the second highest being parking lots. Figure 13 shows that surrounding land use, recreational areas, administrative buildings, and student activity buildings are perceived as the safest areas. However, when provided with a map and

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asked to click on areas respondents felt were prone to criminal activity, administrative buildings were the only areas that received similar scores. This response is comparable to what was seen on the CPTED physical assessment scores. This question was asked at the beginning of the survey. Questions related to specific elements of CPTED were asked later in the survey, which showed interior student housing areas but not housing areas located on the campus perimeter as areas of concern.

Figure 13

Comparison of Questions "Where do you believe most crime occurs on campus?" versus "Click on areas of the campus that you feel are prone to criminal activity or feel unsafe."



Questions Related to Pictures of Campus Depicting Elements of CPTED.

Twenty pictures were identified to be used in the survey for the medium campus and were grouped into four sections for each major location type; parking lot, buildings, dormitory/residential area, and recreational areas. Each location type had four to seven pictures for assessment. Since not all participants would want to assess every area of the

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campus, each of these sections had an initial question that stated, "This next section pertains to (category). Would you like to provide feedback on your perception of (category)? If you do not frequent (category) or do not wish to answer, please select no to skip to the next section." Table 8 summarizes the percentage of the respondents that viewed pictures as safe or unsafe and which CPTED element was attributed to the unsafe area. No comments were made in any of the pictures for this campus about poor lighting. These views were used to determine if they equal the results of the CPTED physical site assessments conducted in phase one of the study.

Table 8

Participant Perception of Picture Questions of Campus Areas – Percent Viewed Safe Vs. Unsafe and Why

	Parking Lots	Buildings	Residential Areas	Recreation Areas
Areas without CPTED deficiencies viewed as safe	--	90%	--	--
Areas with CPTED deficiencies viewed as safe	24%	10%	16%	44%
Areas with CPTED deficiencies viewed as unsafe	76%	90%	84%	56%
-Unsafe why				
-Natural Surveillance	72%	96%	53%	45%
-Physical Maintenance	64%	61%	41%	32%
-Territoriality	59%	51%	39%	34%
-Access Management	43%	40%	31%	32%

The parking lot section displayed four pictures that showed a mix of deficiencies in all four elements of CPTED. None of the pictures showed entirely safe areas. Twenty respondents answered the picture questions in this section, and 76% stated that they felt unsafe. The respondents that stated they felt safe also answered that there were issues with maintenance and appearance. Comments were made about inappropriate barriers,

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haphazard areas, and an ill feeling of safety. The majority of the comments related to safety stated that natural surveillance (72%) was an issue in parking areas, with territoriality (59%), physical maintenance (64%), and access management (43%) receiving comments as well.

The buildings section had seven pictures with 17 respondents. Four pictures showed no CPTED deficiencies within the picture, but the surrounding area had deficiencies that may not be known just by looking at the picture. These general deficiencies would be known if the respondent was familiar with the area. Over 85% of the respondents stated that these two areas seemed safe, and the remaining respondents stated that the areas were unsafe due to the same reasons listed in the CPTED Physical site assessment. The remaining three pictures resulted in 90% of the respondents stating they did not feel safe in those areas. All four elements of CPTED received a high percentage of responses, with 96% referencing natural surveillance concerns.

Residential housing areas were narrowed down to four pictures with 14 respondents. All pictures showed some aspect of CPTED deficiencies. Eighty-four percent of the respondents stated that the areas were perceived not to be safe. Fifty-three percent referenced natural surveillance concerns, and an average of 40% stated concerns around physical maintenance and territoriality. Key points from written comments in this section revealed thoughts of an uncaring campus and evidence of crime on campus.

The recreational area section had five pictures with 17 participants. All the pictures showed a variety of deficiencies in CPTED elements. Fifty-six percent of the participants stated that these areas did not feel safe, mainly for reasons related to natural surveillance. Physical maintenance appeared to be a concern in only one picture.

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Respondents who stated that the areas seemed safe also marked one of the other responses that identified CPTED deficiencies. Written comments within this section were mainly on only one picture of a recreational building. Comments identified that the building was redesigned to be unsafe and gated, even though the gates could be opened in an emergency.

Questions Related to the Four Elements of CPTED. The next section of the participant survey asked the respondents about their opinions of the four elements of CPTED. A brief description of each CPTED element was provided. The participants were asked if they believed each element could help prevent crime and if they felt the medium campus had adequate access control, territorial reinforcement, natural surveillance, and physical maintenance. Thirty-five of the 38 participants responded to all questions in this section.

When asked if access control could help prevent crime, 92% of participants said yes. The persons who stated no commented that the campus was too large and that you cannot control someone who intends to harm you by intimidating them. When asked if the medium campus has adequate access control, 25% stated yes, and 75% stated no. Respondents who stated yes referenced that all entry points are highly visible to persons on campus. Respondents that stated no referenced that there was too much public access to the campus, there are no restrictions on where to go on campus, and it is wide open to the public.

When asked if territorial reinforcement effectively prevents crime on a college campus, 93% said yes. Comments from respondents who stated no stated that the campus is intended to be an open-access area and that we should not attempt to reinforce it. When

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asked if the medium campus does an adequate job with territorial reinforcement, 56% stated yes, and 44% stated no. Respondents who answered yes mentioned negative comments about specific areas of the campus which need reinforcement, which would lean towards respondents being mixed about their answer. Comments from respondents who stated no referenced that artwork, pride, and historical signs were removed, the campus feels dead, and there are no signs of joy or ownership.

When asked if physical maintenance could help prevent crime, 100% of respondents said yes. Four respondents commented on their perception of maintenance on the medium campus, all of a negative sentiment. The comments revolved around the lack of staff to properly maintain the campus and the complication of housing being outsourced for maintenance.

Participants were given a map of the medium campus and asked to click on areas they felt natural surveillance could be improved. The map in Figure 14 shows a widespread need for improvement in natural surveillance with hotspots in the external housing areas and pedestrian walkways. Comments about these areas included the need to improve properties utilized by non-university members and build barriers or boundaries between these properties and those of the university. Comments were also made about landscaping improvement and maintenance.

Figure 14

Savannah Natural Surveillance Question



Small Campus

Overall Perceptions. Eleven respondents agreed to answer questions for the small campus. The first question in the survey asked, “What are your perceptions of safety on the campus.” This question had an overall sentiment score of 1.14. All respondents rated their perceptions as either positive or very positive, and there were no negative comments about the campus for any survey questions. Respondents stated that these perceptions were based upon observations, the surrounding communities, maintenance of facilities, employee engagement, and lack of incident reports.

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When asked if they believe crime occurs on campus, 57% stated no. All respondents stated that, overall, this campus is safe. When asked where crime occurs on campus, the majority of the respondents chose surrounding land use, surrounding streets, and parking lots. The heatmap question of campus equals this sentiment, meaning no respondents feel unsafe physically on campus. Please remember that this campus consists of one building and one parking lot, which were constructed relatively recently in 2014.

Questions Related to Pictures of Campus Depicting Elements of CPTED.

Three pictures were identified to be used in the survey for the small campus. All three pictures showed no CPTED deficiencies. The small campus did receive an almost perfect score on the physical site assessment. Four of the 11 participants answered questions related to pictures and elements of CPTED. One hundred percent of the respondents viewed two of the three pictures as safe areas. One respondent viewed the entrance lobby to the building as cluttered but did not note any CPTED deficiencies.

Questions Related to the Four Elements of CPTED. The same four participants completed the section regarding the four elements of CPTED. All four respondents stated that access control, territorial reinforcement, natural surveillance, and physical maintenance were adequate and that these elements can be used on campus to prevent crime. All comments were positive and stated that the campus was well-maintained and adequately secured. The only concern listed for the campus was the concern for natural surveillance at the end of the parking lot between the wooded lot and the dumpsters.

Phase Three – Testing Case Hypothesis

The purpose of this research was to explore the perceptions of students, faculty, and staff regarding campus crime to determine whether perceptions align with the results

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of a CPTED Physical Survey and Safety Assessment. This study attempts to determine if a university can benefit from implementing physical environmental design modifications to improve the perception of safety on campus. I hypothesized that the higher presence of CPTED elements found within a specific location on a college campus, the more stakeholders perceive that area to be safe.

There are four main research questions in this study. “What specific areas on campus have higher levels of crime and fewer elements of CPTED” was answered in phase one of the research. “What do stakeholder surveys reveal about crime perception and reasoning at specific locations on their campus” was answered in phase two of the research. Phase three attempts to answer the final two questions: “Do stakeholders’ perceptions align with the CPTED Physical Safety and Survey Assessment results and reported incidents? Can the reasons for the perceptions of unsafe areas be improved by implementing elements of CPTED in those areas?” I then wanted to know if the results would vary for different types of campuses. Therefore, the results from each case study will be compared to each other after the first and second phases of each study are compared.

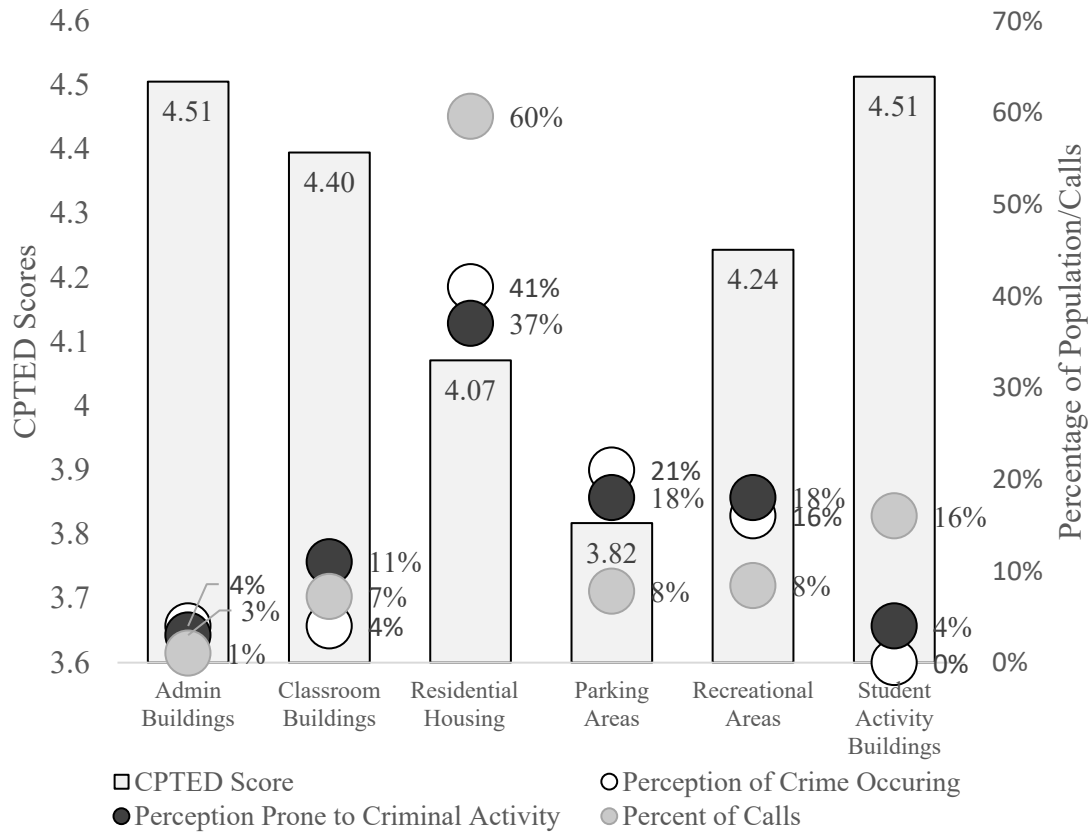
Large Campus

During the first phase, it was found that most land and buildings of similar purpose had similar responses to the CPTED questions. Therefore, the areas were grouped into the six categories shown in Figure 15. The overall CPTED score for each category is displayed as a bar. The percent of calls for each category are displayed as grey dots, and participant perceptions as black and white dots.

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Figure 15

Comparing Perceptions to Call Data to Overall CPTED Scores by Area Type for Large Campus



Since this was the largest campus, it was the most challenging to analyze. I expect to see that the higher the CPTED physical assessment score, the dots within that column should be lower, and vice versa. For the most part, this occurs except for parking areas. CPTED physical assessments for parking areas scored below 4.0 in 32 of the 57 relevant questions. These questions were related to access to dumpsters not being controlled, posted rules and adequate signage not being present, lack of blue light call boxes and wayfinding systems, lack of seating and trash receptacles, and inadequate maintenance of areas. Even though survey questions for the perception of crime and criminal activity in parking areas were low, when participants were shown pictures of these areas, they noted

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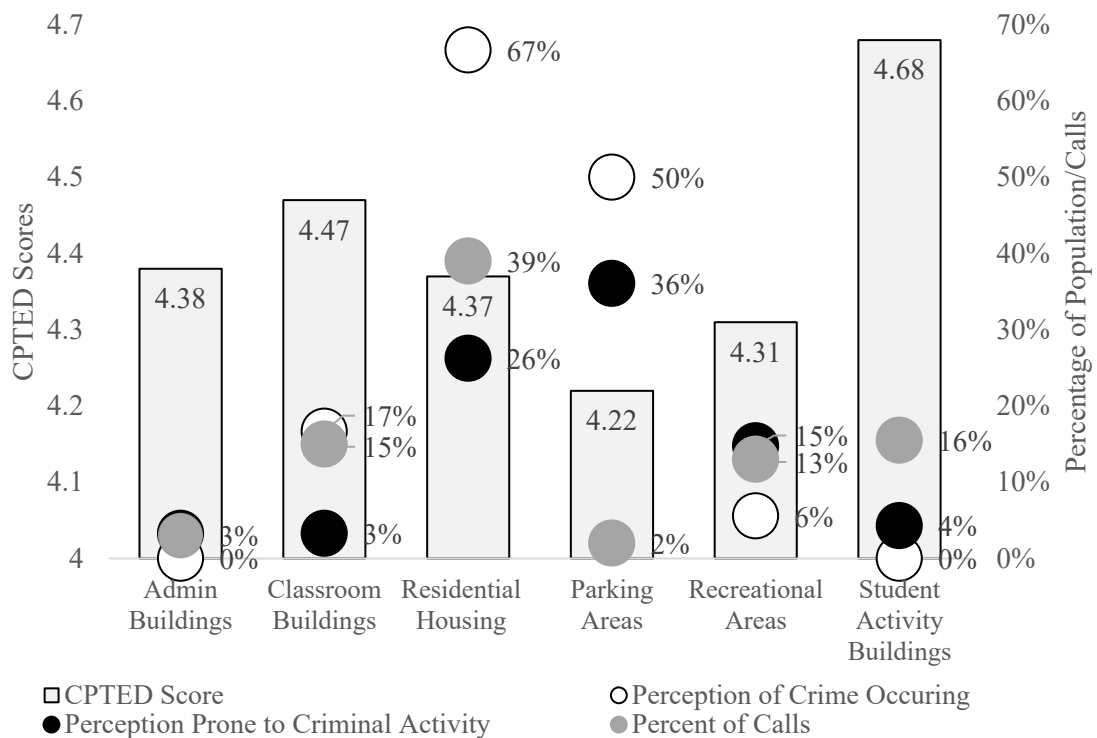
that these areas were unsafe due to all the same reasons the CPTED physical survey listed as unsafe.

Medium Campus

The first phase analysis revealed that most land and buildings of similar purpose had comparable responses to the CPTED physical assessment questions, similar to the large campus results. Therefore, Figure 16 compares all three data sets the same as the large campus. By having consistent categories across the large and medium campuses, it was easier to compare the data from one campus to another, allowing for a more accurate and meaningful comparison between campuses in the next section.

Figure 16

Comparing Perceptions to Call Data to Overall CPTED Scores- Medium Campus



Comparison of this dataset was difficult since there was a slight variation in the CPTED scores by category. The hypothesis was supported for administrative, classroom,

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and student activity buildings. However, residential and parking areas were not confirmed. Even though residential areas received a CPTED physical assessment score above 4.0, they had a high call volume, perception of crime occurring, and perception of being prone to criminal activity. This can be for many reasons. Housing areas were assessed for only exterior areas; the interior areas may be deficient in various CPTED elements, making them unsafe. Housing areas are also used more often than any other area on campus and are almost the only area used at night and on weekends. Parking areas received the lowest CPTED physical assessment score and were perceived as the second largest area unsafe, which validates the hypothesis. However, these areas had very low call volume. This could be that calls are not being reported to campus police.

Small Campus

With CPTED being a strategy used reasonably often in architectural design, this campus was most likely designed with CPTED elements in mind. CPTED physical assessment scores were nearly perfect for most of this campus, with the only areas of concern within access control. There were two calls for service, one being attributed to access control for a suspicious person. The participant survey showed no concerns for safety physically on campus and only stated concerns with surrounding land use. This would validate the case hypothesis.

Case Comparison

In summary, a comparison can be made between the medium and large campuses; however, it is more difficult to compare the small campus since there was little concern with CPTED elements, little call volume, and nearly perfect scores on the participant surveys. In general, as the CPTED score declined for both the medium and large

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campuses, the perception of an unsafe campus did increase on both the medium and large campuses. Both campuses had their largest call volume and perception of unsafe areas within the housing and housing areas with lower CPTED physical scores. All three campuses showed concerns for surrounding land in the CPTED physical assessments and the participant perceptions. Signage was a concern for all three campuses, especially the more non-university property intertwined with the campus. There are also global concerns for persons on campus that do not belong. It has been determined that, regardless of campus size, the perception of safety can be improved with the implementation of CPTED elements, especially in maintenance and access management areas.

Chapter V

Discussion

The purpose of this mixed methods multiple case study was to compare quantitative results from a CPTED physical site assessment with qualitative results of stakeholder surveys to determine if CPTED can change the perceptions of students, faculty, staff, and key administrators about crime on campuses. Campuses of varying sizes were utilized to determine if the size of the campus mattered. This Chapter summarizes the key research findings in relation to the research aims and questions. It then provides recommendations to the university for improvements to the campuses to improve perceptions of a safe campus.

Findings

The research aim was to determine if implementing CPTED elements in a college environment can improve the perception of a safe campus, regardless of the size of the campus. The study attempted to explore data to determine if the perception of crime on campus indicates areas that need improvement and can benefit from an environmental redesign. We attempted to answer the following questions through a convergent, mixed methods, multiple case study:

1. What specific campus areas have higher crime levels and fewer aspects of CPTED?
2. What do stakeholder surveys reveal about crime perception and reasoning at specific locations on their campus?

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3. Do stakeholders' perceptions align with the CPTED Physical Safety and Survey Assessment results and reported incidents?
4. Can the reasons for the perceptions of unsafe areas be improved by implementing elements of CPTED in those areas.

Question one was answered by exploring the prior year's crime log data and comparing it to physical site surveys for 146 areas spread across three campuses. Geographically overlaying CPTED physical survey data on top of crime log data on a heatmap indicated residential areas and parking lots had high dispatch call data and showed the need for improved environmental design on the large campus. Residential areas on the medium campus also had high dispatch call data and showed the need for improved environmental design. Parking lots did need improved environmental design but did not have high call volume. The small campus had almost all aspects of CPTED and only two calls for the year.

Questions two and three were answered in phase two of the study with participant surveys. Overall, perceptions of crime on the large campus were mixed. The negative comments surrounded issues with natural surveillance, territoriality, and access management. Comments revealed the need for more police presence and cleanup of surrounding land and properties adjacent to the campus. Stakeholders' perceptions mirrored the results of phase one research that student housing and parking lots were deemed the most unsafe areas on campus. When provided with pictures of areas on campus with CPTED deficiencies, 72%-85% of the respondents viewed those areas as unsafe. After explaining the four CPTED elements, participants stated that access control (91% of participants), territorial reinforcement (80% of participants), and physical

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maintenance (100% of participants) could be used to help prevent crime. When asked if the campus had adequate use of these elements only 57% stated adequate access control, 66% stated adequate territorial reinforcement, and 15% stated adequate physical maintenance. When asked to mark on a map where on campus natural surveillance could be improved, parking lots and residential areas were mainly identified.

Overall perceptions of crime on the medium campus were also mixed. The negative comments surrounded issues with natural surveillance, territoriality, and surrounding land use. Comments revealed the need for the cleanup of surrounding land and properties adjacent to the campus. Stakeholders' perceptions mirrored the results of phase one research as well as sentiments from the large campus that student housing and parking lots were deemed the most unsafe areas on campus. When provided with pictures of areas on campus with CPTED deficiencies, 56%-90% of the respondents viewed those areas as unsafe. After explaining the four CPTED elements, participants stated that access control (92% of participants), territorial reinforcement (93% of participants), and physical maintenance (100% of participants) could be used to help prevent crime. When asked if the campus had adequate use of these elements only 25% stated adequate access control, 56% stated adequate territorial reinforcement, and 15% stated adequate physical maintenance. When asked to mark on a campus map where natural surveillance could be improved, parking lots and residential areas were mainly identified.

Overall, perceptions of crime on the small campus were positive, and there were no negative comments about the campus. Stakeholders' perceptions mirrored the results of phase one research. After explaining the four CPTED elements, all participants stated that access control, territorial reinforcement, and physical maintenance could be used to

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help prevent crime. When asked if the campus adequately used these elements, all participants said yes.

The fourth question, “Can the reasons for the perceptions of unsafe areas be improved by implementing elements of CPTED in those areas,” was answered in phase three of the study when participant surveys were compared to crime log data and CPTED physical site assessments. On average, on both the large and medium campuses, as the CPTED physical assessment score increased, the participant's perception of crime occurring, the perception of being prone to criminal activities, and the number of dispatch calls received in those areas decreased. In addition, when survey participants were shown pictures of areas on campus that had evidence of deficiencies in an element of CPTED, participants stated that they did not feel safe in those areas for the same reasons. The correlation between the CPTED physical assessment results and the participant survey results suggests that the design of the campus can influence the safety of students and staff and that designing areas of the campus in line with CPTED principles can influence feelings of security.

Recommendations

Common themes and areas that this university can review for improvement on both the large and medium campuses are lights, locks, signage, maintenance, and community involvement with surrounding land use. These areas have been identified as needing improvement because they are integral to the safety and security of the campus. Additionally, the university should consider engaging with the local community to foster a positive relationship with the surrounding area. Developing partnerships can ensure the campus is a safe and secure environment for all.

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Campuses should pay attention to the placement of light switches. When appropriate, change the type of switches to motion sensors. Motion sensors are more convenient than traditional switches as they turn on the lights when someone enters a room and turn off when they leave. Motion sensors can also be used as a crime prevention tool. Having lights in a room turn on when someone enters can deter criminals from trying to hide in the shadows. It will also prevent someone from turning lights off in a room that others are still occupying.

Campuses should also secure areas the public should not need access to or be permitted to enter. Some areas should be restricted to authorized personnel only. This helps to prevent unauthorized people from entering restricted areas, thus protecting the public from potential harm. Additionally, it helps to protect private property and confidential information. Campuses should ensure that classrooms have emergency locking devices on doors. Emergency locking devices on doors are essential for the safety of the students and staff in an emergency. Emergency locking devices can be triggered from the inside, preventing anyone from entering the area without proper authorization. Removing the wooden sticks in dorm windows and replacing them with window locks, or permanently sealing the windows shut, will provide additional security. It will also help ensure the safety of students living on campus without the perceived fear that persons frequently attempt to break into dorm rooms through windows. Finally, the campuses should safeguard electrical panels from unwanted access by ensuring they remain locked. This will help to prevent crimes such as vandalism, theft, victim targeting, and other situations where criminals would benefit from the power to a location turned off.

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It is recommended that the campuses place additional signage on roadways, directing visitors to permissible parking lots. They should make the signs highly visible and use colors that stand out against the surrounding landscape. They should also place them in strategic locations so they will be easy to spot, even from a distance. By placing visible and noticeable signage, visitors can easily identify safe and designated parking areas. Utilizing this CPTED principle helps ensure that the signs effectively communicate the message and discourage visitors from parking in undesignated areas.

Campuses should place trash receptacles in parking areas. Strategic placement of trash receptacles will help to ensure that any trash or debris left behind by vehicles is properly disposed. It will also help keep the parking areas clean, making them more inviting. Improve maintenance of common grounds. Campuses should ensure that shrubbery is not overgrown and fencing that serves no purpose is removed. These actions will remove potential hiding places and provide for visible lines of sight. Additionally, pavements and pathways should be regularly cleared of debris, and outdoor lighting should be checked to ensure it is in good working order. This will help create an inviting atmosphere and give the area a tidier and more organized appearance, which can help improve the overall atmosphere and help create a sense of pride and ownership. It may also help reduce safety hazards such as overgrown trees and bushes, which could block paths and obscure vision. Removing fencing that serves no purpose can help to reduce unnecessary visual clutter.

Evaluating the use and need of blue light call boxes is essential. They should be regularly maintained, so they are in working order. Blue light call boxes are meant to be used to increase safety on college campuses. It is important to assess their effectiveness

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in deterring crime, as well as the number of people who use them. Additionally, it is important to consider the cost and resource implications of installing these call boxes. By assessing the data that can be collected from the call boxes, such as frequency of use, locations, cost of repair, number not in working order, etc., campus leadership can make strategic decisions of their need and use. If the LiveSafe cellphone app can replace them or they are no longer serviceable, they should be removed to ensure the safety of the people in the area.

CPTED principles need to be applied to surrounding land use as well. This recommendation is reflective of not just the CPTED physical assessment, but was also reflective of most of the comments during the participant survey. If the businesses surrounding the campus do not take pride and ownership in their facilities through adequate maintenance, they will invite criminal activity and homeless populations to the area. The areas will be more likely to be seen as undesirable and uninviting, making them attractive for criminal activity, and potential criminals will receive the impression that the area is not cared about or monitored. Additionally, homeless populations may be drawn to the area because it appears to be neglected. This appearance makes it an easier place for a homeless person to stay without being noticed. These areas can create a sense of fear and insecurity among students and staff, leading to a decrease in student enrollment and employee retention and an increase in vandalism and other crimes.

Conclusion

Based on the findings from this study, elements of CPTED can likely improve perception of a safe college campus in many areas. This study found that not only were the number of calls to dispatch lower in areas with evidence of good CPTED qualities,

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but the perception of these areas during participant surveys were also more favorable.

The research also found participants perceived areas lacking elements of CPTED, as unsafe. Sentiments from participants were comparable to the results of the physical site assessments. Proper lighting, locked doors and windows, natural surveillance, and adequate maintenance make a space appear more secure, which leads people to feel safer. These elements, when present, give the impression that a space is monitored and cared about, providing a heightened sense of security and reassurance for those who frequent the area.

Chapter VI

Conclusions

This chapter will conclude the study by summarizing the key research findings in relation to the research aims and questions and discuss the value and contribution thereof. It also reviews the main contributions to the research, the study's limitations, and propose opportunities for future research. It was determined that the perception of safety could be improved by implementing CPTED elements and that a comparison between medium and large campuses can be made. However, it is difficult to compare a small, newer campus to larger and older campuses with the layout of this study.

Key Research Findings

CPTED is a set of design principles used to reduce the risk of criminal activity. It involves the use of physical design elements, such as landscaping, natural surveillance, access management, and lighting to create an environment in which crime is less likely to occur. CPTED has been tested and used in many environments, from residential, commercial, and K-12 schools. However, there has been very little testing on its effectiveness on a college campus. This research had four main questions that were answered within this study. Each question led to the overall research aim of attempting to determine if implementing CPTED elements in a college environment can improve the perception of a safe campus, regardless of the size of the campus.

For the first research question, residential areas and parking lots were listed as the specific areas of campus that have higher crime levels and fewer aspects of CPTED. This finding aligns with existing research on the various structural and cultural criminological

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theories. This suggests that the physical environment of residential areas and parking lots, with their lack of adequate signage, maintenance, surveillance, and sense of ownership, can contribute to higher levels of crime. The physical layout of residential areas and parking lots can have a significant impact on crime levels, as these areas typically have fewer features that promote natural surveillance or community ownership. Additionally, these areas are often more isolated and may lack the presence of other people or security measures that are present in other areas of the campus.

The second research question revealed that stakeholders' perceptions of crime on campus were mixed. In the survey, more than half of the respondents felt there was a crime problem on campus. Parking lots and residential areas were listed as the areas of campus that were perceived to be the most unsafe. During the picture phase of the survey, most respondents viewed the reasons for areas being unsafe similar to the reasons identified in the physical site assessments, which answers question three, if participants' perceptions align with physical surveys.

The final research question asked if the reasons for the perception of unsafe areas could be improved by implementing elements of CPTED in those areas. It was determined in phase three of the study that as CPTED physical assessment scores increased, the participants perception of crime occurring, the location being prone to criminal activity, and the number of dispatch calls received decreased. Through the picture portion of the participant survey, the reasons participants stated areas were unsafe were similar to the reasons listed during phase one of the study; the CPTED physical site assessments.

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Main Contributions

Environmental design can be useful on a college campus to improve the perception of a safe environment. This study may be useful to researchers who wish to look at specific sections of a campus and how specific elements of environmental design can improve a campus. It provides detailed information on campus safety, as well as data on how specific environmental design changes can impact the campus's safety. These data can then inform future decisions on campus design and safety measures. This research provides valuable information on how changes in lighting, landscaping, and signage can increase safety and reduce the number of crime incidents. It also provides insight into how campus administrators can create an environment conducive to student safety and well-being.

Limitations and Recommendations for Future Research

This study was conducted as a multiple-campus case study using three campuses of varying sizes in the State of Georgia to analyze all four elements of CPTED as a viable method for crime prevention. The survey did not examine age, race, gender, or familiarity with the campus. It also did not ask questions about *why* or look for underlying causes of criminal activity. For instance, why were locations missing some aspects of CPTED, or what were the underlying causes for the calls for assistance in some areas? Without the underlying why behind the data, it was not possible to identify the underlying causes of the disparities.

A significant limitation of the study was the inability to analyze dispatch log data in any specific area to determine the details behind the call for assistance. Further research involving the analysis of written narratives within police reports would lend

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assistance to determine if there were any mention of reasons for the unsafe environment. Analyzing police reports would allow researchers to gain insight into the situations that caused the call for assistance and the factors that may have contributed to the unsafe environment. By understanding the specifics of each incident, researchers could assess the environment's safety better and determine potential solutions.

The researcher conducted an overall campus assessment over three months. The assessment did not include interviews with key administrators to ask questions about plans for future improvement. It also did not assess qualitative data that may have lent additional insight on future initiatives or if aspects of CPTED were included in anticipated modifications. The campus master plan could provide information on intentions for a long-term project dealing with campus redesign. Campus master plans guide the facility initiatives that ultimately support the mission and strategic plan of the university (Storms et al., 2019). They direct how various aspects of the campus design support the best learning environment. This research involved the current physical state of these three campuses, not what they may be at a later date. Campus master plans and future uses were not relevant to this study. However, additional research in the future could include an analysis of the campus master plan to determine if they meet CPTED guidelines and if the future plans could improve the perception of a safe campus.

This assessment did not include aspects listed in third-generation CPTED, which focuses on community and culture. Third-generation CPTED attempts a more holistic approach to reinforce pro-social behaviors and attempt to reduce crime through social sustainability. As part of the design of this study, it was decided to focus exclusively on the physical elements of CPTED, not on its cultural and behavioral components.

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Excluding cultural elements was done to limit the scope of the study. It was felt that the physical aspects of CPTED, such as lighting, fencing, and landscaping, were easier to measure and control and would give more consistent results than the intangible cultural and behavioral aspects. However, it was determined during the CPTED physical site assessment that the reasons behind some of the lack of CPTD elements could be addressed by understanding the environment's culture, its employees, and its students. The review of Clery reports would be beneficial to determine what measures are being taken, through various crime prevention programming, to improve culture. These reports list programs and initiatives that are associated with aspects of CPTED. These narratives would give a researcher insight into how the campus addresses the modification of culture through training and if the programming is successful.

Conclusion

With the perception of the increasing level of violence in the world today, educators can no longer afford to assume that students, visitors, and staff will adhere to the rules, expectations, and safety protocols that are in place. Instead, educators must take a proactive approach to creating and maintaining safe and secure learning environments, which can be done through CPTED. Higher education institutions must take active steps to ensure students are safe and have the resources they need to make positive choices. Educators today are responsible for forming and cultivating critically thinking minds. Preparing future minds should encompass instilling the knowledge and skills necessary for students to avoid being bystanders, victims, or offenders of crime. However, educators also need to ensure that the physical environment is safe. Therefore, educators should create secure and safe learning environments that enable students to focus on their

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studies while protecting them as much as possible from criminal activity by implementing preventive measures such as CPTED.

References

- AlHusban, S. A. M., & AlHusban, A. A. S. (2020). The role of built environmental design in violence prevention in universities' campuses: Al al-Bayt University in Jordan as a case study. *Property Management*, 38(4), 481-496.
<https://doi.org/10.1108/PM-10-2019-0058>
- Arisukwu, O., Igbolekwu, C., Oye, J., Oyeyipo, E., Asamu, F., Rasak, B., & Oyekola, I. (2020). Community participation in crime prevention and control in rural Nigeria. *Heliyon*, 6(9), 1-10. <https://doi.org/10.1016/j.heliyon.2020.e05015>
- Armitage, R. (1999). *An evaluation of secured by design housing schemes throughout the West Yorkshire area* [Briefing note]. Policing and reducing crime unit, development and statistics directorate. <http://eprints.hud.ac.uk/id/eprint/2541/>
- Associated Press. (2021). *One killed and seven injured in shooting at Grambling State University*. National Public Radio, Georgia Public Broadcasting.
<https://www.npr.org/2021/10/17/1046937705/1-killed-and-7-injured-in-shooting-at-grambling-state-university>
- Atlas, R. I. (Ed.). (2013). *21st Century security and CPTED: Designing for critical infrastructure protection and crime prevention* (2nd ed.). CRC Press.
- Baumer, E., Velez, M., & Rosenfeld, R. (2018) Bringing crime trends back into criminology: A critical assessment of the literature and a blueprint for future inquiry. *Annual Review of Criminology*, 1(1), 39-61.
<https://www.annualreviews.org/doi/abs/10.1146/annurev-criminol-032317-092339>

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

- Beccaria, C. (1975). *On crimes and punishments* (H. Paolucci, Trans.). Bobbs-Merrill.
(Original work published 1963).
- Braun, V., Clarke, V., & Terry, G. (2014). Thematic analysis. In P. Rohleder & A. Lyons (Eds.), *Qualitative Research in Clinical and Health Psychology* (pp. 95-113). Palgrave MacMillan.
- Bright, D., Greenhill, C., Britz, T., Ritter, A., & Morselli, C. (2017). Criminal network vulnerabilities and adaptations. *Global Crime, 18*(4), 424-441.
<https://doi.org/10.1080/17440572.2017.1377614>
- Brown, J. (1999). *An evaluation of the secured by design initiative in Gwent, South Wales* [Unpublished master's thesis]. University of Leicester.
- Burling, P. (2003). *Crime on campus: Analyzing and managing the increasing risk of institutional liability* (2nd ed). National Association of College and University Attorneys.
- Campion, L. (2020). Leading through the enrollment cliff of 2026 (Part 1). *TechTrends, 64*, 542-544. <https://doi.org/10.1007/s11528-020-00492-6>
- Carmel-Gilfilen, C. (2011). Advancing retail security design: Uncovering shoplifter perceptions of the physical environment. *Journal of Interior Design 36*(2), 21-38.
- CDC. (2017). *Crime prevention through environmental design (CPTED) school assessment (CSA)*. National Center for Injury Prevention and Control, Center for Disease Control, and Carter and Carter Associates.
- Chigbu, U. (2019). Visually hypothesizing in scientific paper writing: Confirming and refuting qualitative research hypotheses using diagrams. *Publications, 7*(1), 22-40. <https://doi.org/10.3390/publications7010022>

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

- Cieciura, J. (2016). A summary of the bystander effect: Historical development and relevance in the digital age. *Inquiries Journal*, 8(11), 1-11.
- Clery Center. (2021). *The Jeanne Clery Act*. <https://clerycenter.org/policy/the-clery-act/>
- Cordner, G. (2010). *Reducing fear of crime: Strategies for police*. US Department of Justice, Community Oriented Policing Services.
<https://cops.usdoj.gov/RIC/Publications/cops-p173-pub.pdf>
- Cozens, P., Pascoe, T., & Hillier, D. (2007). Critically reviewing the theory and practice of secured-by-design for residential new-build housing in Britain. In R. Mawby (Ed.), *Burglary* (pp. 345–362). Ashgate Publishing.
- Cozens, P., & Sun, M. Y. (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., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage Publications.
- Crowe, T., & Zahm, D. (1994). Crime prevention through environmental design. *NAHB Land Development Magazine*. National Association of Home Builders.
https://www.popcenter.org/sites/default/files/Responses/closing_streets/PDFs/Crowe_Zahm_1994.pdf
- Cundiff, K. (2021). Colleges and community crime: An analysis of campus proximity and neighborhood crime rates. *Crime & Delinquency*, 67(3), 431-448.
<https://doi.org/10.1177/0011128720974312>

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

- Daniel, E. (2016). The usefulness of qualitative and quantitative approaches and methods in researching problem-solving ability in science education curriculum. *Journal of Education and Practice*, 7(15), 91-100.
- Davidov, D., Bush, H. M., Clear, E. R., & Coker, A. L. (2020). Using a multiphase mixed methods triangulation design to measure bystander intervention components and dose of violence prevention programs on college campuses. *Journal of Family Violence*, 35, 551–562. <https://doi.org/10.1007/s10896-019-00108-5>
- de Vries, S. L. A., Hoeve, M., Asscher, J. J., & Stams, G. J. J. M. (2018). The long-term effects of the youth crime prevention program ‘new perspectives’ on delinquency and recidivism. *International Journal of Offender Therapy and Comparative Criminology*, 62(12), 3639-3661. <https://doi.org/10.1177/0306624X17751161>
- de Vries, L. A., Hoeve, M., Wibbelink, C. J. M., Asscher, J. J., & Stams, G. J. J. M. (2017). A randomized controlled trial of the effectiveness of the youth crime prevention program ‘new perspectives’ (NP): Post-treatment changes and moderator effects. *Children and Youth Services Review*, 82, 413-426.
- Dickout, D. (2006). A community-based approach to creating safer nightlife spaces: 2nd generation CPTED in action. *The CPTED Journal* 1(2), 25–32. https://cpted.net/resources/Documents/ICA%20Resources/Guidebooks%20and%20Journals/Journal_Vol04_I01_2006.pdf
- Duarte v. State, 15 Cal. Reprtr. 727, 735 (1979). <https://caselaw.findlaw.com/ca-court-of-appeal/1848303.html>

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

- Eck, J. E., Lee, Y. O. S., & Martinez, N. (2017). Compared to what? Estimating the relative concentration of crime at places using systematic and other reviews. *Crime Science*, 6(1), 8-16.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4.
- Fennelly, L. J., & Perry, M. A. (2020). Chapter 7—Encompassing effective CPTED solutions in 2020 and beyond: Concepts and strategies. In L. Fennelly (Ed.), *Handbook of loss prevention and crime prevention* (2nd ed., pp. 45–77). <https://doi.org/10.1016/B978-0-12-817273-5.00007-7>
- Fisher, B., & Sloan, J. (2013). *Campus crime: Legal, social and policy perspectives*. Charles C Thomas.
- Gansberg, M. (1964). *37 who saw murder didn't call the police: Apathy at stabbing of Queens woman shocks inspector*. The New York Times.
- Georgia Southern University. (2019). *Strategic plan, 2019-2024*. <https://drive.google.com/file/d/1ApSU70Bj5McvaYQA00aoE96t0-QAZZiK/view>
- Governor's Office. (2021, August 31). *Governor DeWine announces \$5 million for higher education campus security upgrades*. [Press Release]. <https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/governor-dewine-announces-5-million-for-higher-education-campus-security-upgrades-08302021>
- Green, E. (2020, November 23). *Programs and practices that prevent school violence and improve school safety*. Illinois Criminal Justice Information Authority, Center

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

for Justice Research and Evaluation.

<https://icjia.illinois.gov/researchhub/files/ProgramsAndPractices-201123T19333170.pdf>

Helwick, C. (2015). Are colleges required to protect students from other students. *Inside Higher Ed.* <https://www.insidehighered.com/views/2015/12/08/are-colleges-obligated-protect-students-crimes-other-students-essay>

Hollis, M., Felson, M., & Welsh, B. (2013). The capable guardian in routine activities theory: A theoretical and conceptual reappraisal. *Crime Prevention and Community Safety* 15, 65-79. <https://doi.org/10.1057/cpcs.2012.14>

Hollis-Peel, M., Reynald, D., van Bavel, M., Elffers, H., & Welsh, B. (2011). Guardianship for crime prevention: A critical review of the literature. *Crime, Law, and Social Change* 56(1), 53-70. <https://doi.org/10.1007/s10611-011-9309-2>

Hortensius, R., & de Gelder, B. (2018). From empathy to apathy: The bystander effect revisited. *Association for Psychological Science.* 27(4). 249-256. <https://doi.org/10.1177/0963721417749653>

ICA. (n.d.). *Primer in CPTED – What is CPTED?* International crime prevention through environmental design association. <https://www.cpted.net/Primer-in-CPTED>

Jacobs, J. (1961). *The death and life of great american cities.* New York. Random House. ISBN 0-679-60047-7

Jee, J. M. (2016). The Clery Act: Student awareness and perceptions of effectiveness at a public university and a private college in east Tennessee (Publication No. 10142821) [Doctoral dissertation, East Tennessee State University]. ProQuest Dissertations and Theses Global.

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

Jeffrey, C. (1971). *Crime prevention through environmental design*. Sage Publications.

Kelling, G., & Coles, C. (1997). *Fixing broken windows: Restoring order and reducing crime in our communities*. Simon & Schuster.

Kochel, T. (2011). Constructing hot spots policing: Unexamined consequences for disadvantaged populations and for police legitimacy. *Criminal Justice Review*, 22(3), 350-374. <https://doi.org/10.1177/0887403410376233>

Kyle, M. J., Schafer, J. A., Burruss, G. W., & Giblin, M. J. (2017). Perceptions of campus safety policies: Contrasting the views of students with faculty and staff. *American Journal of Criminal Justice*, 42, 644-667. <https://doi.org/10.1007/s12103-016-9379-x>

Lamoreaux, D. (2017). *Student preferences for safe and psychologically comfortable school facilities*. (Publication No. 10684056) [Doctoral dissertation, University of Arizona]. ProQuest Dissertations and Theses Global.

Lamoreaux, D., & Sulkowski, M. (2020). An alternative to fortified schools: Using crime prevention through environmental design to balance student safety and psychological well-being. *Psychology in the Schools*, 57(1), 152-165.

Lipnickey, C. (2004). *CPTED on college campuses: Guidelines for implementation*.

International Foundation for Protection of Officers.

<https://www.ifpo.org/resource-links/articles-and-reports/school-security-training/cpted-on-college-campuses-guidelines-for-implementation/>

Maier, S., & DePrince, B. (2019). College students' fear of crime and perception of safety: The influence of personal and university prevention measures. *Journal of*

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

Criminal Justice Education. 31(1). 63-81.

<https://doi.org/10.1080/10511253.2019.1656757>

Maestas, M. (2018). *A study of students perception and awareness of crime on a southeastern college campus*. [Unpublished doctoral dissertation]. Valdosta State University.

Maslow, A. (1943). A theory for human motivation. *Psychological Review*, 50(4), 370-396. <https://doi.org/10.1037/h0054346>

Mihinjac, M., & Saville, G. (2019). Third generation crime prevention through environmental design. *Social Sciences*, 8(6), 182-202.
<https://doi.org/10.3390/socsci8060182>

Miller, L. (2020, October 15). *University transparency: A look at the security and fire safety report*. Inkwel.
<https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1952&context=inkwell>

Mullins v. Pine Manor College, 449 N.E.2d 331, 389 Mass. 47 (1983).
<http://masscases.com/cases/sjc/389/389mass47.html>

National Center for Education Statistics. (2021). *Postsecondary education data system (IPEDS) campus safety and security reporting. Fall 2002 through Fall 2018 in campus crime and safety* [Data set]. Digest of Education Statistics. Table 329.10.
https://nces.ed.gov/programs/digest/d20/tables/dt20_329.10.asp

Newcomer, L. S. (2017). Institutional liability for rape on college campuses: Reviewing the options. *Ohio State Law Journal*, 78(2), 503-539.

Newman, O. (1972). *Defensible space*. Macmillian.

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

- Newman, O. (1996). *Creating defensible space. US Department of Housing and Urban Development; Center for Urban Policy Research.*
<https://www.huduser.gov/publications/pdf/def.pdf>
- O'Halloran, K., Sabine, T., Pham, D. S., & Bateman, J. (2018). A digital mixed methods research design: Integrating multimodal analysis with data mining and information visualization for big data analytics. *Journal of Mixed Methods Research*. 12(1), 11-30. <https://doi.org/10.1177/1558689816651015>
- Oostinga, M. S. D., Giebels, E., & Taylor, P. J. (2018). Communication error management law enforcement interactions: A receiver's perspective. *Psychology, Crime & Law*, 24(2), 134-155. <https://doi.org/10.1080/1068316X.2017.1390112>
- Peterson, C. (2013). The Clery Act: Cost of noncompliance. *North Carolina Bar Association, Campus Security and Crime Statistics.*
<https://web.archive.org/web/20140531124809/http://educationlaw.ncbar.org/newsletters/educationlawnov2013/clery>
- Pew Research Center. (2021). *Mobile fact sheet.* Washington, DC.
<https://www.pewresearch.org/internet/fact-sheet/mobile/>
- Pascoe, T. (1999). *Evaluation of secured by design in public sector housing, Final report.* BRE.
- Reeves, M. A., Kanan, L. M., & Plog, A. E. (2010). *Comprehensive planning for safe learning environments: A school professional's guide to integrating physical and psychological safety, prevention through recovery.* New York: Routledge.
- Reynald, D., & Mihinjac, M. (2019). Using guardianship and situational crime prevention to strengthen crime prevention through environmental design. In P. Ekblom & R.

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

Armitage (Eds.), *Rebuilding crime prevention through environmental design: Strengthening the links with crime science*. Routledge.

- Reynald, D. (2011). Translating CPTED into crime prevention 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>
- Rudestam, K., & Newton, R. (2015). *Surviving your dissertation: A comprehensive guide to content and process*. Sage Publications. <https://doi.org/378.2-dc23/2014002905>
- Safe and Sound Schools. (2021). *2021 State of School Safety Report*. https://www.safeandsoundschools.org/wp-content/uploads/2021/07/School.Safety.Study_.2021.FINAL_.pdf.
- Saldaña, J. (2016). *The coding manual for qualitative researchers*. Sage Publications. <https://eduq.info/xmlui/handle/11515/35868>
- Schafer, J. A., Lee, C., Burruss, G. W., & Giblin, M. J. (2018). College student perceptions of campus safety initiatives. *Criminal Justice Policy Review*, 29(4), 319-340. <https://doi.org/10.1177/0887403416631804>
- 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*,

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

Practice, and Research, 35(4), 396-417.

<https://doi.org/10.1080/02697459.2020.1740417>

Sligh, D. (2021, October 11). *Ga Southern's 2020 annual security report is an anomaly.*

Inkwell. <https://thegeorgeanne.com/33175/inkwell/inkwell-news/ga-southern-2020-annual-security-report-is-an-anomaly/>

Stanton v. University of Maine, 773 A2d 1045 (2001).

<https://law.justia.com/cases/maine/supreme-court/2001/2001-me-96-0.html>

Stoia, L. (2021, September 24). *Parents and students reacting to new OSU security plan*

to fight crime. ABC. <https://abc6onyourside.com/news/local/parents-and-students-reacting-to-new-osu-security-plan-to-fight-crime>

Storms, K., Simundza, D., Morgan, E., & Miller, S. (2019). Developing a resilience tool

for higher education institutions: A must have in campus master planning. *Journal of Green Building*. 14(1),187-198. <https://doi.org/10.3992/1943-4618.14.1.187>

Stubbs-Richardson, M. S., Cosby, A. K., Bergene, K. D., & Cosby, A. G. (2018).

Searching for safety: Crime prevention in the era of Google. *Crime Science*, 7(21), 1-12. <https://doi.org/10.1186/s40163-018-0095-3>

Teedon, P., Reid, T., Griffiths, P., & McFadyen, A. (2010). Evaluating secured by design

door and window installations: Effects on residential crime. *Crime Prevention and Community Safety*, 12(4), 246–262. <https://doi.org/10.1057/cpcs.2010.15>

Triplett, R., & Turner, E. (2010). Where is criminology? The institutional placement of

criminology within sociology and criminal justice. *Criminal Justice Review*, 35, 5-31. <https://doi.org/10.1177/0734016809348589>

IMPROVING PERCEPTION OF FEAR BY UTILIZING CPTED

United States Federal Bureau of Investigation. (2021). *National uniform crime reporting*.

<https://www.fbi.gov/services/cjis/ucr>

US Department of Education. (2019). *Student relationships in school and feelings about personal safety at school*. Institute of Education Sciences, National Center for

Education Statistics. <https://nces.ed.gov/pubs2018/2018096.pdf>

US Department of Education. (2020). *Campus safety and security: Data for calendar years 2017-19* [Data set]. <https://ope.ed.gov/campussafety/#/datafile/list>

University of Georgia, (2019). *Why doesn't the University of Georgia use emergency call boxes?*. <https://www.police.uga.edu/crime-stats/faq#callboxes>

Villegas-Ch, W., Palacios-Pacheco, X., & Lujan-Mora, S. (2019). Application of a smart city model to a traditional university campus with a big data architecture: A sustainable smart campus. *Sustainability*, *11*(10), 2857-2868.

<https://doi.org/10.3390/su11102857>

Woodward, V. H., Pelletier, D., Griffin III, O. H., & Harrington, J. R. (2016). University policies and programs for crime prevention and awareness: An examination of online reports and resources. *Criminal Justice Review*, *41*(2), 140-158.

<https://doi.org/10.1177/0734016816634783>

Appendix A:

CPTED Physical Survey and Safety Assessment

**Crime Prevention Through Environmental Design (CPTED) School Assessment
(CSA)**

Modified for use on a College Campus by removing non-applicable questions

February 2022

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Centers for Disease Control and Prevention. *Crime Prevention Through Environmental Design (CPTED) School Assessment(CSA)*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, and Carter & Carter Associates, 2017.

Introduction

The purpose of the Crime Prevention Through Environmental Design (CPTED) School Assessment (CSA) is to rate the physical parts of the school which may have an impact on fear and aggressive behavior. This rating scale is based upon School CPTED Principles as defined on page 29.

Organization

The assessment is divided into Three main sections with multiple subsections:

1. Overall – This will be completed once for each campus.
 - a. **Initial Impressions** – statements to register your very first, overall impression of the grounds, buildings, and interiors. These impressions are generally spontaneous and represent a felt response versus an intellectual assessment, or a gut reaction versus a mental analysis. This would be equivalent to what is commonly referred to as “curb appeal.”
 - b. **Global Impressions** – statements to be completed after the physical assessment has been completed. These statements pertain to the overall atmosphere or ambiance of the school and are similar to the initial impressions in that the ratings are a felt response versus an intellectual assessment.
 - c. **Additional Observations** – an area to register any observations of the physical environment which has not been adequately covered in the assessment.
 - d. **Surrounding Land Use and Condition** – a list of land uses adjacent to the school property, i.e. properties observable from the school grounds. Check each one observed and circle the most predominant. The overall physical conditions on a scale of 1-5: with 1 for unsightly, poorly maintained, signs of vandalism (including graffiti), and no enhancements to a rating of 5 for attractive, well maintained, lack of vandalism and with enhancements such as flower beds, decorative lighting, pavement treatments and other decorative features.
2. Exterior Areas – This section will be completed once for each area identified in Attachment A
 - a. **The Grounds** – statements pertaining to the outside areas of the school property, such as parking and athletic areas. This section will be used as a separate survey and will be repeated for each area identified as an exterior recreation area and a parking lot.
 - b. **Assessment Day Information** – notations regarding date, time, weather and any unique factors that might affect the assessment on that particular day. Examples of unique factors are special, one-time events or unusual or traumatic incidents.
3. Interior Areas - This section will be completed once for each area identified in Attachment A

- a. **The Buildings** – statements pertaining to the physical parts of the building you can see from the outside, such as entryways, windows, and doors. This section is to be completed for each building on campus.
- b. **The Interiors** – statements pertaining to the space inside a building or buildings such as classrooms, corridors, and public areas. Blank sections are provided for any use which is not already covered by the assessment form. Examples might include home economics education classrooms or special theatrical workshops.
- c. **Assessment Day Information** – notations regarding date, time, weather and any unique factors that might affect the assessment on that particular day.

Key words, which highlight the most important part of a statement, are underlined. Definitions for the key words are included on page 27.

Rating Scale

Read each statement and then decide how much agreement there is between the actual situation and the perfect situation, represented by the statement. Give each statement a rating of 1-5, with “1” being the lowest amount of agreement between the actual situation and the perfect situation and “5” being the highest.

For example, “School property boundaries are delineated from adjacent properties. Under the Key Word Definitions, “delineate” is defined as *to draw or trace the outline of*. A school property with continuous fencing, landscaping, and/ or curb treatments would be considered “delineated” and get a rating of “5,” the highest possible score. A school property without any of these things would get a “1”, the lowest possible score. A school with just part of the property delineated would get a score in-between, depending upon the degree of delineation.

In general, conditions rated 1-2 are considered unacceptable and in need of improvement. Conditions rated 3 are considered acceptable or common, with room for improvement and scores of 4-5 are considered good to excellent with no adjustment necessary for coming into compliance with CPTED principles.

Does Not Exist (DNE)

This assessment can be used at ANY school in the US; however, some subsections or statements may not apply to the school you are rating. Before you start rating the school, your group should decide if there are any areas that do not exist. If so, circle “DNE” (Does Not Exist) as appropriate. For example, if your school does not have exterior stairs, balconies, ramps, or upper level open corridors, then under 3. Building(s) subsection B circle “DNE” on the subsection title.

Areas that may not exist at your school include:

- Grounds: Bike Racks; and/or Exterior Athletic Areas
- Building(s): Exterior Stairs, Balconies, Ramps and Open Upper-Level Corridors; courtyards; and/or Portables (including Trailers)
- Interior(s): Student Entry Areas – Other Than Main Lobby; Corridors; Stairs and

Balconies; In-School Suspension Areas; Auditorium; Gymnasium; Men's or Women's Locker Rooms; and/or Elevators.

Under various subsections there may be statements regarding a particular item that does not exist. In these instances, the "DNE" appears after the statement. However, some statements are intended to assess whether the school you are rating has a trait that all schools should have. When these items refer to a characteristic that is missing from the school, they should be given a low rating, rather than coded as "DNE." For that reason, these statements do not have a "DNE." For example, "There is an attractive and visible sign indicating the school's name and address near the primary entry." All schools should have such a sign. If the sign does not exist, the correct response would be "1."

In some situations, there is more than one statement for a particular subject that may or may not exist. In these cases, the first statement would receive a low mark since it should exist. However, the following statements would be marked with a "DNE." For example, under K. Grounds: General there are two statements regarding student involvement with campus beautification. If there are no student projects then the first statement, K12 would receive a "1." The second statement, K13 regarding the condition of student projects, would be marked "DNE."

Unable to Observe (UTO)

If you cannot see an activity for any reason, circle the "UTO." For example, "Delivery activities are orderly and do not interfere with normal school functions." If you do not see any deliveries during your rating time, mark "UTO."

Time Sensitive Statements

The reviewing period should cover varying times of the day and, at a minimum, cover periods of time that are frequented by students. To see how the school environment is being used, you will need to visit some areas during certain times. Please look at the list below for areas that must be rated during arrivals and departures.

Areas to be considered time-sensitive

The Grounds

- Section F. Grounds: Parking Areas
- Section G. Grounds: Exterior Pedestrian Pathways and Gathering Areas

The Buildings

- Section A. Buildings(s) Entries and Exits
- Section B. Buildings(s) Exterior Stairs, Balconies, Ramps, and Upper-Level Corridors

The Interiors

- Section A. Interior(s) Main/Visitor Lobby
- Section B. Interior (s) Student Entry Areas
- Section D. Interior: Corridors

- Section E. Interior: Stairs and Balconies

Limitations

This CPTED School Assessment looks at environmental factors related to youth behaviors, and their sense of safety and well-being. It does not look at fire safety, building and equipment security, staff and personnel safety, hazards for non-intentional injuries or crisis response capability. Additionally, the assessment does not include a review of security equipment.

1. Overall

Rating Scale: 1= Lowest agreement 5 = Highest agreement

A. Initial Impressions:

- | | | | | | | |
|--|---|---|---|---|---|-----|
| 1. Initial impressions of the school grounds are positive. | 1 | 2 | 3 | 4 | 5 | UTO |
| 2. Initial impressions of the school buildings are positive. | 1 | 2 | 3 | 4 | 5 | UTO |
| 3. Initial impressions of the school interiors are positive. | 1 | 2 | 3 | 4 | 5 | UTO |

B. Global Impressions

- | | | | | | | | |
|---------------------------------|---|---|---|---|---|-----|-----|
| 1. The school is inviting. | 1 | 2 | 3 | 4 | 5 | UTO | DNE |
| 2. The school is attractive. | 1 | 2 | 3 | 4 | 5 | UTO | DNE |
| 3. The school is cheerful. | 1 | 2 | 3 | 4 | 5 | UTO | DNE |
| 4. The atmosphere is uplifting. | 1 | 2 | 3 | 4 | 5 | UTO | DNE |

C. Additional Observations

Any additional observations regarding the school environment:

D. Surrounding Land Use and Condition

Check the land uses which are adjacent to the school property, i.e. properties observable from the school grounds. Circle the most predominant ones.

Rate the overall physical conditions of surrounding properties on a scale of 1-5: with 1 for unsightly, poorly maintained, signs of vandalism (including graffiti), and no enhancements to a rating of 5 for attractive, well maintained, lack of vandalism and with enhancements such as flower beds, decorative lighting, pavement treatments and other decorative features.

- | | | | | | | |
|--|---|---|---|---|---|-----|
| 1. Single family residential | 1 | 2 | 3 | 4 | 5 | DNE |
| 2. Multifamily residential | 1 | 2 | 3 | 4 | 5 | DNE |
| 3. Public housing communities | 1 | 2 | 3 | 4 | 5 | DNE |
| 4. Commercial (including hotel/motels) | 1 | 2 | 3 | 4 | 5 | DNE |
| 5. Industrial | 1 | 2 | 3 | 4 | 5 | DNE |
| 6. Recreational (parks, etc.) | 1 | 2 | 3 | 4 | 5 | DNE |
| 7. Government (libraries, offices, etc.) | 1 | 2 | 3 | 4 | 5 | DNE |
| 8. Other Schools | 1 | 2 | 3 | 4 | 5 | DNE |
| 9. Vacant buildings | 1 | 2 | 3 | 4 | 5 | DNE |
| 10. Vacant lots | 1 | 2 | 3 | 4 | 5 | DNE |
| 11. Minor roads (2-3 lanes) | 1 | 2 | 3 | 4 | 5 | DNE |
| 12. Major roads (4 or more lanes) | 1 | 2 | 3 | 4 | 5 | DNE |
| 13. Other | 1 | 2 | 3 | 4 | 5 | DNE |

2. The Exterior Grounds

Rating Scale: 1= Lowest agreement 5 = Highest agreement

Grounds: Perimeter

1. School property boundaries are delineated from adjacent properties. 1 2 3 4 5 UTO
2. Physical or symbolic barriers along the property boundary present an attractive appearance. 1 2 3 4 5 UTO
3. Perimeter fencing allows for natural surveillance of schoolgrounds. 1 2 3 4 5 UTO
4. The perimeter is secured in areas not easily monitored. 1 2 3 4 5 UTO
5. Signs direct approaching vehicles and pedestrians to appropriate entries to the school property. 1 2 3 4 5 UTO
6. Posted rules are located at key points around school grounds. 1 2 3 4 5 UTO

Grounds: Points of Entry

1. Entries to the school property are attractive and welcoming. 1 2 3 4 5 UTO
2. There is an attractive and visible sign indicating the school's name near the primary entry. 1 2 3 4 5 UTO
3. Signs, at each primary entry to the school property, direct student, staff, visitors, and delivery traffic to appropriate locations. 1 2 3 4 5 UTO
4. Entries to the school property can be easily monitored. 1 2 3 4 5 UTO

Grounds: Vehicular Routes

1. Vehicular travel routes are clearly marked. 1 2 3 4 5 UTO
2. Vehicular travel routes are in good condition. 1 2 3 4 5 UTO
3. There are traffic-calming measures on adjacent public streets that limit vehicular speeds where students cross. 1 2 3 4 5 UTO
4. Delivery activities are orderly and do not interfere with normal school functions. 1 2 3 4 5 UTO

Grounds: Parking Areas

1. Parking lot entrances and exits are clearly marked. 1 2 3 4 5 UTO
2. Parking areas are delineated for staff and visitors. 1 2 3 4 5 UTO
3. All parking spaces are clearly marked. 1 2 3 4 5 UTO
4. Parking lots are easily monitored. 1 2 3 4 5 UTO
5. Parking lots are in good condition. 1 2 3 4 5 UTO
6. Parking lots are well lit. 1 2 3 4 5 UTO
7. There are no signs of vandalism in parking lots. 1 2 3 4 5 UTO
8. Vehicular traffic flows in an orderly manner in and out of parking lots. 1 2 3 4 5 UTO
9. Visitor parking is located directly adjacent to the main entry of the administrative offices. 1 2 3 4 5 UTO
10. Visitor parking areas are visible from adjacent buildings. 1 2 3 4 5 UTO

Grounds: Exterior Pedestrian Pathways and Gathering Areas

- 1. There are signs directing visitors to the parking office 1 2 3 4 5 UTO
- 2. There is a wayfinding system, which includes signs; plant materials; and artwork, monuments or other landmarks. 1 2 3 4 5 UTO
- 3. Pedestrian crossings of adjacent public streets are clearly marked by signage, pavement treatment and/or curb treatment. DNE 1 2 3 4 5 UTO
- 4. Pedestrian pathways on school property are separated from vehicular routes by curbing, color markings, landscaping and/or other real or symbolic barriers 1 2 3 4 5 UTO
- 5. Pedestrian pathways on school property are easily monitored. 1 2 3 4 5 UTO
- 6. Pedestrian pathways on school property are in good condition. 1 2 3 4 5 UTO
- 7. Pedestrian pathways on school property are well lit. 1 2 3 4 5 UTO
- 8. Pedestrian flows on school property are orderly. 1 2 3 4 5 UTO
- 9. There are pedestrian amenities such as seating and trash receptacles located along key pedestrian pathways 1 2 3 4 5 UTO
- 10. Pedestrian amenities are in good condition. DNE 1 2 3 4 5 UTO
- 11. Pedestrian pathways and gathering areas are easily monitored. DNE 1 2 3 4 5 UTO
- 12. Public telephones (Bluelights) are located in areas that are easily monitored. DNE 1 2 3 4 5 UTO
- 13. Public telephones (Bluelights) in working order. DNE 1 2 3 4 5 UTO
- 14. Landscaping elements do not allow easy access to roofs, windows, or other upper level areas. 1 2 3 4 5 UTO

Grounds: Bike Racks

- 1. Bike racks are easily monitored. 1 2 3 4 5 UTO
- 2. Bike racks and enclosures are in good condition. 1 2 3 4 5 UTO

Grounds: Exterior Athletic Areas

DNE

- 1. Exterior athletic areas are easily monitored 1 2 3 4 5 UTO
- 2. Exterior athletic areas are in good condition. 1 2 3 4 5 UTO
- 3. Posted rules are located near exterior athletic area entries and exits. 1 2 3 4 5 UTO
- 4. There are well-defined and easily monitored areas for storing backpacks, jackets and other personal items. 1 2 3 4 5 UTO

Grounds: Other

- 1. Access to dumpsters is controlled. 1 2 3 4 5 UTO
- 2. There are no hiding places in or around dumpster areas. 1 2 3 4 5 UTO
- 3. Dumpster areas are in good condition. 1 2 3 4 5 UTO
- 4. There are no unusually foul odors in or around dumpster areas. 1 2 3 4 5 UTO
- 5. Site utilities are secured. 1 2 3 4 5 UTO

Grounds: General

- 1. The organization of the school campus is easily comprehended. 1 2 3 4 5 UTO
- 2. The school grounds are attractive. 1 2 3 4 5 UTO
- 3. The school grounds are enhanced with landscaping, student artwork, monuments and/or other physical means. 1 2 3 4 5 UTO

4. There are outdoor learning areas that provide out-of-doors opportunities for students. 1 2 3 4 5 UTO
5. The school grounds are in good condition. 1 2 3 4 5 UTO
6. Remote areas are visible from occupied buildings, pedestrian pathways, or vehicular travel routes. DNE 1 2 3 4 5 UTO
7. Seldom-used areas or buildings are secured to prevent access. 1 2 3 4 5 UTO
8. There are no hiding places created by landscaping or fencing. 1 2 3 4 5 UTO
9. The grounds are easily viewed from school buildings. 1 2 3 4 5 UTO
10. There are no unattractive barriers such as barbed or razor wire on the school grounds. 1 2 3 4 5 UTO
11. Security devices are unimposing. DNE 1 2 3 4 5 UTO
12. There are examples of student involvement with campus beautification such as landscape maintenance, gardens, memorials, art projects and/or other physical enhancements. 1 2 3 4 5 UTO
13. Examples of student involvement are in good condition. DNE 1 2 3 4 5 UTO
14. There are no signs of vandalism. 1 2 3 4 5 UTO
15. There are no foul odors. 1 2 3 4 5 UTO
16. There are no continuously occurring loud noises on school grounds. 1 2 3 4 5 UTO

3. The Building(s) (Repeat for each building)

Rating Scale: 1= Lowest agreement 5 = Highest agreement

Building(s): Entries and Exits

1. The public entry is located in an area viewable to the public 1 2 3 4 5 UTO
2. The public entry is well defined with architectural features, signs, lighting, artwork, landscaping and/or landmarks such as flags. 1 2 3 4 5 UTO
3. Extensive windows and glazed doors enhance natural surveillance of the public entry. 1 2 3 4 5 UTO
4. Entrances and exits are easily monitored. 1 2 3 4 5 UTO
5. Secondary entrance and exit doors are secured in the closed position. 1 2 3 4 5 UTO
6. The design of emergency exits, such as the use of alarms, deters access from the outside 1 2 3 4 5 UTO
7. Exterior waiting areas are well lit. 1 2 3 4 5 UTO
8. Exterior waiting area amenities provide shelter from foul weather. 1 2 3 4 5 UTO
9. Exterior waiting areas are visible from adjacent buildings. 1 2 3 4 5 UTO

Building(s): Exterior Stairs, Balconies, Ramps and Open Upper Level Corridors

1. Exterior stairs, balconies, ramps, and upper level corridors are well lit. 1 2 3 4 5 UTO
2. Pedestrian flows are orderly. 1 2 3 4 5 UTO
3. Exterior stairs do not create hiding or hard-to-see areas. 1 2 3 4 5 UTO
4. Exterior stairs, balconies, ramps, and open upper level corridors are visible from windows or doors of the school buildings, parking lots and/or other activity areas. 1 2 3 4 5 UTO

Building(s): Exterior Walls

- 6. Posted rules are located at key points around school grounds. 1 2 3 4 5 UTO
- 1. The design of exterior walls does not create hard-to-see locations or hiding places. 1 2 3 4 5 UTO
- 2. Exterior walls are in good condition. 1 2 3 4 5 UTO
- 3. Murals, artwork, landscaping and/or other architectural treatments have been used to enhance blank or barren exterior walls. 1 2 3 4 5 UTO
- 4. There are no signs of graffiti on exterior walls. 1 2 3 4 5 UTO
- 5. Doors and windows are in good condition. 1 2 3 4 5 UTO
- 6. Screening walls and/or other architectural features do not allow for easy access to the roof or upper level areas. DNE 1 2 3 4 5 UTO

Building(s): Courtyards

DNE

- 1. Entries to courtyards are easily monitored. 1 2 3 4 5 UTO
- 2. Courtyards are visible from windows and doors of the school buildings. 1 2 3 4 5 UTO
- 3. Courtyard landscaping elements, including walls, planters and seating, do not allow easy access to roofs, windows, or other upper level areas. 1 2 3 4 5 UTO
- 4. Courtyards are enhanced with landscaping, student artwork, and/or other physical means. 1 2 3 4 5 UTO
- 5. Courtyards are easily monitored. 1 2 3 4 5 UTO
- 6. Courtyards are in good condition. 1 2 3 4 5 UTO
- 7. There are no signs of graffiti. 1 2 3 4 5 UTO

Building(s): General

- 1. Buildings are organized to promote natural surveillance of the school campus. 1 2 3 4 5 UTO
- 2. All buildings have highly visible identification names and/or numbers. 1 2 3 4 5 UTO
- 3. Building design and architectural attributes present an attractive appearance. 1 2 3 4 5 UTO
- 4. Building materials and colors are attractive. 1 2 3 4 5 UTO
- 5. All buildings are in good condition. 1 2 3 4 5 UTO
- 6. Building mounted security devices, such as cameras and window grates, are unimposing. DNE 1 2 3 4 5 UTO
- 7. Window and door security devices are attractive. DNE 1 2 3 4 5 UTO
- 8. Covers for exterior walkways and stairs are designed to limit easy access to roofs, windows, or other upper level areas. DNE 1 2 3 4 5 UTO

Interior: Main/Visitor Lobby

- 1. The lobby is attractive, cheerful and inviting. 1 2 3 4 5 UTO
- 2. Entry security devices are unimposing. DNE 1 2 3 4 5 UTO
- 3. Pedestrian flows through entry security devices are orderly. DNE 1 2 3 4 5 UTO
- 4. The lobby is well lit. 1 2 3 4 5 UTO
- 5. The lobby is easily monitored. 1 2 3 4 5 UTO
- 6. Signs direct visitors to the office. 1 2 3 4 5 UTO
- 7. Signs provide directions to major school areas, i.e. administrative offices,

- cafeteria, media room, auditorium, gymnasium, etc. 1 2 3 4 5 UTO
8. The lobby area is visible from adjacent administrative offices. 1 2 3 4 5 UTO
9. The lobby is enhanced with plants, artwork, posters and/or other physical means. 1 2 3 4 5 UTO
10. Extensive use of windows in the lobby area provides natural surveillance opportunities. 1 2 3 4 5 UTO
11. Motivational signs, temporary or permanent, herald accomplishments, reflect student pride, give positive messages and otherwise encourage student excellence. 1 2 3 4 5 UTO
12. Student displays include a wide range of student interests and cultural backgrounds. 1 2 3 4 5 UTO
13. The lobby is in good condition. 1 2 3 4 5 UTO

Interior: Student Entry Areas – Other than Main Lobby DNE

1. The entry areas are attractive, cheerful and inviting. 1 2 3 4 5 UTO
2. Entry security devices are unimposing. DNE 1 2 3 4 5 UTO
3. Pedestrian flows through entry security devices are orderly. 1 2 3 4 5 UTO DNE
4. The entry areas are well lit. 1 2 3 4 5 UTO
5. The entry areas are easily monitored. 1 2 3 4 5 UTO
6. Signs direct visitors to the office. 1 2 3 4 5 UTO
7. Signs provide directions to major school areas, i.e. administrative offices, cafeteria, media room, auditorium, gymnasium, etc. 1 2 3 4 5 UTO
8. The entry areas are enhanced with plants, artwork, posters and/or other physical means. 1 2 3 4 5 UTO
9. Extensive use of windows in the entry areas provide natural surveillance opportunities. 1 2 3 4 5 UTO
10. Motivational signs, temporary or permanent, herald accomplishments, reflect student pride, give positive messages and otherwise encourage student excellence. 1 2 3 4 5 UTO
11. Student displays include a wide range of student interests and cultural backgrounds. DNE 1 2 3 4 5 UTO
12. The entry areas are in good condition. 1 2 3 4 5 UTO

Interior: Administrative Offices

1. Access to school staff area(s) is controlled. 1 2 3 4 5 UTO
2. Extensive use of windows in the administrative area provides natural surveillance opportunities to adjoining interior spaces. 1 2 3 4 5 UTO
3. Extensive use of windows in the administrative area provides natural surveillance opportunities to exterior spaces. 1 2 3 4 5 UTO
4. Counseling areas are in good condition. 1 2 3 4 5 UTO
5. Counseling areas are enhanced with plants, artwork and other physical means. 1 2 3 4 5 UTO
6. Motivational signs, temporary or permanent, herald accomplishments, reflect student pride, give positive messages and otherwise encourage student excellence. 1 2 3 4 5 UTO
7. Student displays include a wide range of student interests and cultural backgrounds. 1 2 3 4 5 UTO
8. The administrative areas are in good condition. 1 2 3 4 5 UTO

Interior: Corridors

DNE

- | | | | | | | |
|--|---|---|---|---|---|-----|
| 1. Interior corridors are <u>well lit</u> . | 1 | 2 | 3 | 4 | 5 | UTO |
| 2. Interior corridors are <u>easily monitored</u> . | 1 | 2 | 3 | 4 | 5 | UTO |
| 3. There are no hiding places. | 1 | 2 | 3 | 4 | 5 | UTO |
| 4. Pedestrian flows are orderly. | 1 | 2 | 3 | 4 | 5 | UTO |
| 5. Interior corridors are of sufficient capacity to allow <u>orderly</u> movement between classes. | 1 | 2 | 3 | 4 | 5 | UTO |
| 6. Interior corridors are free of obstacles that impede <u>orderly</u> pedestrian flow. | 1 | 2 | 3 | 4 | 5 | UTO |
| 7. Interior corridor light controls are <u>secured</u> to prevent unauthorized <u>access</u> . | 1 | 2 | 3 | 4 | 5 | UTO |
| 8. There are <u>authorized adults visible</u> in interior corridors during arrivals. | 1 | 2 | 3 | 4 | 5 | UTO |
| 9. There are <u>authorized adults visible</u> in interior corridors during class changes. | 1 | 2 | 3 | 4 | 5 | UTO |
| 10. There are <u>authorized adults visible</u> in interior corridors during departures. | 1 | 2 | 3 | 4 | 5 | UTO |
| 11. <u>Motivational</u> signs, temporary or permanent, herald accomplishments, reflect student pride, give positive messages and otherwise encourage student excellence. | 1 | 2 | 3 | 4 | 5 | UTO |
| 12. Student displays <u>include</u> a wide range of student interests and cultural backgrounds. | 1 | 2 | 3 | 4 | 5 | UTO |
| 13. Interior corridors are <u>attractive</u> and <u>cheerful</u> . | 1 | 2 | 3 | 4 | 5 | UTO |
| 14. Interior corridors are in <u>good condition</u> . | 1 | 2 | 3 | 4 | 5 | UTO |

Interior: Stairs and Balconies

DNE

- | | | | | | | |
|--|---|---|---|---|---|-----|
| 1. Interior stairs and balconies are <u>well lit</u> . | 1 | 2 | 3 | 4 | 5 | UTO |
| 2. Pedestrian flows are orderly. | 1 | 2 | 3 | 4 | 5 | UTO |
| 3. Interior stairs do not create hiding or <u>hard-to-see</u> areas. | 1 | 2 | 3 | 4 | 5 | UTO |
| 4. Interior stairs and balconies are in <u>good condition</u> . | 1 | 2 | 3 | 4 | 5 | UTO |

Interior: Restrooms

- | | | | | | | | |
|---|---|---|---|---|---|-----|-----|
| 1. Multiple stall restrooms have <u>open zigzag</u> entries, rather than door systems. | 1 | 2 | 3 | 4 | 5 | UTO | DNE |
| 2. Restrooms with solid doors have vents to increase the opportunity for <u>auditory surveillance</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |
| 3. Restroom entries are <u>easily viewed</u> from other active areas. | 1 | 2 | 3 | 4 | 5 | UTO | |
| 4. Restrooms are <u>well lit</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |
| 5. Restroom light controls are <u>secured</u> to prevent unauthorized <u>access</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |
| 6. There are no unusually foul <u>odors</u> in the restrooms. | 1 | 2 | 3 | 4 | 5 | UTO | |
| 7. There are no signs of <u>graffiti</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |
| 8. There are no other signs of <u>vandalism</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |
| 9. Stall doors and locks are in <u>good condition</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |
| 10. Toilets, urinals and lavatories are in <u>good condition</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |
| 11. The restroom ceiling treatment does not provide <u>access</u> to a <u>hiding place</u> . | 1 | 2 | 3 | 4 | 5 | UTO | DNE |
| 12. Restrooms are in <u>good condition</u> . | 1 | 2 | 3 | 4 | 5 | UTO | |

Interior: Classrooms

1. Classrooms have windows that allow for natural surveillance of exterior spaces. 1 2 3 4 5 UTO
2. Classroom door windows allow for natural surveillance into the classrooms. 1 2 3 4 5 UTO
3. Furniture, lockers, or other objects do not compromise natural surveillance within the classroom. 1 2 3 4 5 UTO
4. Classrooms can be secured and locked down from the inside. 1 2 3 4 5 UTO
5. Secured classroom doors can be exited in an emergency. 1 2 3 4 5 UTO
6. Classroom door(s) are secured when the classroom is not in use. 1 2 3 4 5 UTO
7. Classrooms are well lit. 1 2 3 4 5 UTO
8. Motivational signs, temporary or permanent, herald accomplishments, reflect student pride, give positive messages and otherwise encourage student excellence. 1 2 3 4 5 UTO
9. Classrooms are cheerful. 1 2 3 4 5 UTO
10. Classrooms are in good condition. 1 2 3 4 5 UTO

F. Interior: Cafeteria(s) and Food Courts

1. Cafeteria(s) and food courts have a well-defined entry(s). 1 2 3 4 5 UTO
2. The cafeteria entry(s) is easily monitored. 1 2 3 4 5 UTO
3. There are authorized employees visible and available for assistance. 1 2 3 4 5 UTO
4. Kitchen and serving areas have limited access. 1 2 3 4 5 UTO
5. The student serving line is orderly. 1 2 3 4 5 UTO
6. The pedestrian flow within the cafeteria(s) is orderly. 1 2 3 4 5 UTO
7. The pedestrian flow around the outside of the cafeteria(s) is orderly. 1 2 3 4 5 UTO
8. There is sufficient capacity for all students to sit within authorized locations. 1 2 3 4 5 UTO
9. There is sufficient space between tables to allow orderly circulation. 1 2 3 4 5 UTO
10. The behavior in the cafeteria(s) is orderly. 1 2 3 4 5 UTO
11. The cafeteria(s) is enhanced with plants, artwork, posters and/or other physical means. 1 2 3 4 5 UTO
12. Student displays and other artwork include a wide range of student interest and cultural backgrounds. DNE 1 2 3 4 5 UTO
13. There are no foul odors. 1 2 3 4 5 UTO
14. Entrance is secured when room is not in use. 1 2 3 4 5 UTO
15. The cafeteria(s) is in good condition. 1 2 3 4 5 UTO

G. Interior: Auditorium(s)

1. The auditorium(s) has a well-defined entry(s). DNE 1 2 3 4 5 UTO
2. The auditorium(s) is easily monitored. 1 2 3 4 5 UTO
3. All entrances are secured when room is not in use. DNE 1 2 3 4 5 UTO
4. The auditorium(s) is in good condition. 1 2 3 4 5 UTO

H. Interior: Gymnasium(s)

1. The gymnasium(s) is easily monitored. DNE 1 2 3 4 5 UTO
2. Access to the underside of bleachers, whether open or closed, is limited.

	1	2	3	4	5	UTO
3. The gymnasium(s) is <u>well lit</u> .	1	2	3	4	5	UTO
4. Light controls are <u>secured</u> to prevent unauthorized <u>access</u> .	1	2	3	4	5	UTO
5. Entrance is <u>secured</u> when room is not in use.	1	2	3	4	5	UTO
6. The gymnasium(s) is in <u>good condition</u> .	1	2	3	4	5	UTO
I Interior: Locker Rooms	DNE					
1. Locker areas are <u>easily monitored</u> .	DNE					
2. Lockers in the center do not obstruct <u>visibility</u> .	1	2	3	4	5	UTO
3. Lockers are adequately spaced to avoid <u>crowding</u> .	1	2	3	4	5	UTO
4. Lockers and/or locker doors are <u>see-through</u> .	1	2	3	4	5	UTO
5. Shower areas are <u>easily monitored</u> .	1	2	3	4	5	UTO
6. All areas of the locker room are <u>well lit</u> .	1	2	3	4	5	UTO
7. Light controls are <u>secured</u> to prevent unauthorized <u>access</u> .	1	2	3	4	5	UTO
8. There are no unusually foul <u>odors</u> .	1	2	3	4	5	UTO
9. The ceiling treatment does not provide a <u>hiding place</u> .	1	2	3	4	5	UTO
10. Entrance is <u>secured</u> when room is not in use.	1	2	3	4	5	UTO
11. All areas of the locker room are in <u>good condition</u> .	1	2	3	4	5	UTO
J Interior: Libraries and Media Centers						
1. The library or media center has a <u>well-defined</u> entry.	1	2	3	4	5	UTO
2. The entry is <u>easily monitored</u> by staff and volunteers.	1	2	3	4	5	UTO
3. Activity within the library area is <u>easily monitored</u> .	1	2	3	4	5	UTO
4. <u>Motivational signs</u> , temporary or permanent, herald accomplishments, reflect student pride, give positive messages and otherwise encourage student excellence.	1	2	3	4	5	UTO
5. Student displays <u>include</u> a wide range of student interests and cultural backgrounds.	1	2	3	4	5	UTO
6. The library is <u>secured</u> when not in use.	1	2	3	4	5	UTO
7. Rooms within the library are <u>secured</u> when not in use.	1	2	3	4	5	UTO
8. All areas of the library are in <u>good condition</u> .	1	2	3	4	5	UTO
K. Interior: Elevators	DNE					
1. <u>Access</u> to elevators is <u>limited</u> to authorized individuals.	1	2	3	4	5	UTO
2. Elevators are located in <u>easy to view</u> areas.	1	2	3	4	5	UTO
3. Elevator lobbies are <u>well lit</u> .	1	2	3	4	5	UTO
4. Mirrors are strategically located within the elevator cabs to eliminate <u>hiding places</u> .	DNE					
5. Elevator lobbies are in <u>good condition</u> .	1	2	3	4	5	UTO
L. Interior: General						
1. There is an abundance of <u>natural light</u> within interior spaces.	1	2	3	4	5	UTO
2. Interior spaces are <u>well lit</u> .	1	2	3	4	5	UTO
3. Interior spaces are <u>attractive</u> and <u>cheerful</u> .	1	2	3	4	5	UTO
4. The organization of interior spaces is easily <u>comprehended</u> .	1	2	3	4	5	UTO
5. Visitors have <u>distinctive</u> and highly <u>visible</u> nametags.	1	2	3	4	5	UTO
6. Staff and teachers have highly <u>visible</u> nametags.	1	2	3	4	5	UTO
7. Security personnel wear <u>distinctive</u> clothing and have distinct, <u>visible</u> identification badges.	1	2	3	4	5	UTO
8. Interior security equipment is <u>unimposing</u> .	1	2	3	4	5	UTO

- | | | | | | | | |
|--|-----|---|---|---|---|---|-----|
| 9. Interior walls are in <u>good condition</u> . | DNE | 1 | 2 | 3 | 4 | 5 | UTO |
| 10. Electrical panels are <u>secured</u> . | | 1 | 2 | 3 | 4 | 5 | UTO |
| 11. Interior doors and windows are in <u>good condition</u> . | | 1 | 2 | 3 | 4 | 5 | UTO |
| 12. Interior ceilings are in <u>good condition</u> . | | 1 | 2 | 3 | 4 | 5 | UTO |
| 13. Interior light fixtures are in <u>good condition</u> . | | 1 | 2 | 3 | 4 | 5 | UTO |
| 14. Interior features, such as clocks, displays, signs and furnishings are in <u>good condition</u> . | | 1 | 2 | 3 | 4 | 5 | UTO |
| 15. There is sufficient <u>capacity</u> for the <u>orderly</u> storing of backpacks and jackets throughout the school. | | 1 | 2 | 3 | 4 | 5 | UTO |
| 16. There are no visible signs of <u>vandalism</u> in interior spaces. | | 1 | 2 | 3 | 4 | 5 | UTO |
| 17. Interior spaces are <u>enhanced</u> with plants, artwork, and/or other physical means. | | 1 | 2 | 3 | 4 | 5 | UTO |
| 18. The <u>temperature</u> in interior spaces is neither too hot nor too cold. | | 1 | 2 | 3 | 4 | 5 | UTO |
| 19. The interior air quality is <u>fresh</u> . | | 1 | 2 | 3 | 4 | 5 | UTO |
| 20. Obsolete or underutilized spaces are <u>secured</u> to prevent <u>access</u> by unauthorized persons. | DNE | 1 | 2 | 3 | 4 | 5 | UTO |
| 21. There are no continuously occurring loud noises in the interior spaces. | | 1 | 2 | 3 | 4 | 5 | UTO |

Assessment Date(s): _____

Time(s): _____

Weather: _____

Unique factors regarding the day(s) of the assessment:

School CPTED Principles ¹

Natural Surveillance (NS) is the design and placement of features and persons to facilitate observations and maximize visibility. The objectives are to eliminate hiding or hard to see places and increase the ability of authorized adults to monitor and respond. This deters aggressive behaviors by increasing the threat of detection and increases feelings of security for students and staff.

Access Management (AM) is the use of real or perceived barriers and other features to orient and guide people and vehicles along appropriate paths and to restrict inappropriate access. The objectives are to increase comfort and decrease prohibited behaviors by providing safe routes and restricting unauthorized access.

Territoriality (T) is the use of physical attributes to delineate space and to express a sense of ownership and pride. The objective is to communicate to others that an area is claimed and cared for and therefore unacceptable behavior will not be tolerated.

Physical Maintenance (PM) is the repair, replacement and general upkeep of a building or area. The objectives are to allow for the continued use of features and spaces and to further convey a sense of ownership and caring.

Order Maintenance (OM) is the attention to and reduction of minor inappropriate behaviors. The objectives are to maintain decorum and promote pro-social behaviors by preventing the escalation of tension, conflicts or inappropriate behaviors.

Key Word Definitions and Examples

The following list provides a definition and example of key words used in the assessment tool. It also includes, in parenthesis, which CPTED principles are related to each of these definitions found in the CSA. The principles are referenced by initials: (NS) Natural Surveillance, (AM) Access Management, (T) Territoriality, (PM) Physical Maintenance, and (OM) Order Maintenance. The CPTED principles are listed in order of being the primary, secondary or tertiary construct. A summary matrix of the key words by CPTED principle follows on page 31.

access (AM) *A means of approaching, entering, exiting, or making use of;* a passage, such as design features do not provide easy access to rooftops, staff and seldom used areas, spaces under portables, light switches, chemicals, elevators, etc.

adjacent (NS) *Close to, next to,* such as visitor parking is located directly adjacent to the main entry of the administrative offices.

amenities (T/OM) *Something that contributes to physical comfort; increases attractiveness or value,* such as pedestrian seating, trash receptacles, shelters from foul weather, and other pedestrian amenities.

attractive (T) *Pleasing; charming,* such as attractive entryways.

auditory surveillance (NS) The ability to hear activity for monitoring purposes, such as auditory surveillance of restrooms with open zigzag entries versus double doors.

authorized adults (NS/AM/OM) Adults who are sanctioned by the school to operate in an official capacity such as administrators, teachers, security personnel, school resource officers, cafeteria staff, parent volunteers and others.

authorized locations (AM/OM) Designated areas for particular activity, such as parental drop-offs and pick-ups.

available for assistance (OM) *To give aid or support* such as being available to take care of minor occurrences so they don't become larger incidents and to respond appropriately to any incident, small or large. To be within a reasonable distance to see, hear and respond to a situation.

barriers (AM/T) Real or symbolic limitations to movement, such as fencing, bollards, chains, landscaping, and other physical features.

capacity (OF/OM/AM) *The ability to receive, hold or absorb,* such as there is sufficient capacity for all students to sit within authorized locations.

cheerful (T) *Pleasant, bright, enjoyable, and comforting,* such as classrooms or interior corridors are cheerful.

1. Carter SP. (2001). *Surrounded by Safety: A Crime Prevention Through Environmental Design (CPTED) Handbook for Youth.* Youth Crime Watch of America, Miami, FL.

clearly marked (AM/OM/T) Readily observable, *visible impressions*, such as large lettering, bold stripes or other physical markings.

comprehend (AM/T) *To take in the meaning*, such as the organization of the school campus is easily comprehended. **controlled** (AM/OM) *To hold in restraint; check; to regulate*, such as access to the school staff area(s) is controlled. **crowding** (OM/AM) *To press, cram or force tightly together*, such as lockers are adequately spaced to avoid crowding.

delineate (T/AM) *To draw or trace the outline of*, such as to delineate the school boundaries from adjacent properties or student parking from staff parking spaces.

direct (AM) *To show or indicate the way; to give instructions to*, such as directing visitors to the administrative offices for signing in.

distinctive (OM/AM) *Serving to identify; a distinguishing factor, attribute or characteristic*, such as distinctive nametags or clothing.

easily monitored (NS/AM/OM) *The ability to keep close watch over, to supervise*, such as bus loops, public phones and other features being easily monitored.

easily viewed (NS/AM/OM) *A convenient way of seeing something, as from a particular angle*, such as entrances being easily viewed from nearby offices.

enhanced (T) *To make greater, as in value or beauty*. To go beyond basic utility, such as enhancing the school grounds with landscaping, student artwork, monuments or other physical means.

emergency exits (AM) *A way of leaving but not of entering*, such as the design of emergency exits deters access from the outside.

fresh (PM/T) *Free from impurities or pollution*, such as the interior air quality is fresh.

good condition (PM/T) *To be in a positive or desirable state*, clean, litter free, in good repair, such as buildings, grounds or student projects are in good condition.

graffiti (PM/OM) *Writing on walls, inscriptions*, such as there are no signs of graffiti.

hard-to-see (NS) *Difficult to perceive with the eye*, such as blind corners.

hiding places (NS) *Spaces where one can be out of sight, in secret, or concealed*, such as there are no hiding places in or around bike rack or dumpster areas.

include/inclusiveness (OF/T) *To take in as a member/comprehensive, taking everything (everybody) within its scope*, such as including a wide range of student interests and all cultural backgrounds.

inviting (T) *Welcoming and appealing*, such as the lobby is attractive, cheerful and inviting.

limit (AM) *The line or point beyond which something (someone) may not proceed, such as the access to the underside of stairs or bleachers is limited.*

motivational signs (T/OF) *Posted notices that provide incentives, move to action, or impel, such as motivational signs herald accomplishments, reflect student pride, give positive messages and otherwise encourage student excellence.*

natural light (OF/NS) *Light provided by the sun, such as there is an abundance of natural light in interior spaces.*

natural surveillance (NS) *Allowing for casual observations, such as perimeter fencing allows for natural surveillance of the school grounds.*

noise (OM/PM) *Sound, or a sound that is loud, unpleasant, unexpected, or undesired, such as there are no continuously occurring loud noises on school grounds.*

odor (PM/T) *Strong, pervasive quality, such as there are no unusually foul odors.*

open zigzag (NS/AM/OM) *A door-less restroom entry with sharp turns designed to shield the interior.*

orderly (OM/NS) *A condition of logical or systematic behavior, free of disruption, such as pedestrian flows are orderly.*

outdoor learning area (OF) *A designated area used for environmental or agricultural educational activities, where students can interact with live plants and enjoy fresh air and sunshine.*

posted rules (OM/AM) *Signs which warn or give information on regulations, such as posted rules designate parking lot usage.*

secured (AM) *Firmly fastened, such as site utilities are secured.*

security devices (AM/OM) *Any number of physical means to secure or detect, including but not limited to window and door grates; barbed or razor wire; motion detectors, alarms, closed circuit TV cameras/monitors; metal and bomb detectors, such as security devices are unimposing.*

see-through (NS) *Transparent, permeable to light, perforated material, such as lockers and/or locker doors are see-through.*

student involvement (T) *Engage students as participants, such as there are examples of student involvement with campus beautification.*

temperature (OF) *The degree of hotness or coldness of a body or an environment, such as the temperature in interior spaces is neither too hot nor too cold.*

unimposing (T) *Unobtrusive, considerate, such as security devices are unimposing.*

uplifting (T) *Raising the spirits, such as the atmosphere of the school is uplifting.*

vandalism (PM/OM/T) *Willful or malicious destruction of property*, such as there are no signs of vandalism.

visible (NS) *Possible to see, obvious to the eye*, such as authorized adults are visible during classroom changes.

wayfinding (AM/OM) A collective means (landscaping, lighting, signage, pavement treatments, and landmarks) of informing or directing vehicular or pedestrian movements.

welcoming (T/AM) *Cordial, inviting, agreeable, hospitable*, such as entries to the site are attractive and welcoming.

well defined (T/AM) *Having definite and distinct lines*, such as gathering areas are well defined.

well lit (NS/AM/OM/T) Sufficient *illumination* to enable easy viewing of activities and people, such as corridors are well lit.

Source: Italicized definitions are from *The American Heritage College Dictionary, 3rd Edition*. Boston, New York: Houghton Mifflin Company: 1993.

Keywords Organized by School CPTED Element

<i>Natural Surveillance (NS)</i>	<i>Access Management (AM)</i>	<i>Territoriality (T)</i>	<i>Physical Maintenance (PM)</i>	<i>Order Maintenance (OM)</i>	<i>Other Factors (OF)</i>
Adjacent	Access	Amenities	Fresh	Amenities	Capacity
Auditory surveillance	Authorized adults	Attractive	Good condition	Authorized adults	Inclusiveness
Authorized adults	Authorized locations	Barriers	Graffiti	Authorized locations	Motivational signs
Easily monitored	Barriers	Cheerful	Noise	Available for assistance	Natural light
Easily viewed	Capacity	Clearly marked	Odor	Capacity	Outdoor learning area
Hard-to-see	Clearly marked	Comprehend	Vandalism	Clearly marked	Temperature
Hiding places	Comprehend	Delineate		Controlled	
Natural light	Controlled	Enhanced		Crowding	
Natural surveillance	Crowding	Fresh		Distinctive	
Open zigzag	Delineate	Good condition		Easily monitored	
Orderly	Direct	Inclusiveness		Easily viewed	
See-through	Distinctive	Inviting		Graffiti	
Visible	Easily monitored	Motivational signs		Noise	
Well lit	Easily viewed	Odor		Open zigzag	
	Emergency exits	Student involvement		Orderly	
	Limit	Unimposing		Posted rules	
	Open zigzag	Uplifting		Security devices	
	Posted rules	Vandalism		Vandalism	
	Secured	Welcoming		Wayfinding	
	Security devices	Well defined		Well lit	
	Unimposing	Well lit			
	Wayfinding				
	Welcoming				
	Well defined				
	Well lit				

For More Information:

Division of Violence Prevention

National Center for Injury Prevention and Control
Centers for Disease Control and Prevention

4770 Buford Highway, MS F-64, Atlanta, GA 30341 www.cdc.gov/violenceprevention

Appendix B:

List of Locations Requiring CPTED Physical Survey and Safety Assessment

List of Locations Requiring CPTED Physical Survey and Safety Assessment

<i>Campus</i>	<i>Building/Location Name</i>	<i>Survey Type</i>
Statesboro	<u>404</u>	Building
Statesboro	<u>Academic Success Center</u>	Building
Statesboro	<u>Admissions - Lewis Hall</u>	Building
Statesboro	<u>Anderson Hall</u>	Building
Statesboro	<u>Arts Building</u>	Building
Statesboro	<u>Auxiliary Services</u>	Building
Statesboro	<u>Auxiliary Warehouse</u>	Building
Statesboro	<u>Biological Sciences Building</u>	Building
Statesboro	<u>Biological Sciences Field House</u>	Building
Statesboro	<u>Biological Sciences Greenhouse</u>	Building
Statesboro	<u>Black Box Theatre</u>	Building
Statesboro	<u>Brannen Hall</u>	Building
Statesboro	<u>Cambridge</u>	Building
Statesboro	<u>Carroll Building</u>	Building
Statesboro	<u>Carruth Building</u>	Building
Statesboro	<u>Carter Recital Hall</u>	Building
Statesboro	<u>Centennial Place</u>	Building
Statesboro	<u>Center for Art and Theatre</u>	Building
Statesboro	<u>Center for Wildlife Education & Lamar Q Ball, Jr.</u>	Building
	<u>Raptor Center</u>	
Statesboro	<u>Central Receiving/Warehouse</u>	Building
Statesboro	<u>Ceramics & Sculpture Studio</u>	Building
Statesboro	<u>Child Development Center</u>	Building
Statesboro	<u>College of Business</u>	Building
Statesboro	<u>College of Education</u>	Building
Statesboro	<u>Cone Hall</u>	Building
Statesboro	<u>Contemporary and University Art Galleries</u>	Building
Statesboro	<u>Counseling Center</u>	Building
Statesboro	<u>Cowart Building: Athletic Ticket Office</u>	Building
Statesboro	<u>Deal Hall</u>	Building
Statesboro	<u>Dining Commons</u>	Building
Statesboro	<u>ETS Warehouse</u>	Building
Statesboro	<u>Eagle Village</u>	Building
Statesboro	<u>Eidson House: Honors College</u>	Building
Statesboro	<u>Engineering Building</u>	Building
Statesboro	<u>Engineering and Research Building</u>	Building
Statesboro	<u>Eugene M. Bishop Alumni Center</u>	Building
Statesboro	<u>Facilities Services Administration</u>	Building
Statesboro	<u>Facilities Services Landscape/Custodial Services</u>	Building
Statesboro	<u>Facilities Services Shops</u>	Building
Statesboro	<u>Fielding D. Russell Union</u>	Building
Statesboro	<u>Forest Drive Classroom Building</u>	Building

Statesboro	<u>Foy Building</u>	Building
Statesboro	<u>Freedom's Landing</u>	Building
Statesboro	<u>Garden Administration</u>	Building
Statesboro	<u>Gene Bishop Field House</u>	Building
Statesboro	<u>Georgia Southern Museum</u>	Building
Statesboro	<u>Hanner Complex-Fieldhouse/Kinesiology Lab</u>	Building
Statesboro	<u>Hanner Tennis Courts</u>	Building
Statesboro	<u>Health Center</u>	Building
Statesboro	<u>Hendricks Hall</u>	Building
Statesboro	<u>Herty Building</u>	Building
Statesboro	<u>Hollis Building</u>	Building
Statesboro	<u>Housing Facilities</u>	Building
Statesboro	<u>Human Resources</u>	Building
Statesboro	<u>Information Technology Building</u>	Building
Statesboro	<u>Interdisciplinary Academic Building</u>	Building
Statesboro	<u>Iron Works</u>	Building
Statesboro	<u>J.I. Clements Stadium</u>	Building
Statesboro	<u>Kennedy Hall</u>	Building
Statesboro	<u>Lakeside Dining Commons</u>	Building
Statesboro	<u>Marvin Pittman Administration Building</u>	Building
Statesboro	<u>Math/Physics Building</u>	Building
Statesboro	<u>Military Science Building</u>	Building
Statesboro	<u>Natural Sciences Building</u>	Building
Statesboro	<u>Nessmith-Lane Conference Center</u>	Building
Statesboro	<u>Newton Building</u>	Building
Statesboro	<u>Nursing/Chemistry Building</u>	Building
Statesboro	<u>Parking & Transportation</u>	Building
Statesboro	<u>Parrish Football Center</u>	Building
Statesboro	<u>Performing Arts Center</u>	Building
Statesboro	<u>Planetarium</u>	Building
Statesboro	<u>Psychology Clinic & Senior Companion Program</u>	Building
Statesboro	<u>Public Safety</u>	Building
Statesboro	<u>Recreation Activity Center</u>	Building
Statesboro	<u>Rosenwald Building</u>	Building
Statesboro	<u>Russell Union Ballroom & Theatre</u>	Building
Statesboro	<u>Sanford Hall</u>	Building
Statesboro	<u>Scene Shop</u>	Building
Statesboro	<u>Shooting Sports Education Center</u>	Building
Statesboro	<u>Southern Courtyard</u>	Building
Statesboro	<u>Southern Pines</u>	Building
Statesboro	<u>Student Disability Resource Center</u>	Building
Statesboro	<u>Tech Corner</u>	Building
Statesboro	<u>University Store</u>	Building
Statesboro	<u>University Villas</u>	Building
Statesboro	<u>Veazey Hall</u>	Building

Statesboro	<u>Watson Hall Commons</u>	Building
Statesboro	<u>Watson Hall Pods</u>	Building
Statesboro	<u>Wiggins Baseball Building</u>	Building
Statesboro	<u>Williams Center</u>	Building
Statesboro	<u>Zach S. Henderson Library</u>	Building
Statesboro	<u>Allen E. Paulson Stadium</u>	Exterior Recreation Areas
Statesboro	<u>Beautiful Eagle Creek</u>	Exterior Recreation Areas
Statesboro	<u>Botanic Garden</u>	Exterior Recreation Areas
Statesboro	<u>Fair Road Soccer Field</u>	Exterior Recreation Areas
Statesboro	<u>Football Practice Fields</u>	Exterior Recreation Areas
Statesboro	<u>Heritage Pavillion</u>	Exterior Recreation Areas
Statesboro	<u>Herring Pavilion</u>	Exterior Recreation Areas
Statesboro	<u>Herty Pines Nature Preserve</u>	Exterior Recreation Areas
Statesboro	<u>Lake Ruby & Lake Wells</u>	Exterior Recreation Areas
Statesboro	<u>M.C. Anderson Multiplex</u>	Exterior Recreation Areas
Statesboro	<u>M.C. Anderson Pavilion</u>	Exterior Recreation Areas
Statesboro	<u>Russell Union Rotunda</u>	Exterior Recreation Areas
Statesboro	<u>Soccer/Track Stadium</u>	Exterior Recreation Areas
Statesboro	<u>Softball Facility</u>	Exterior Recreation Areas
Statesboro	<u>Sports Complex</u>	Exterior Recreation Areas
Statesboro	<u>Sweetheart Circle</u>	Exterior Recreation Areas
Statesboro	Stadium Parking	Parking Lots
Statesboro	RAC Parking	Parking Lots
Statesboro	Lot C	Parking Lots
Statesboro	Lot J	Parking Lots
Statesboro	Lot 11	Parking Lots
Statesboro	Lot 12	Parking Lots
Statesboro	Lot 13	Parking Lots
Statesboro	Lot 42	Parking Lots
Statesboro	Lot 41	Parking Lots
Statesboro	Lot 21	Parking Lots
Statesboro	Lot 31	Parking Lots
Statesboro	Lot 32	Parking Lots
Statesboro	Lot 30	Parking Lots
Statesboro	Lot 33	Parking Lots
Statesboro	Lot K	Parking Lots
Statesboro	Lot F	Parking Lots
Statesboro	Lot G	Parking Lots
Statesboro	Lot E	Parking Lots
Armstrong	<u>Academic Success Center</u>	Building
Armstrong	<u>Annex #2</u>	Building
Armstrong	<u>Armstrong Center</u>	Building
Armstrong	<u>Armstrong Recreation Center</u>	Building
Armstrong	<u>Ashmore Hall</u>	Building
Armstrong	<u>Burnett Hall</u>	Building

Armstrong	<u>Compass Plaza</u>	Building
Armstrong	<u>Compass Point Student Residence</u>	Building
Armstrong	<u>Compass Point Student Services/Health Center/Counseling Center/Housing Office</u>	Building
Armstrong	<u>Eagle Card and Parking Services</u>	Building
Armstrong	<u>Fine Arts Hall</u>	Building
Armstrong	<u>Gamble Hall</u>	Building
Armstrong	<u>Hawes Hall</u>	Building
Armstrong	<u>Health Professions Academic Building</u>	Building
Armstrong	<u>International Garden</u>	Building
Armstrong	<u>Jenkins Hall</u>	Building
Armstrong	<u>Lane Library</u>	Building
Armstrong	<u>Learning Commons</u>	Building
Armstrong	<u>Memorial College Center</u>	Building
Armstrong	<u>PAC/Military Resource Center</u>	Building
Armstrong	<u>Residential Plaza</u>	Building
Armstrong	<u>Science Center</u>	Building
Armstrong	<u>Shearouse Plaza</u>	Building
Armstrong	<u>Solms Hall</u>	Building
Armstrong	<u>Student Success Center</u>	Building
Armstrong	<u>Student Union/University Bookstore</u>	Building
Armstrong	<u>University Crossings</u>	Building
Armstrong	<u>University Hall</u>	Building
Armstrong	<u>University Police</u>	Building
Armstrong	<u>University Terrace</u>	Building
Armstrong	<u>Victor Hall</u>	Building
Armstrong	<u>Windward Commons</u>	Building
Armstrong	<u>Athletic Fields/Tennis Courts</u>	Exterior Recreation Areas
Armstrong	<u>Disc Golf Course</u>	Exterior Recreation Areas
Armstrong	<u>Greenhouse, Biology</u>	Exterior Recreation Areas
Armstrong	<u>Recreation & Wellness Intramural Field</u>	Exterior Recreation Areas
Armstrong	<u>Tennis Complex</u>	Exterior Recreation Areas
Armstrong	<u>Walking Loop</u>	Exterior Recreation Areas
Armstrong	Residential Parking 2	Parking Lots
Armstrong	Residential Parking 1	Parking Lots
Armstrong	University Hall Lot	Parking Lots
Armstrong	Sport Center Lot	Parking Lots
Armstrong	Science Center Lot	Parking Lots
Armstrong	Armstrong Center Lot	Parking Lots
Armstrong	University Drive/Burnett Parking	Parking Lots
Liberty	Building	Building
Liberty	Parking Lot	Parking Lots

Appendix C:
Participant Survey Tool

Participant Survey Tool

Start of Block: Informed Consent

Q1.1 Doctoral Dissertation Research

You are being asked to participate in a survey research project entitled “Use of Crime Prevention Through Environmental Design on College Campuses: A Case Study on Improving the Perception of Fear,” conducted by Patrice Kerner, a student at Valdosta State University. The purpose of the study is to determine if Crime Prevention Through Environmental Design (CPTED) concepts can improve the perception of fear on a college campus, which will be conducted through a mixed method case study design.

- You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about how colleges and universities can modify campus design to improve fear of crime on campuses.
- There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life.
- Participation should take between 10 to 30 minutes to complete, depending on the number of campuses you survey. This survey is anonymous. No one, including the researcher, will be able to associate your responses with your identity. Your participation is voluntary. You may choose not to take the survey, stop responding at any time, or skip any questions you do not want to answer.
- Participants must be at least 18 years of age to participate in this study. Your completion of the survey serves as your voluntary agreement to participate in this research project and your certification that you are 18 or older.
- You may print a copy of this statement for your records.

This study has been exempted from Institutional Review Board (IRB) review in accordance with Federal regulations. This exemption is documented through Valdosta State IRB certificate #04314-2022, including a Letter of Cooperation from Georgia Southern University through IRB Protocol # H22375. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-253-2947 or irb@valdosta.edu. Questions regarding the purpose or procedures of the research should be directed to Dr. Neal McIntyre at rnmccintyre@valdosta.edu or Patrice Kerner at pkerner@valdosta.edu.

By clicking the button below, you acknowledge:

- Your participation in the study is voluntary.
 - You are 18 years of age.
 - You are aware that you may choose to terminate your participation at any time for any reason.
- I consent, begin the study (1)
- I do not consent, I do not wish to participate (2)

Skip To: End of Survey If Doctoral Dissertation Research You are being asked to participate in a survey research projec... = I do not consent, I do not wish to participate

Q1.2 I am interested in understanding how the environmental design of a university can improve the perception of a campus. For this study, you will be presented with information

relevant to Crime Prevention Through Environmental Design. Then, you will be asked to answer some questions about it. Your responses will be kept completely confidential.

There will be some multiple-choice questions to guide you to the appropriate sections of the survey; however, there will also be written responses to questions requesting your opinion of campus safety.

When answering questions and reviewing the pictures, think about the following:

- What is adjacent to the property,
- Who is authorized and has access to the property
- Are the amenities:
 - Fresh and attractive,
 - In good condition, no odor
 - Welcoming, inclusive, inviting, unimposing
 - Provides motivational signs, student involvement
 - Cheerful, natural light, easily monitored, no hiding places, easily viewed,
- Does the property have wayfinding systems and directional signs, Is the property clearly marked, easily comprehended, and has posted rules

Q1.3 Type of survey participant: What is your affiliation with the University?

- Student who commutes from home (1)
- Student who lives on campus (5)
- Faculty (2)
- Staff Member (3)
- Staff Member holding the position equivalent to a manager or above (4)

Q1.4 Which campus is your home campus

- Statesboro (1)
- Savannah (2)
- Hinesville (3)

Q1.5 Do you ever visit any other Georgia Southern campus?

- Yes (1)
- No (2)

Display This Question:

If Do you ever visit any other Georgia Southern campus? = Yes

Q1.6 Would you like to provide your opinion of one of the other campuses as well as your home campus? If so, state which campus(es) you visit.

- Statesboro (1)
- Savannah (2)
- Hinesville (3)

End of Block: Informed Consent

Start of Block: Statesboro Campus

Q2.1 This section will be asking for your perceptions of the Statesboro campus. There are two parts. The first part is asking for your perception of the campus as a whole. The second part will ask for your perception of specific areas of the campus. Feel free to write as much or as little as needed in each question box

Q2.2 What are your perceptions of safety on the Statesboro Campus?

Q2.3 What are these perceptions based upon?

Q2.4 Do you believe that crime occurs on the Statesboro campus?

- Yes (1)
- No (2)

Page Break

Q2.5 Do you believe, overall, the Statesboro campus is a safe campus? Why or why not?

- Yes (why) (4) _____
- No (why not) (5) _____

Q2.6 Where do you believe most crime occurs on campus?

- Classroom buildings (1)
- Administrative buildings (2)
- Recreational areas/buildings (3)
- Athletic areas/buildings (4)
- Student housing areas (5)
- Parking Lots (6)
- On streets of campus (7)
- None/Other (8) _____

Q2.7 What do you feel campus authorities/leadership could do to prevent crime more effectively?

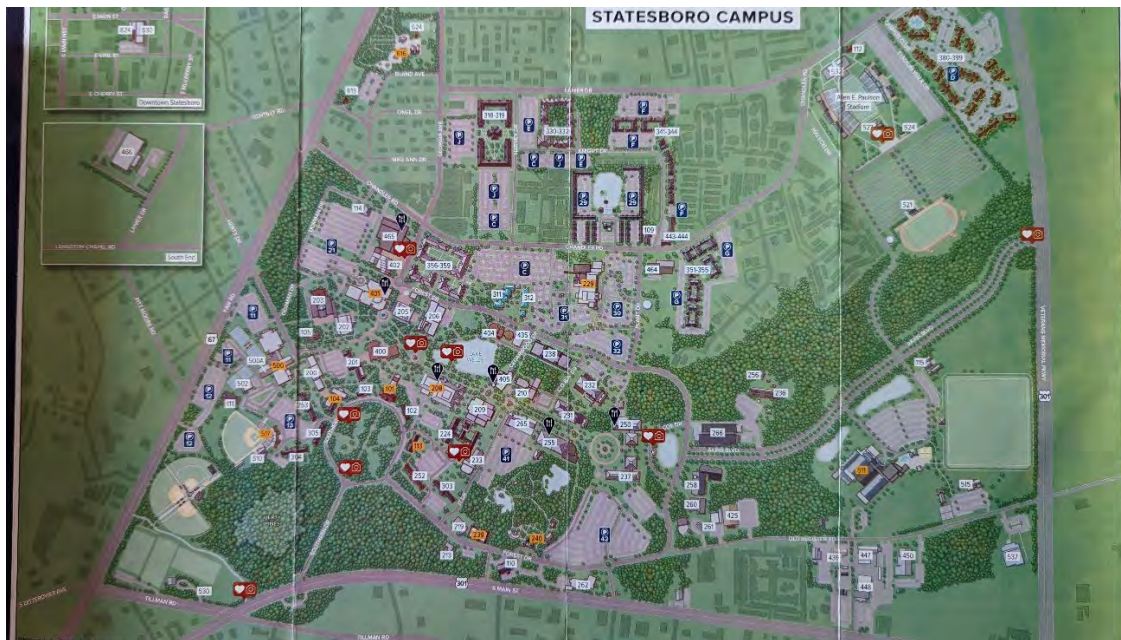
End of Block: Statesboro Campus

Start of Block: Statesboro Part 2

Q3.1 Part two of this section will provide pictures of various areas on campus. For each picture you will be asked if you feel the scenario depicted has a potential to increase crime or the fear of crime. You will then be asked to explain your opinion/perception.

Not all pictures included in this survey are examples of bad environmental aspects, some areas are good. Therefore, it is perfectly acceptable for you to state that you feel the scenario depicts a safe area.

Q3.2 Below is a map of the Statesboro campus. Please click on areas (up to 10) of the campus that you feel are prone to criminal activity or that you feel unsafe. This map depicts a large area, so take your time.



End of Block: Statesboro Part 2

Start of Block: Statesboro Parking Lots

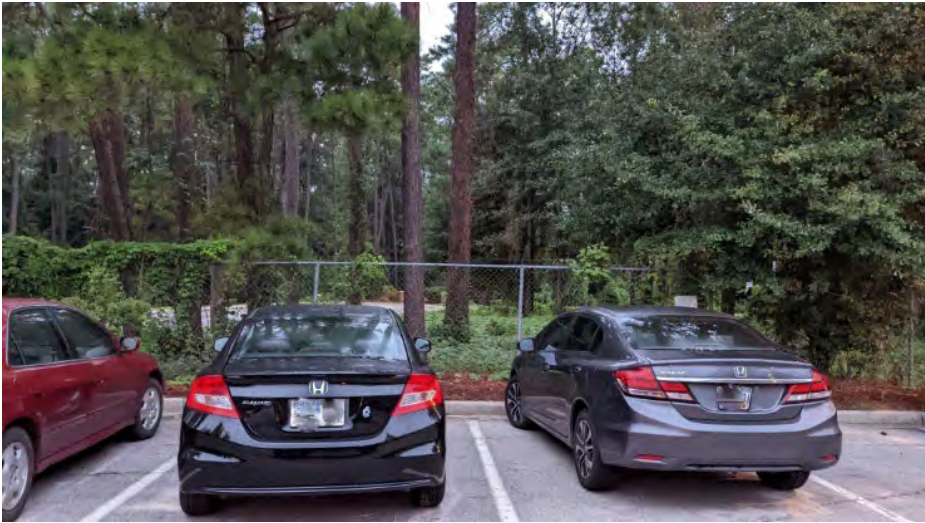
Q4.1 This next section will ask questions about the perception of parking lots. Not all parking lots will be shown; however, we will be looking for the perception of physical attributes shown in the pictures.

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____





Q4.8 Please provide feedback on any specific parking lots that you feel can be improved from a campus safety aspect. Please include which lot and what needs improvement.

End of Block: Statesboro Parking Lots

Start of Block: Statesboro Classroom Buildings

Q5.1 This next section pertains to classroom buildings. Not all classroom buildings will be shown. A sample of various aspects of both the interior and the exterior of the classroom buildings will be displayed. Would you like to provide feedback on your perception of classroom buildings? If you do not frequent classroom buildings or do not wish to answer these questions, please select no to skip this section.

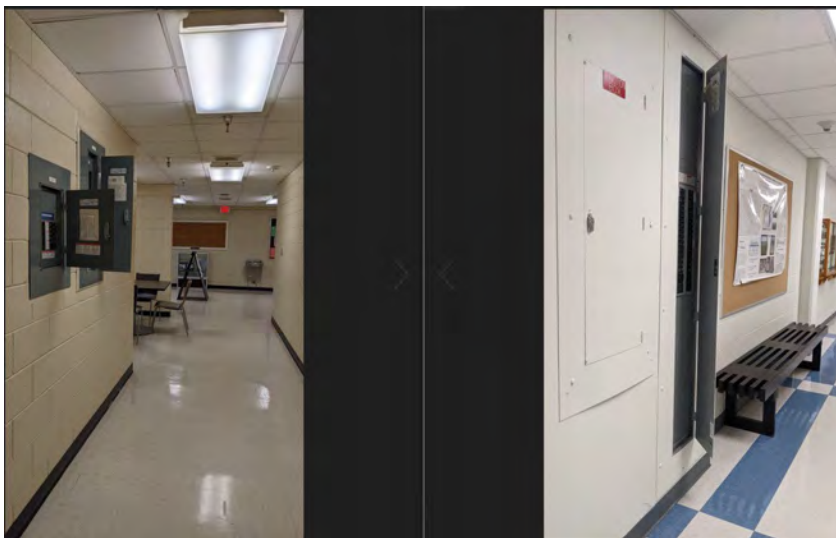
- Yes (1)
- No (2)

Skip To: End of Block If This next section pertains to classroom buildings. Not all classroom buildings will be shown. A... = No

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____











Q5.14 Please provide feedback on any specific classroom buildings that you feel can be improved from a campus safety aspect. Please include which building and what needs improvement.

End of Block: Statesboro Classroom Buildings

Start of Block: Statesboro Residential

Q6.1 This next section pertains to residential buildings. Not all residential buildings will be shown. A sample of various aspects will be displayed. Would you like to provide feedback on your perception of residential buildings? If you do not frequent residential buildings or do not wish to answer these questions, please select no to skip this section.

- Yes (1)
- No (2)

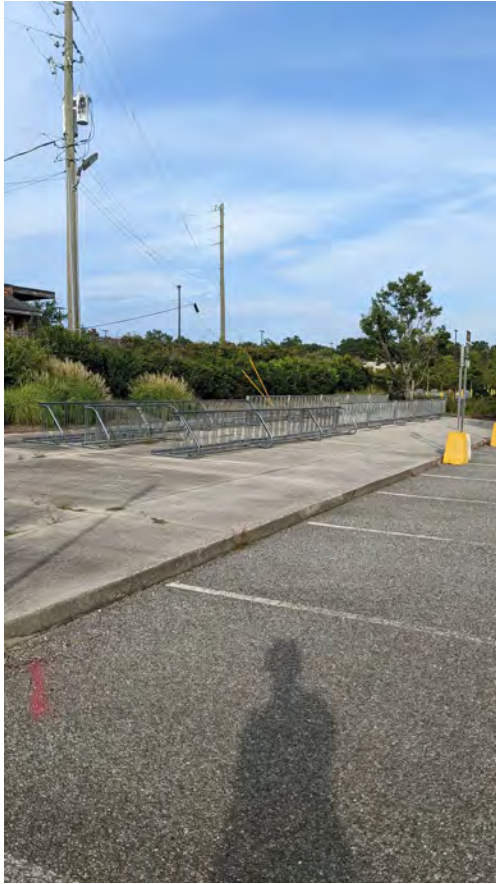
Skip To: End of Block If This next section pertains to residential buildings. Not all residential buildings will be shown.... = No

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)

- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____









Q6.14 Please provide feedback on any specific residential buildings that you feel can be improved from a campus safety aspect. Please include which building and what needs improvement.

End of Block: Statesboro Residential

Start of Block: Statesboro Stu Services

Q7.1 This next section pertains to student services and student activity areas. Not all areas will be shown. A sample of various aspects will be displayed. Would you like to provide feedback on your perception of these areas? If you do not frequent these areas or do not wish to answer these questions, please select no to skip this section.

- Yes (1)
- No (2)

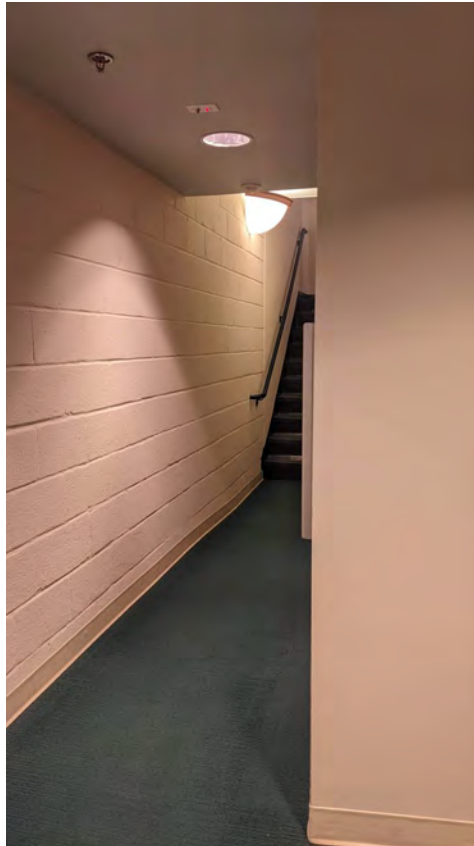
Skip To: End of Block If This next section pertains to student services and student activity areas. Not all areas will be... = No

[Use Reusable Question and Choices for each picture]

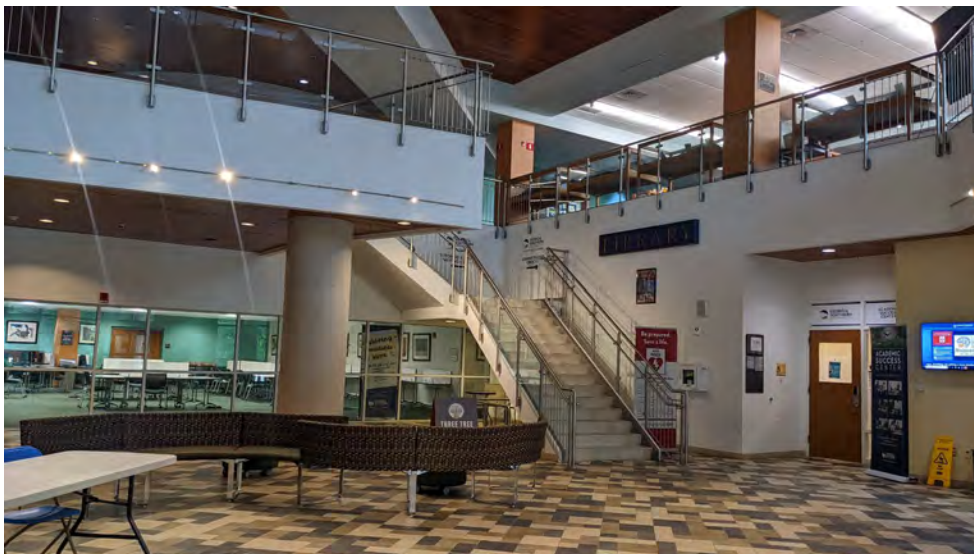
Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____











Q7.13 Please provide feedback on any specific student activity or student service area that you feel can be improved from a campus safety aspect. Please include which building and what needs improvement.

End of Block: Statesboro Stu Services

Start of Block: Statesboro Rec Area

Q8.1 This next section pertains to recreational areas. Not all recreational areas will be shown. A sample of various aspects of sidewalks around campus, fitness trails, recreational fields, athletic fields, and recreational/athletic buildings will be displayed. Would you like to provide feedback on your perception of recreational areas? If you do not frequent recreational areas or do not wish to answer these questions, please select no to skip this section.

- Yes (1)
- No (2)

Skip To: End of Block If This next section pertains to recreational areas. Not all recreational areas will be shown. A sa... = No

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)

- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____







Q8.11 Please provide feedback on any specific recreational areas that you feel can be improved from a campus safety aspect. Please include which building and what needs improvement.
End of Block: Statesboro Rec Area

Start of Block: Statesboro Admin

Q9.1 This next section pertains to administrative buildings. Not all administrative buildings will be shown. A sample of various aspects of both the interior and the exterior will be displayed. Would you like to provide feedback on your perception of administrative buildings? If you do not frequent administrative buildings or do not wish to answer these questions, please select no to skip this section.

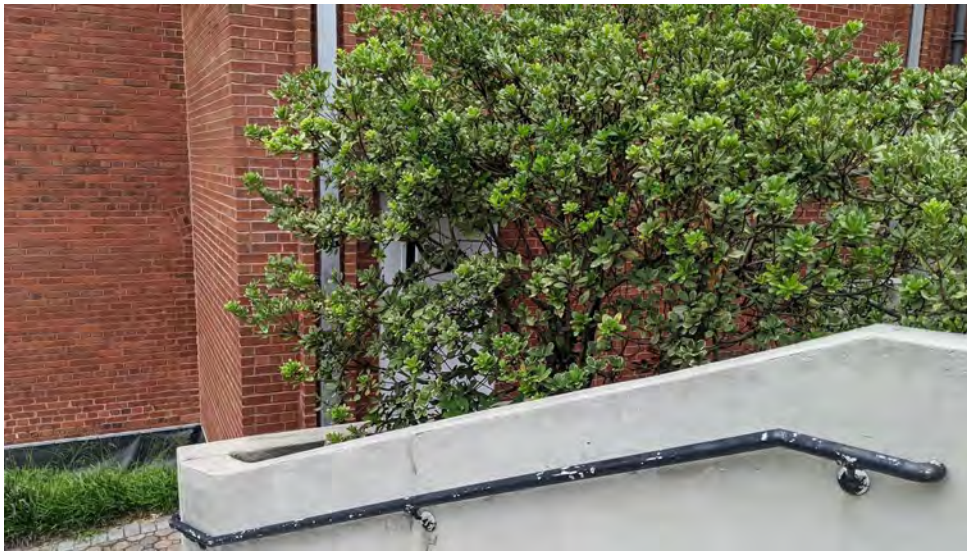
- Yes (1)
- No (2)

Skip To: End of Block If This next section pertains to administrative buildings. Not all administrative buildings will be... = No

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____









Q9.12 Please provide feedback on any specific administrative buildings that you feel can be improved from a campus safety aspect. Please include which building and what needs improvement.

End of Block: Statesboro Admin

Start of Block: Statesboro CPTED

Q10.1 Crime Prevention Through Environmental Design (CPTED) includes four elements that are being studied in this survey. Access control is one of the four elements. The CDC defines Access Control as "the use of real or perceived barriers and other features to orient and guide people and vehicles along appropriate paths and to restrict inappropriate access. The objectives are to increase comfort and decrease prohibited behaviors by providing safe routes and restricting unauthorized access."

Do you believe that the Statesboro Campus has adequate Access Control? Why or Why not?

- Yes (97) _____
- No (98) _____

Q10.2 Do you believe that access control, in this context, can help prevent crime? Why or why not?

- Yes (23) _____
- No (24) _____

Q10.3 The second element in CPTED is Territorial Reinforcement. The CDC (2017) defines this element as "using physical attributes to delineate space and express a sense of ownership and pride. The objective is to communicate to others that an area is claimed and cared for and therefore unacceptable behavior will not be tolerated." Examples of Territorial Reinforcement include displays of student involvement, student artwork, motivational signs, herald accomplishments, and other displays that reflect student pride.

Do you believe that the Statesboro campus as a whole does an adequate job of Territorial Reinforcement? Why or why not?

- Yes (23) _____
- No (24) _____

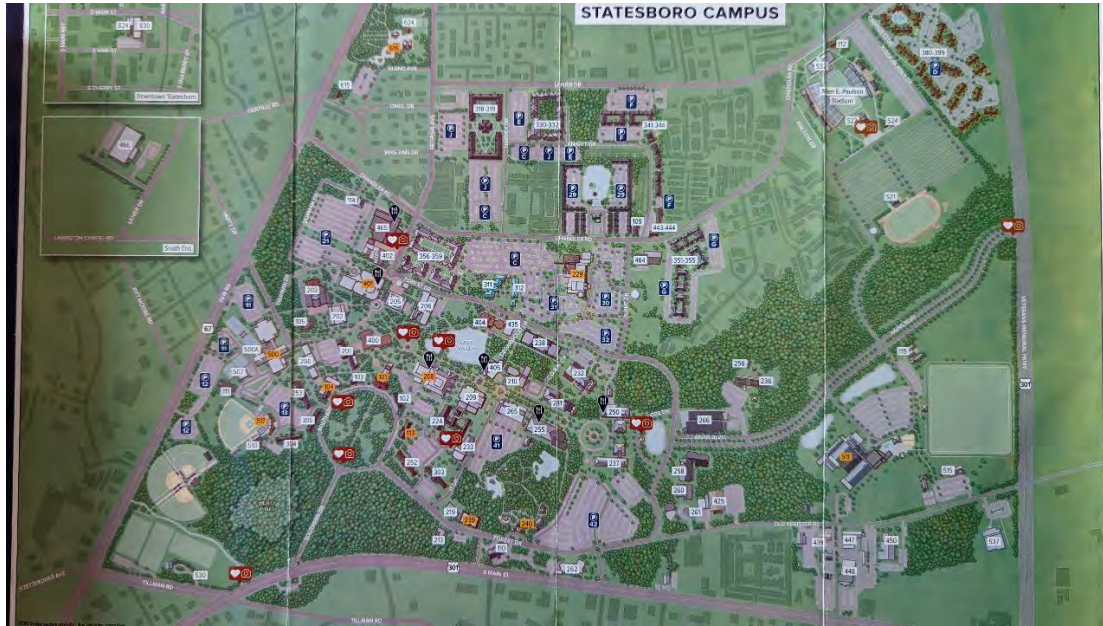
Q10.4 Do you believe that territorial reinforcement is useful to prevent crime on a college campus? Why or why not?

- Yes (23) _____
- No (24) _____

Q10.5 The third CPTED element is Natural Surveillance, which is defined as "the design and placement of features and persons to facilitate observations and maximize visibility. The objectives are to eliminate hiding or hard to see places and increase the ability of authorized adults to monitor and respond. This deters aggressive behaviors by increasing the threat of detection and increases feelings of security for students and staff."

Looking back on the Campus Map, are there areas around campus that you believe Natural

Surveillance can be improved? This can be anywhere on campus, including inside buildings. (Please select up to 10 areas. If there are more than 10, please include on the next question).



Q10.6 Do you have any comments about the areas that you selected on the previous map regarding natural surveillance? Do you have any suggestions for improvement?

Q10.7 The last element being studied is Physical Maintenance, which is defined as "the repair, replacement and general upkeep of a building or area. The objectives are to allow for the continued use of features and spaces and to further convey a sense of ownership and caring." What are your overall opinions of the campus maintenance?

Q10.8 Do you believe maintenance improvement in this context can help prevent crime? Why or why not?

- Yes (26) _____
- No (27) _____

End of Block: Statesboro CPTED

Start of Block: Savannah

Q11.1 This section will be asking for your perceptions of the Savannah campus. There are two parts. The first part is asking for perception of the campus as a whole. The second part will ask for your perception of specific areas of the campus. Feel free to write as much or as little as needed in each question box

Q11.2 What are your perceptions of safety on the Savannah Campus?

Q11.3 What are these perceptions based upon?

Q11.5 Do you believe, overall, the Savannah campus is a safe campus? Why or why not?

- Yes (why) (4) _____
- No (why not) (5) _____

Q11.6 Where do you believe most crime occurs on the Savannah campus?

- Classroom buildings (1)
- Administrative buildings (2)
- Recreational areas/buildings (3)
- Athletic areas/buildings (4)
- Student housing areas (5)
- Parking Lots (6)
- On streets of campus (7)
- None/Other (8) _____

Q11.7 What do you feel campus authorities/leadership could do to prevent crime more effectively?

End of Block: Savannah

Start of Block: Savannah Part 2

Q12.1 Part two of this section will provide pictures of various areas on campus. For each picture you will be asked if you feel the scenario depicted has a potential to increase crime or the fear of crime. You will then be asked to explain your opinion/perception. Not all pictures included in this survey are examples of bad environmental aspects, some areas are good. Therefore, it is perfectly acceptable for you to state that you feel the scenario depicts a safe area.

Q12.2 Below is a map of the Savannah campus. Please click on areas (up to 10) of the campus that you feel is prone to criminal activity or that you feel unsafe. The map depicts a large area, so take your time.



Q12.3 This next section will ask questions about the perception of parking lots. Not all parking lots will be shown; however, we will be looking for the perception of physical attributes shown in the pictures.

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____





Q12.8 This next section pertains to buildings. Not all buildings will be shown. A sample of various aspects of building interiors and exteriors will be displayed. Would you like to provide feedback on your perception of buildings? If you do not wish to answer these questions, please select no to skip this section.

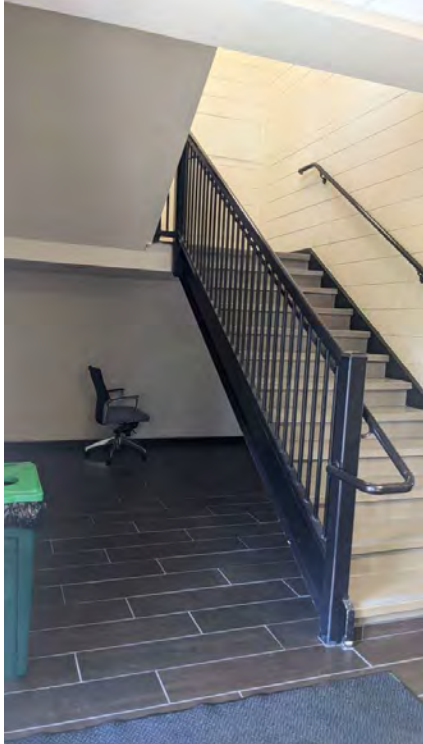
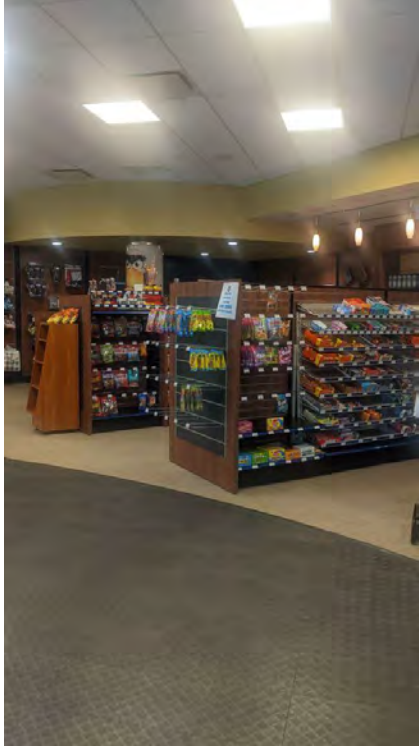
- Yes (1)
- No (2)

Skip To: Q12.16 If This next section pertains to buildings. Not all buildings will be shown. A sample of various as... = No

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____







Q12.16 This next section pertains to residential buildings. Not all residential buildings will be shown. A sample of various aspects will be displayed. Would you like to provide feedback on your perception of residential buildings? If you do not frequent residential buildings or do not wish to answer these questions, please select no to skip this section.

- Yes (1)
- No (2)

Skip To: Q12.21 If This next section pertains to residential buildings. Not all residential buildings will be shown.... = No

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____



Q12.21 This next section pertains to recreational areas. Not all recreational areas will be shown. A sample of various aspects of sidewalks around campus, fitness trails, recreational fields, athletic fields and recreational/athletic buildings will be displayed. Would you like to provide feedback on your perception of recreational areas? If you do not frequent recreational areas or do not wish to answer these questions, please select no to skip this section.

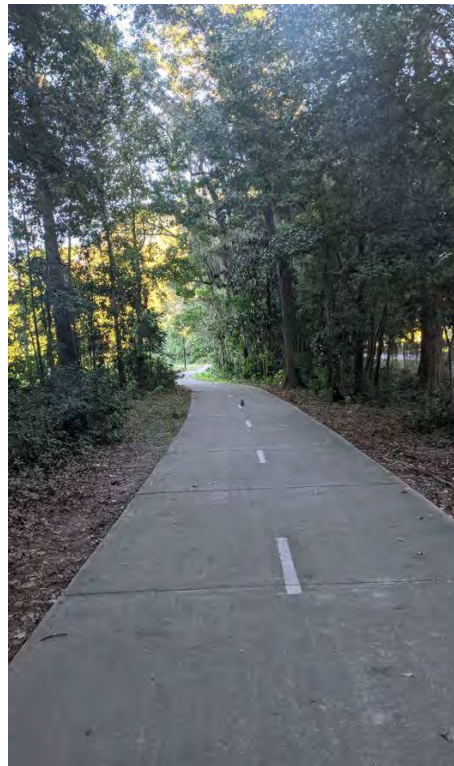
- Yes (1)
- No (2)

Skip To: End of Block If This next section pertains to recreational areas. Not all recreational areas will be shown. A sa... = No

[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____





Q13.1 Crime Prevention Through Environmental Design (CPTED) includes four elements that are being studied in this survey. Access control is one of the four elements. The CDC defines Access Control as "the use of real or perceived barriers and other features to orient and guide people and vehicles along appropriate paths and to restrict inappropriate access. The objectives are to increase comfort and decrease prohibited behaviors by providing safe routes and restricting unauthorized access."

Do you believe that the Savannah Campus has adequate Access Control? Why or Why not?

- Yes (26) _____
- No (27) _____

Q13.2 Do you believe that access control, in this context, can help prevent crime? Why or why not?

- Yes (26) _____
- No (27) _____

Q13.3 The second element in CPTED is Territorial Reinforcement. The CDC defines this element as "the use of physical attributes to delineate space and to express a sense of ownership and pride. The objective is to communicate to others that an area is claimed and cared for and therefore unacceptable behavior will not be tolerated." Examples of Territorial Reinforcement includes displays of student involvement, student artwork, motivational signs, herald accomplishments, and other displays that reflect student pride.

Do you believe that the Savannah campus as a whole does an adequate job of Territorial Reinforcement?

- Yes (23) _____
- No (24) _____

Q13.4 Do you believe that territorial reinforcement is useful to prevent crime on a college campus? Why or why not?

- Yes (23) _____
- No (24) _____

Q13.5 The third CPTED element is Natural Surveillance, which is defined as "the design and placement of features and persons to facilitate observations and maximize visibility. The objectives are to eliminate hiding or hard to see places and increase the ability of authorized adults to monitor and respond. This deters aggressive behaviors by increasing the threat of detection and increases feelings of security for students and staff."

Looking back on the Campus Map, are there areas around campus that you believe Natural Surveillance can be improved? This can be anywhere on campus, including inside buildings. (Please select up to 10 areas. If there are more than 10, please include on the next question).



Q13.6 Do you have any comments about the areas that you selected on the previous map regarding natural surveillance? Do you have any suggestions for improvement?

Q13.7 The last element being studied is Physical Maintenance, which is defined as "the repair, replacement and general upkeep of a building or area. The objectives are to allow for the continued use of features and spaces and to further convey a sense of ownership and caring." What are your overall opinions of the campus maintenance?

Q13.8 Do you believe maintenance improvement in this context can help prevent crime? Why or why not?

- Yes (26) _____
- No (27) _____

End of Block: Savannah CPTED

Start of Block: Hinesville

Q14.1 This section will be asking for your perceptions of the Hinesville campus. There are two parts. The first part is text/essay format asking for perception of the campus as a whole. The second part will ask for your perception of specific areas of the campus. Feel free to write as much or as little as needed in each question box.

Q14.2 What are your perceptions of safety on the Hinesville Campus?

Q14.3 What are these perceptions based upon?

Q14.4 Do you believe that crime occurs on the Hinesville campus?

- Yes (4)
- No (5)

Q14.5 Do you believe, overall, the Hinesville campus is a safe campus? Why or why not?

- Yes (why) (4) _____
- No (why not) (5) _____

Q14.6 Where do you believe most crime occurs on campus?

- Classroom areas (1)
- Administrative areas (2)
- Student areas (5)
- Parking Lots (6)
- Surrounding streets (7)
- None/other (8) _____

Q14.7 What do you feel campus authorities/leadership could do to prevent crime more effectively?

End of Block: Hinesville

Start of Block: Hinesville Part 2

Q15.1 Part two of this section will provide pictures of various areas on the Hinesville campus. For each picture, you will be asked to click on specific areas of the picture that you feel have a potential to increase crime or the fear of crime. You will then be asked to explain your opinion/perception.

Q15.2 Below is a map of the Hinesville campus. Please click on areas (up to 10) of the campus that you feel is prone to criminal activity or that you feel unsafe.



[Use Reusable Question and Choices for each picture]

Do you see anything in this picture that could make a person (student, staff, or guest) feel unsafe? Check all that apply.

- This seems to be a safe area (1)
- This area has places where people can hide (2)
- The area is not easily monitored (3)
- The area is not well lit (4)
- The area is not well maintained (5)
- The area is not welcoming, attractive, or inviting (6)
- Anyone can access the area (or access places/items that they should not have access to) (7)
- When entering this area, I don't know where to go or what is expected of me (8)
- Other (please explain) (9) _____



End of Block: Hinesville Part 2

Start of Block: Hinesville CPTED

Q16.1 Crime Prevention Through Environmental Design (CPTED) includes four elements that are being studied in this survey. Access control is one of the four elements. The CDC defines Access Control as "the use of real or perceived barriers and other features to orient and guide people and vehicles along appropriate paths and to restrict inappropriate access. The objectives are to increase comfort and decrease prohibited behaviors by providing safe routes and restricting unauthorized access."

Do you believe that the Hinesville Campus has adequate Access Control? Why or Why not?

- Yes (23) _____
- No (24) _____

Q16.2 Do you believe that access control, in this context, can help prevent crime? Why or why not?

- Yes (23) _____
- No (24) _____

Q16.3 The second element in CPTED is Territorial Reinforcement. The CDC defines this element as "the use of physical attributes to delineate space and to express a sense of ownership and pride. The objective is to communicate to others that an area is claimed and cared for and therefore unacceptable behavior will not be tolerated." Examples of Territorial Reinforcement in includes displays of student involvement, student artwork, motivational signs, herald accomplishments, and other displays that reflect student pride.

Do you believe that the Hinesville campus as a whole does an adequate job of Territorial Reinforcement?

- Yes (33) _____
- No (34) _____

Q16.4 Do you believe that territorial reinforcement is useful to prevent crime on a college campus? Why or why not?

- Yes (23) _____
- No (24) _____

Q16.5 The third CPTED element is Natural Surveillance, which is defined as "the design and placement of features and persons to facilitate observations and maximize visibility. The objectives are to eliminate hiding or hard to see places and increase the ability of authorized adults to monitor and respond. This deters aggressive behaviors by increasing the threat of detection and increases feelings of security for students and staff."

Looking back on the Campus Map, are there areas around campus that you believe Natural Surveillance can be improved? This can be anywhere on campus, including inside buildings.

(Please select up to 10 areas. If there are more than 10, please include on the next question).



Q16.6 Do you have any comments about the areas that you selected on the previous map regarding natural surveillance? Do you have any suggestions for improvement?

Q16.7 The last element being studied is Physical Maintenance, which is defined as "the repair, replacement and general upkeep of a building or area. The objectives are to allow for the continued use of features and spaces and to further convey a sense of ownership and caring."

What are your overall opinions of the campus maintenance?

Q16.8 Do you believe maintenance improvement in this context can help prevent crime? Why or why not?

- Yes (23) _____
- No (24) _____

End of Block: Hinesville CPTED

Appendix D:

IRB Approval



**Institutional Review Board (IRB)
For the Protection of Human Research Participants**

PROTOCOL EXEMPTION REPORT

Protocol Number: 04314-2022

Responsible Researcher(s): Patrice Turner

Supervising Faculty: Dr. R. Neal McIntyre

Project Title: *Use of Crime Prevention Through Environmental Design on College Campuses: A Case Study on Improving the Perception of Fear.*

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is **exempt** from Institutional Review Board (IRB) oversight under 45 CFR 46.101(b) of the federal regulations **category 2**. If the nature of the research changes such that exemption criteria no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research study.

ADDITIONAL COMMENTS:

- *Upon completion of the research study, all collected data (e.g. data set, email lists, etc.) must be securely maintained and accessible only by the researcher(s) for a minimum of 3 years. At the end of the required time, collected data must be permanently destroyed.*
- *Upon completion of research phase 1 and before you initiate phase 2 (survey), please submit the link to the Qualtrics survey.*
- *Qualtrics platform settings must allow participants to skip questions and/or not provide answers. The settings must prohibit the collection of IP addresses.*
- *The research consent statement must be the first window/screen that participants read and acknowledge prior to completing the survey.*

If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.

Elizabeth Ann Olphie *06.16.2022*
Elizabeth Ann Olphie, IRB Administrator

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-253-2947.



RESEARCH INTEGRITY

Institutional Review Board (IRB)

Veazey Hall 3000
PO Box 8005 • STATESBORO, GA 30460
Phone: 912-478-5465
Fax: 912-478-0719
IRB@GeorgiaSouthern.edu

To: Kerner, Patrice
From: Eleanor Haynes, Director, Research Integrity
Date of letter: May 26, 2022
Subject: External Recruitment Request

To Whom It May Concern:

Patrice Kerner has requested permission to collect research data through a project titled “**Use of Crime Prevention Through Environmental Design on College Campuses: A Case Study on Improving the Perception of Fear.**” I have been informed of the purposes of the study and the nature of the research procedures. I have also been given an opportunity to ask questions of the researcher. A copy of the investigators home institution IRB approval letter will be required before any recruitment of GS subjects may occur. Data collection using GS subjects must be suspended at any time your home institution IRB approval lapses or becomes invalid.

GS Tracking #: H22375

Nature of Request:

- **Five to ten students who are also employees of the university. These students will be identified by requesting recommendations from current campus employers. The campus employer will be requested to ask the student if they can share their email address with the researcher for inclusion in the study.**
- **Two to five students who reside on campus. These students will be identified by requesting recommendations from housing administrative staff. The housing administrator will be requested to ask the student if they can share their email address with the researcher for inclusion in the study.**
- **Two faculty/staff that work on the campus. Recommendations will be requested from the key administrators and emails will be obtained from the directory on the University website.**
- **Two faculty/staff who work primarily on a different campus but occasionally travel to the surveyed campus. Recommendations will be requested from the key administrators and emails will be obtained from the directory on the University website.**
- **Survey of target administrators using email addresses obtained through the University website.**

As a representative of the Georgia Southern University Institutional Review Board, and with the concurrence of the Provost office, I am authorized to grant permission to allow the researcher to recruit research participants via flyers posted on campus. Permission to recruit does not obligate GS faculty or student participation nor indicate any GS endorsement of or engagement in your study. If you have any questions, please contact me at 912-478-0843.